



“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:

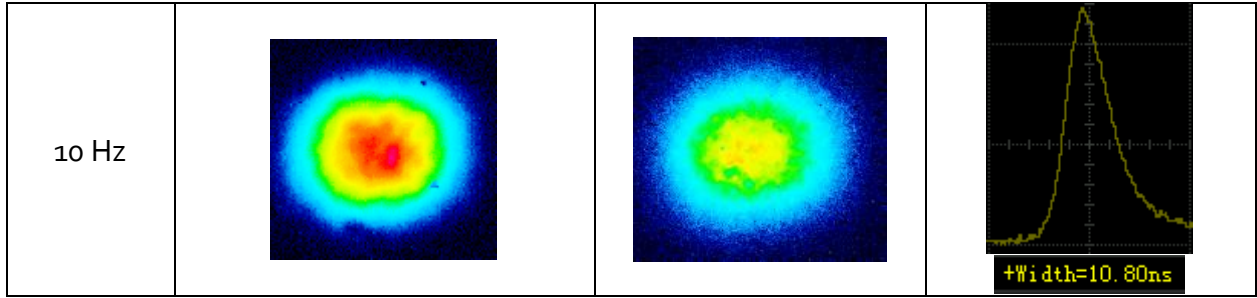
Pump current	< 15 A
Pump duration	< 10 ms
Operating temperature	15-35°C
Cooling	Passive air cooling



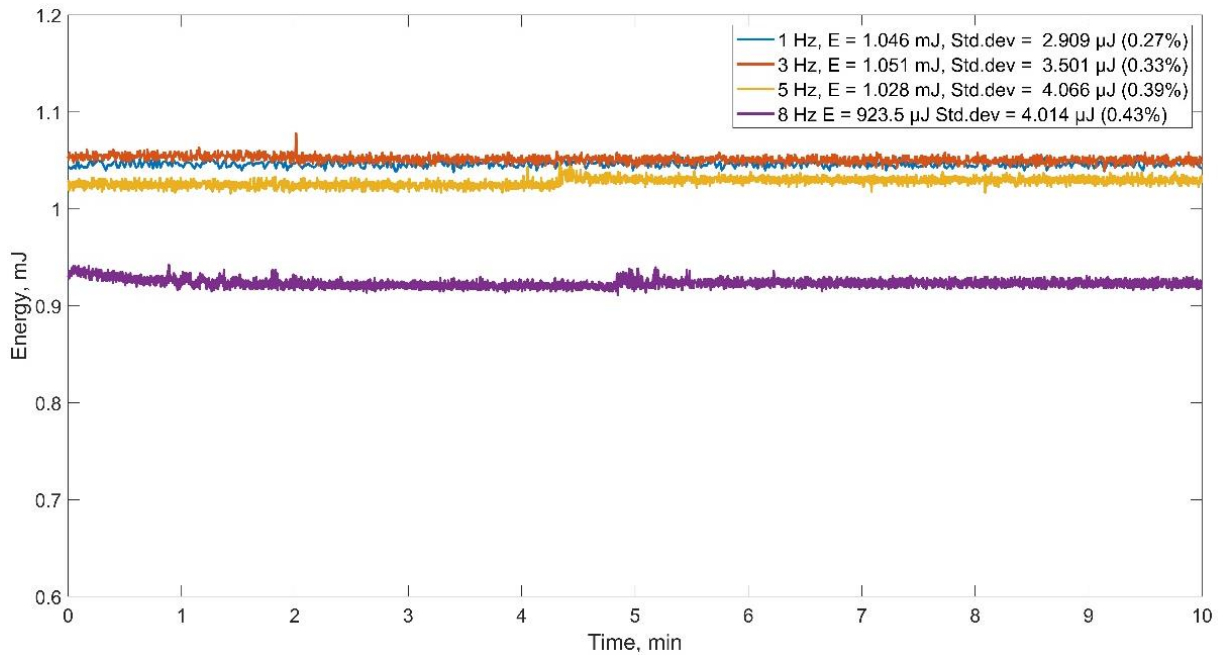
Laser beam profile:

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	≥7,5 ms	
5 Hz	≥7,5 ms	
8 Hz	≥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.



“Eye-safe” 1,54 μm ns laser

KAUKAS 2



FEATURES:

Compact robust design
High energy per pulse > 2mJ
OEM version available

APPLICATIONS:

LIDAR and Laser Ranging
LIBS
Metrology and instrumentation



**Laser characteristics:**

Wavelength	1534 nm
Wavelength tolerance	± 1 nm
Pulse energy	>2 mJ
Average output power	2 mW
Energy stability (2 hr), @1 Hz	<1 %
Pulse duration	<15 ns
Pulse repetition rate	0,5 – 1 Hz
Polarization contrast	>1:80
Beam diameter at exit window	<1 mm
Beam divergence	<5 mRad
Beam profile	TEM ₀₀

Physical dimensions:

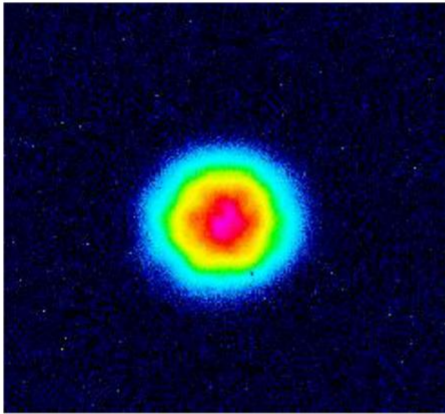
Laser module dimensions	61 x 33 x 29,5 mm (L x W x H)
Laser driver dimensions	128 x 83 x 48 mm (L x W x H)
Power supply dimensions	245 x 105 x 65 mm (L x W x H)

Utility requirements:

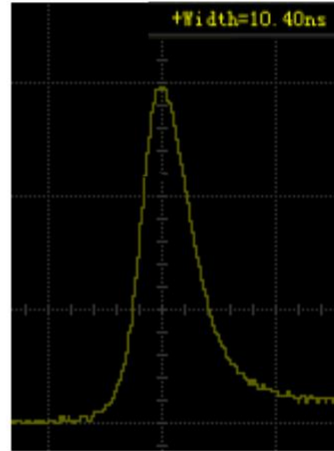
Pump current	<100 A
Pump time	>6 ms
Working temperature	-20 ... +60°C
Cooling	Passive air cooling



Laser beam profile and laser pulse duration data:

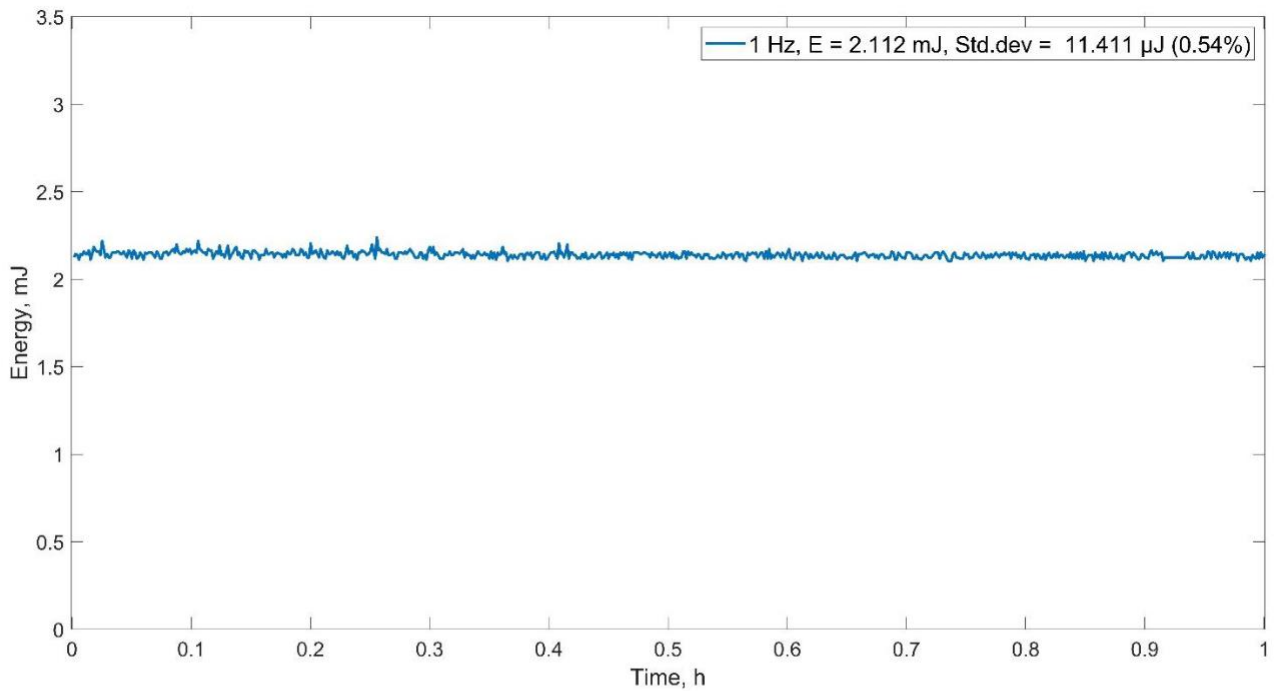


Beam profile at 1 Hz laser repetition rate



10,4 ns pulse duration at 1 Hz repetition rate

Output energy stability:



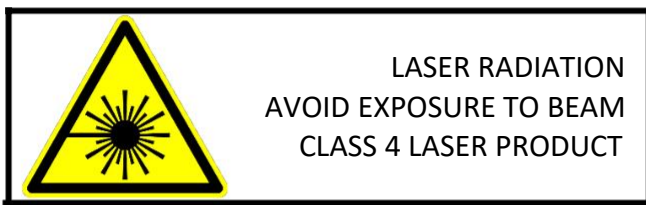
KAUKAS 2 laser average output energy stability for 1 Hz repetition rate at room temperature



Necessary components to run the laser:

	
<p>1534 nm KAUKAS 2 laser</p>	<p>Laser driver</p>
	
<p>Power supply</p>	<p>USB-RS232 adapter</p>

Laser safety class:





Laser head schemes:

