EUREKA

1550 nm, 5 - 20 GHz, Picosecond Benchtop Fiber Laser

Applications

- Optical clock for 10, 80, 160, 320 GHz OTDM
- Spectral comb
- Transmission network characterization
- High speed O/E conversion
- Quantum computing
- Optical metrology
- Optical sampling

Features

- Repetition rate tunable from 5 to 20 GHz
- Wavelength tunable from 1530 to 1565 nm
- Pulse width tunable from 1.5 to 10 ps
- Average output power > 20 mW
- Transform-limited output with low timing jitter
- Convenient fiber pigtail output
- Integral optical monitor port

The benchtop Eureka (PSL-10) series is the perfect, picosecond pulse optical source for telecommunications test and measurement applications. Along with a portable design, the series offers user-friendly front panel control knobs for adjustment of the output power, wavelength, pulse width, and repetition rates. Different synchronization signals are available through a front panel RF output and an optical monitor port.

The C-band source is an actively mode-locked fiber laser with a continuously tunable repetition rate from 5 to 20 GHz that provides a stable and reliable optical clock with turnkey operation. It features a convenient fiber pigtail output with wavelength tunability throughout the C-band and power levels up to 20 mW. The pulse width can be varied from 1.5 to 10 ps with a pedestal of less -25 dB and a near transform-limited spectral width. The timing jitter is as low as 50 fs and the side mode suppression is better than -75 dB.

If the performance parameters do not quite fit your application requirements, please contact us at sales@calmarlaser.com to discuss a customized solution.

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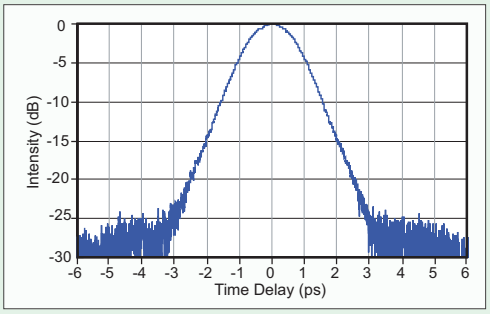
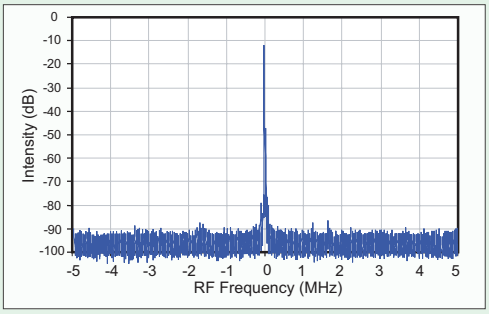
Technical Specifications[1]

Model Number	PSL-10-TT
OPTICAL	
Center Wavelength (nm)	1530 ~ 1565 (tunable)
Pulse Width[2] (ps)	1.5 ~ 10 (tunable)
Average Power[3] (mW)	> 20 at 10 GHz
Repitition Rate (GHz)	5 ~ 20 (tunable)
Pulse Amplitude Stability (%, RMS)	< 1.0
Polarization Extinction Ratio (dB)	> 18
Output/Termination	PM 1550 fiber pigtail with FC/APC connector, key to slow axis
ELECTRICAL	
RF Driver Source Input (V)	5 - 20 GHz, 0 - 5 dBm
Supply Voltage (VAC)	85 - 264 autoranging
Supply Frequency (Hz)	47 - 63 autoranging
MECHANICAL	
Operating Temperature (°C)	15 - 30
Dimensions (cm)	48.2(W) x 46.7(D) x 10(H)
Weight (kg)	~ 7

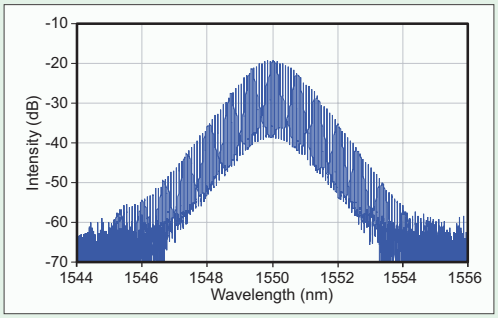
1. Due to our continuous improvement philosophy, all product specifications are subject to change without prior notice. Please contact sales@calmarlaser.com for customized specifications.
2. A sech^2 pulse shape (deconvolution factor of 0.65) is used to determine the pulse width from the second harmonic autocorrelation trace.
3. From output port A, a monitor signal (~ 0.1 mW) is available from output port B.



Autocorrelation Trace Corresponding to a Pulse Width of 1.2 ps



Typical Side Mode Supression of 82 dB



Optical Spectrum of 2.1 nm

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