AMRL-002 series Active Q-switched sub nanosecond lasers for atmospheric detection radar

DESCRIPTION

AMRL-002 active Q-switched sub-nanosecond laser is a dual-wavelength sub-nanosecond laser with high repetition frequency, narrow linewidth and high peak power.

The laser can output both 1064nm and 532nm wavelength lasers. High efficiency solid-state amplification is achieved based on optical coupled semiconductor end-pumping and semiconductor array side-pumping modules. It has outstanding advantages in heat depolarization, beam quality control and anti-damage. The laser can operate at a temperature range of 0-40℃. Adaptable to dynamic platforms such as vehicle, airborne and ship. With modular design and universal components, the laser bottom components are reliable and easy to maintain. It is widely used in point cloud imaging lidar, laser ranging, atmospheric detection, etc.

FEATURES

- LD pump, long life
- Subnanosecond narrow pulse width
- Good beam quality and directional stability
- Complex working conditions
- High level of protection, anti-vibration design

APPLICATIONS

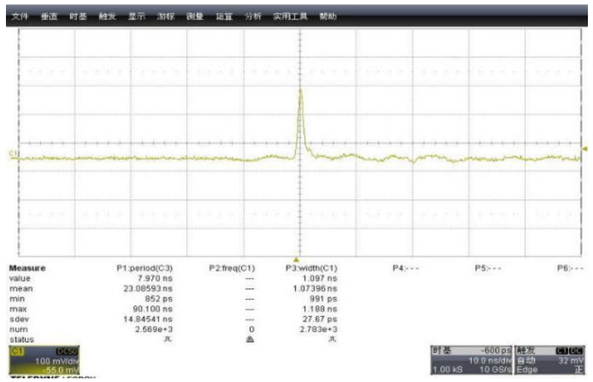
- Laser ranging
- Point cloud imaging
- Two-photon imaging, gated imaging
- Multi-channel atmospheric sounding

PARAMETERS

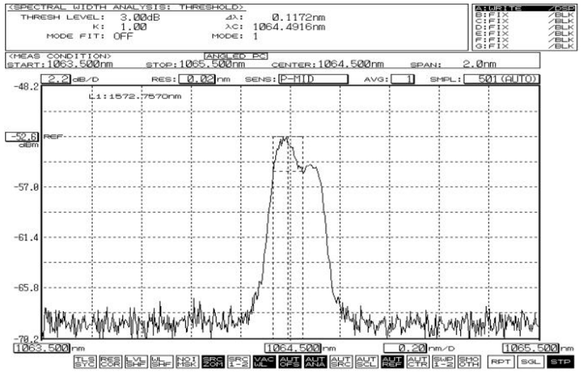
Parameter	Data
Model	UL-1.2mJ-10KHz-AMRL002
Wavelength	1064nm, 532nm coaxial output
Energy	＞1.2mJ@1064nm; ＞0.6mJ@532nm;
Fundamental frequency light width	＜0.12nm
Laser energy stability （RMS@2h）	≤ 2.5 % @ 25℃ @ 532nm
Pulse width	≤1.5ns@10kHz
Beam quality M^2	<1.8
Repetition frequency	10KHz
Full angle of beam divergence	5~6 mrad
Polarization ratio	>100:1
Beam directivity	≤±30μrad
Q-switch triggered synchronous output	Positive Pulse 3~ 5V@50 ΩTTL Rise Edge Time < 25ns Pulse Width Range 200ns~10 μs Synchronization trigger signal and output laser jitter <3.0ns
Control mode	Upper computer and communication command control
Communication interface	RS232 communication protocol
Cooling mode	Water-cooling
Power supply	28±5VDC
The output energy is adjustable in grades	It is divided into two files and can be set online by software. High grade works at full power. Low grade for light path debugging. Low energy is about 1% of high energy. High and low laser beam offset angle is less than 0.05 mrad.
Laser system components	Laser Head+Power Supply+Water Cooler
Laser lifetime	> 8500h
Working temperature	0~+40℃
Storage temperature	-10~+50℃, Low temperature storage requires cooling water removal
Relative humidity	0~80%
Vibration requirements	Vibration of highway transportation

www.ulasers.com
sales@ulasers.com
+86-021-69913696
No.599, Huiwangdong Road, Jiading District, Shanghai, China

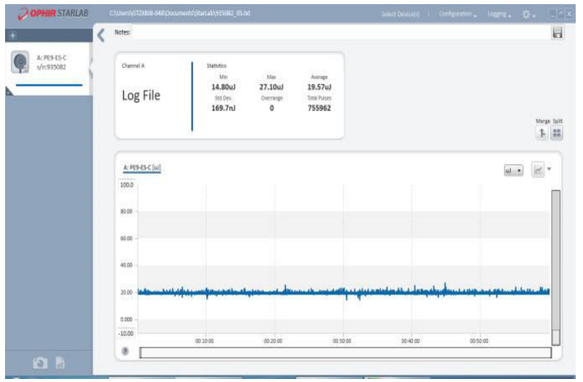
OPTICAL PARAMETERS



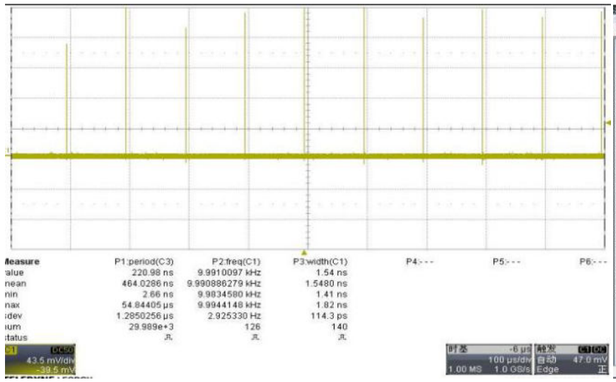
Pulse width: 1.07ns



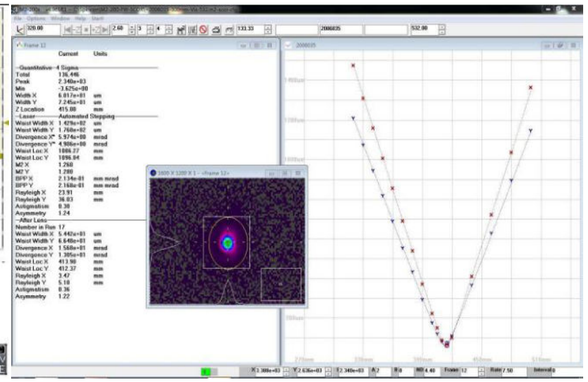
Wavelength: 1064.49nm; Line width: 0.1172nm



Output power 1 2mJ@10kHz (energy stability 0.87%)

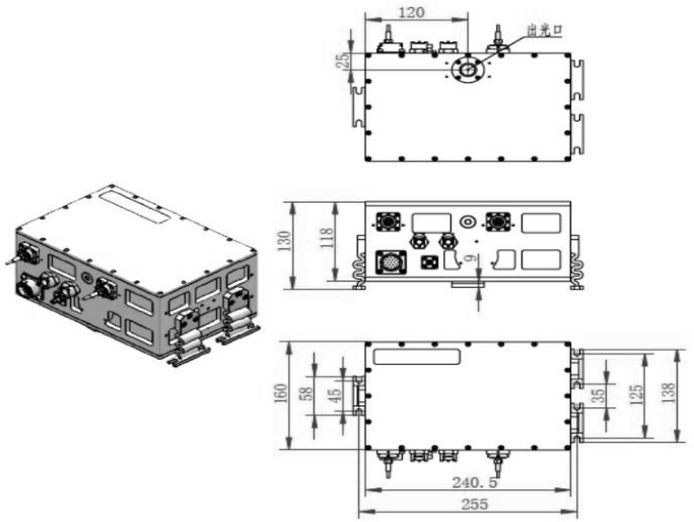


Repetition frequency: 10kHz



Beam quality factor M2 ≈ 1.28 Divergence angle ≈ 5.44mrad

OUTLINE SIZE(mm)



Laser head module

www.ulasers.com +86-021-69913696
sales@ulasers.com No.599, Huiwangdong Road, Jiading District, Shanghai, China