EUREKA

5 ~ 20 GHz Picosecond Fiber Laser - Tunable Pulse Width

Applications

- Optical clock for 10, 20, 40, 80, 160 GHz OTDM system
- Spectral comb
- Transmission network characterization
- High speed O/E conversion
- Optical sampling
- Metrology

Features

- Repetition rate continuously 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 greater than 20 mW
- Transform-limited output
- Linearly polarized output
- Minimal pulse pedestal
- Low timing jitter

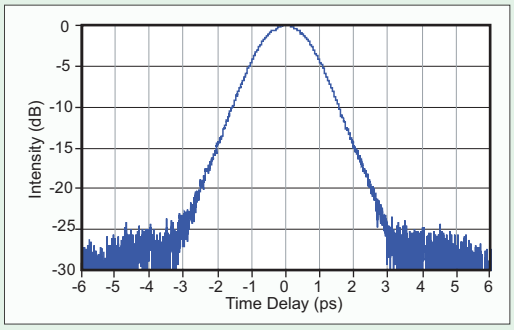
The C-band 5 ~ 20 GHz picosecond fiber laser (PSL-10-TT) is an actively mode-locked fiber laser with continuously tunable repetition rate from 5 to 20 GHz that provides a stable and reliable optical clock with turnkey operation. Along with a portable design, the PSL-10-TT laser offers user-friendly front panel control knobs for flexible adjustment of wavelength, pulse width and output power. The wavelength can be tuned throughout the C-band. The pulse width can be tuned from 1.5 to 10 ps, with transform-limited spectral width and a better than -20 dB pedestal. The timing jitter is as low as 50 fs and the side mode suppression is better than -75 dB. An output power of greater than 20 mW obviates the need of an additional optical amplification stage. Options for 780 nm or 1 µm band are also available.

Technical Specifications

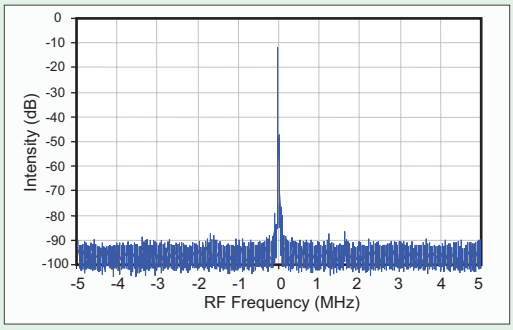
Model Number	PSL-10-TT
Pulse Width (ps)*	1.5 ~ 10 (tunable)
Output Wavelength (nm)**	1530 ~ 1565 (tunable)
Repetition Rate (GHz)	5 ~ 20 (tunable)
Timing Jitter (fs)	<50 (carrier offset 100 Hz ~ 1 MHz)
Amplitude Noise (%)	<1
Output Power at 10 GHz (mW)	>20
Operating Temp (°C)	15 ~ 30
Operating Voltage (VAC)	85 ~ 264
Dimensions (cm)	48(w) x 44(d) x 9.8(h)

** A sech² pulse shape (convolution factor of 0.65) is used to determine the pulse width for the second harmonic autocorrelation trace.*
*** 780 nm or 1 μm band is available.*

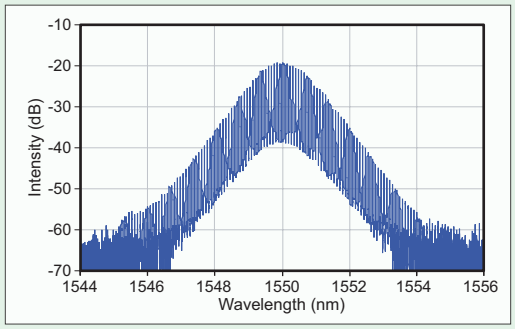
Due to our continuous improvement program, specifications are subject to change without notice.



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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