



## SWEPT LASER SOURCE

### Features

- Fast scanning 100–200 kHz
- Long coherence lengths up to 20 mm
- Wide sweep ranges 150 nm
- High quality, artifact free images no sweep harmonics or PSF sidebands
- Multiple operating ranges 1060, 1310, and 1550 nm windows
- Proven reliability and longevity with over 100 million hours logged since 2000

### Applications

- Optical Coherence Tomography
- Optical Frequency Domain Imaging
- Chromatic Confocal Microscopy
- Spectrally Encoded Confocal Microscopy



Swept Laser Source

### Product description

The swept laser source offers the required combination of fast 200 kHz scan rates, high output power, and polarization stable, 150 nm wavelength range lasing at 1310 nm. The swept laser source enables up to 10 mm of imaging depth in tissue, free from the types of sweep rate harmonic and spectral sideband distortions that are common among other high speed swept sources and known to adversely affect high quality OCT images.

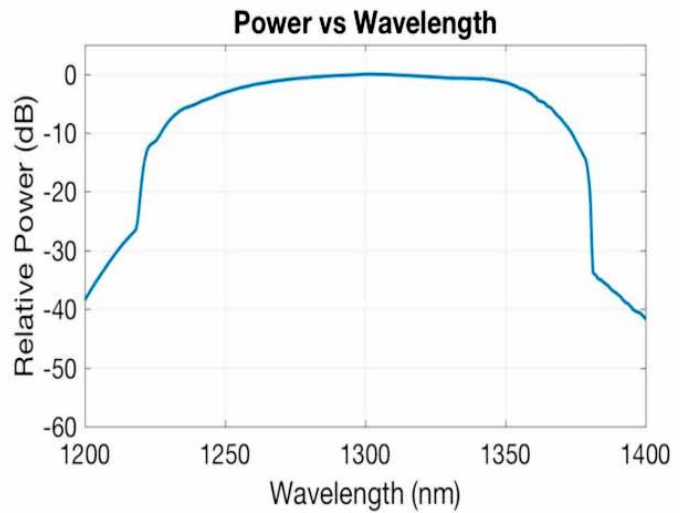
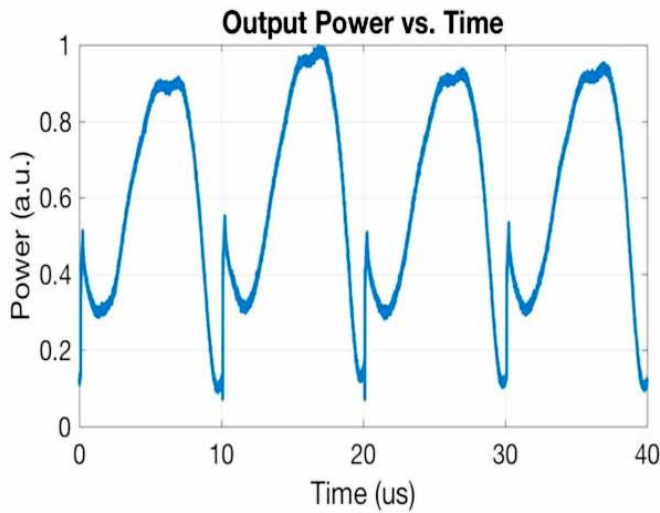
The swept laser source outputs highly linear wavelength sweeps, as well as wavelength trigger and calibration pulse signals, that when combined with cost effective current generation digitizers enable high resolution imaging systems with only periodic need for sweep rate recalibration. The flexibility of the swept laser source platform easily allows for custom OEM applications in biomedical and industrial imaging, optical frequency domain ranging, high speed optical sensing, and spectroscopy.

The swept laser source is built upon the core Fabry-Perot technology platform, using highly reliable piezoelectric actuators with MTBFs in excess of 3000 years over specified operating conditions. This proven laser platform, having demonstrated reliability with 1000s of units in the field representing > 100 million hours of field use, enables long-term, worry free operational life of the SS-OCT system.

### Standard product specifications

Performance properties	SLS-100-1310-20-X	SLS-200-1310-04-X
Center wavelength	1310 nm	
Wavelength sweep range <sup>1</sup>	> 150 nm	
Coherence length	20 mm	4 mm
Sweep rate	100 kHz	200 kHz
Average optical power, DC	50 mW	70 mW
Sensitivity	104 dB	
Sweep linearity	< 5%	
Optical output isolation	30 dB	
Optical connectors	FC/APC, SC/APC, LC/APC, E2000	
Degree of polarization	> 300:1	
Physical properties		
Dimensions / weight	182 mm x 137 mm x 53 mm / 2 kg	
Operating / storage conditions	0 to 50°C, < 80%RH non-condensing / -20 to 70°C, < 95%RH non-condensing	
Electrical connector	LVTTTL trigger signal for sweep and wvl markers, SMA connections	
Input voltage	9–36 VDC, AC/DC converter included (100~240 VAC, 47~63 Hz)	
Power consumption at 12 V	20 W typ, 30 max	

Notes: <sup>1</sup> Width at 10 dB drop of peak power, function of wavelength region.



### Ordering information for custom parts

OZ Optics welcomes the opportunity to provide custom designed products to meet your application needs. As with most manufacturers, customized products do take additional effort so please expect some differences in the pricing compared to our standard parts list. In particular, we will need additional time to prepare a comprehensive quotation, and lead times will be longer than normal. In most cases non-recurring engineering (NRE) charges, lot charges, and a 1 piece minimum order will be necessary. These points will be carefully explained in your quotation, so your decision will be as well informed as possible. We strongly recommend buying our standard products.

### Questionnaire for custom parts

1. What is the center wavelength range you are interested in?
2. What is the receptacle you require?
3. What sweep range is necessary?
4. What is the coherence length?

### Part number

**SLS-SR-W-CL-X**

**SR** = Sweep Rate:  
Standard options  
100 = 100kHz  
200 = 200kHz

**W** = Center wavelength:  
Standard is 1310nm

**X** = Receptacle:  
Standard options  
3A = FC/APC  
SCA = SC/APC  
LCA = LC/APC  
E = E2000

**CL** = Coherence Length:  
Standard options  
20 = 20mm  
04 = 4mm