

# Y-Fi™ NOPA-NIR - Tunable Ultrafast NIR Source

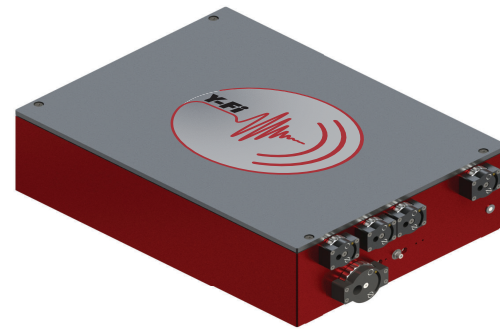
Fiber laser-amplifier system with integrated noncollinear optical parametric amplifier

## Applications

- 2-Photon excitation fluorescence microscopy
- Second- and third-harmonic generation microscopy
- Biological tissue modification
- 2-photon polymerization

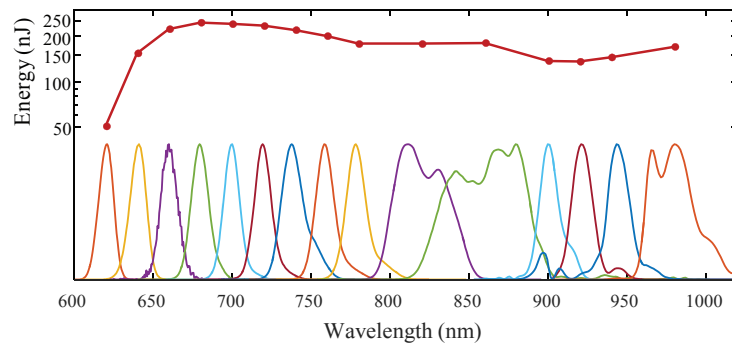
## Features

- Match or exceed “traditional” oscillator-based multi-photon imaging performance with 5x less average power delivered to sample
- Multi-photon imaging at depths beyond oscillator-based systems, based on repetition rate and pulse peak power
- Optimal <100 fs pulse duration for deep tissue imaging
- Intuitive GUI for controlling wavelength and repetition rate with integrated diagnostics
- Custom: Extendable wavelength range to 1100 nm for YFP

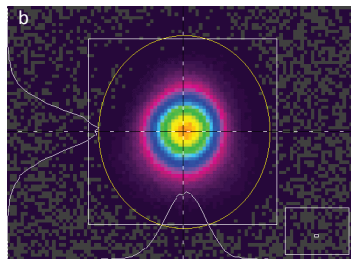
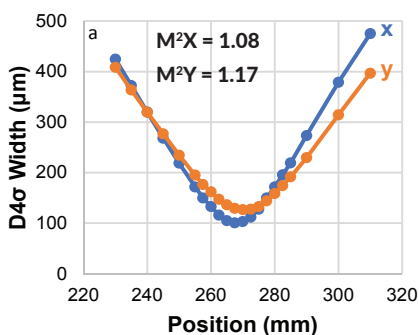


The Y-Fi™ NOPA is KMLabs' vertically integrated noncollinear optical parametric amplifier. The class-leading pulse duration of the 1035 nm centered Y-Fi HP pump laser allows for an industry-leading repetition rate scalability of the NOPA through the ideal range for multi-photon imaging of 1-6 MHz. The Y-Fi NOPA's repetition rates combined with the high pulse peak powers push multi-photon imaging depths beyond oscillator-based systems while simultaneously allowing for large reductions in illumination power at more standard depths, e.g. 1st through 3rd cortical layer imaging.

Tuning Curve



Focusability



Specifications

Parameter	Y-Fi NOPA Output
Pulse Width	< 100 fs
Center Wavelength	650-950 nm
Beam Quality	$M^2 < 1.3$
Average Power <i>at peak of tuning curve</i>	> 150 mW x repetition rate e.g. > 300 mW @ 2 MHz
Pulse Energy <i>at peak of tuning curve</i>	>150 nJ
Repetition Rate	1-6 MHz (> 7.5 MHz available)
Physical Configuration	12" x 16" x 6"

