



“Eye-safe” 1,54 μm ns laser

KAUKAS 1



FEATURES:

Compact robust design
OEM version available
Integration into portable devices

APPLICATIONS:

LIDAR and Laser Ranging
LIBS
Metrology and instrumentation
Automotive



**Laser specifications:**

Wavelength	1534 nm
Wavelength tolerance	± 1 nm
Operating mode	Pulsed
Average output energy (10min), @5 Hz	>1 mJ
Energy stability (10min), @5 Hz	<1 %
Pulse duration	10 ns
Pulse repetition rate (best performance)	1 – 5 Hz
Polarization contrast	>1:80
Beam diameter at exit window	<1 mm
Beam divergence	<5 mRad
Beam profile	TEM ₀₀

Physical dimensions:

Laser module dimensions	85 x 26 x 20 (L x W x H)
Laser driver dimensions	128 x 83 x 48 (L x W x H)
Power supply dimensions	205 x 92 x 50 (L x W x H)

Utility requirements:

Pump current	< 15 A
Pump duration	< 10 ms
Operating temperature	15-35°C
Cooling	Passive air cooling

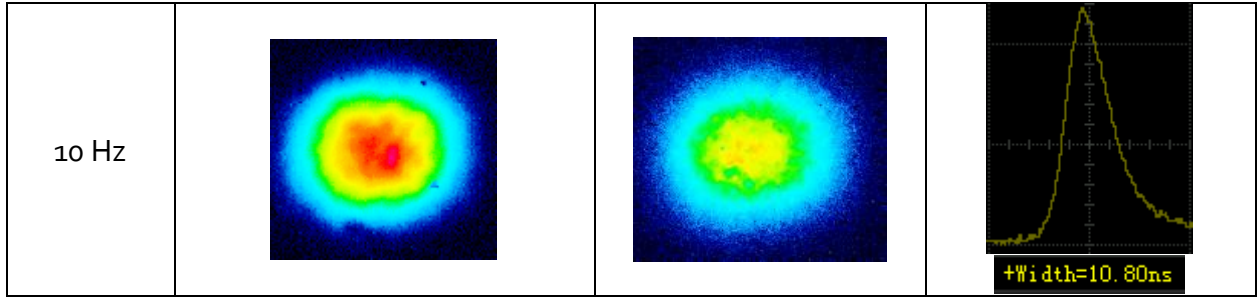




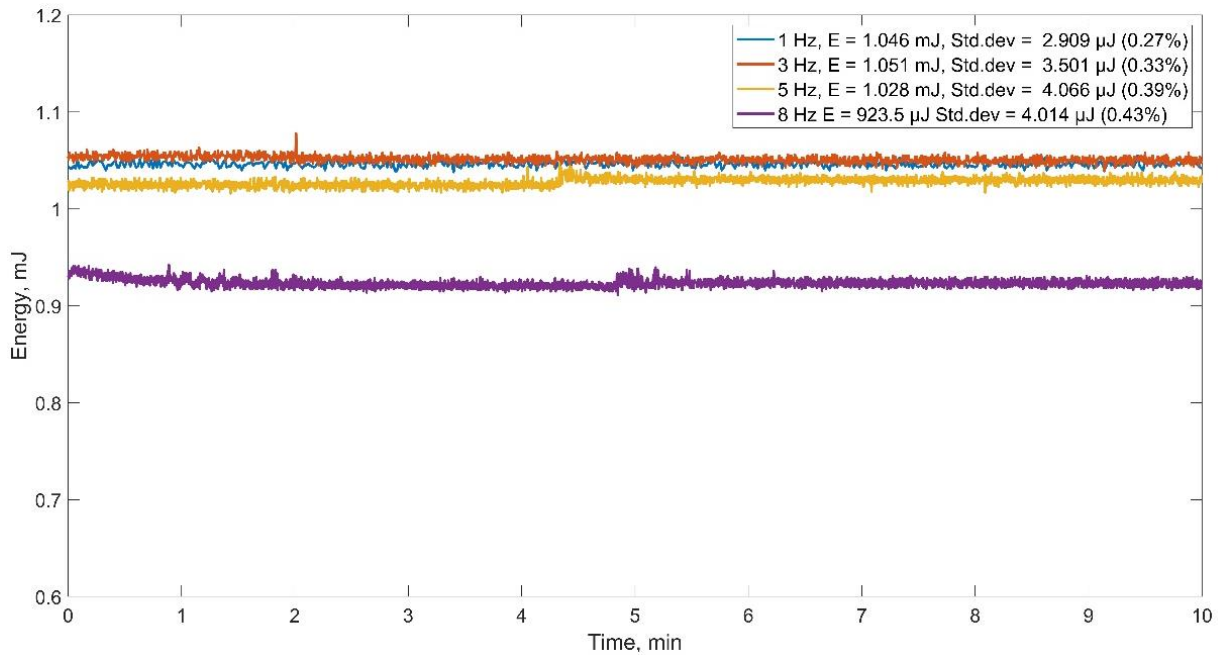
Laser beam profile:

Repetition rate	Near field (30 cm from the laser) beam profile	Far field (75 cm from the laser) beam profile	Pulse duration
1 Hz			 +Width=10.40ns
3 Hz			 +Width=10.40ns
5 Hz			 +Width=10.80ns
8 Hz			 +Width=10.80ns
9Hz			 +Width=10.80ns





Output energy stability:



KAUKAS 1 laser average output energy stability for different repetition rate
with 9 and 10 Hz repetition rates laser operating time becomes shorter <30 sec





Laser repetition rates control with pump duration and pump current:

Repetition rates	Pump duration	Pump current
1 Hz	≥ 7 ms	14,9 A*
3 Hz	$\geq 7,5$ ms	
5 Hz	$\geq 7,5$ ms	
8 Hz	$\geq 8,5$ ms	
9 Hz	≥ 9 ms	
10 Hz	9.5 ms*	

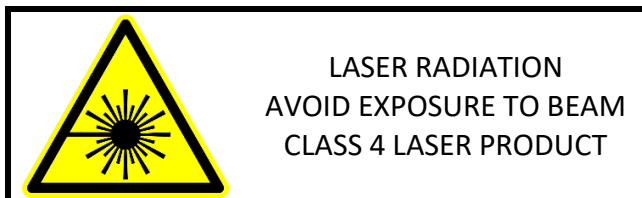
* NOTE: Do not exceed 10 ms pump duration and 15 A pump current, otherwise you would damage active medium in laser.



Necessary components to run the laser:

	
<p>KAUKAS 1 laser model</p>	<p>Laser driver</p>
	
<p>Power supply</p>	<p>USB-RS232 adapter</p>

Laser safety class:





Laser head schemes:

