

### Key Features

- Output Power >1W
- Stable Single Frequency
- Low intensity noise
- Single Mode,  $M^2 \approx 1$
- Standard or All-PM version
- Adjustable Wavelength & Power
- Compact & Rugged Module
- PM Output with High PER
- RS 232 Interface
- Operation Temp: 0 to 50°C

### Applications

- LIDAR
- Fiber Optic Sensing
- Laser Spectroscopy
- Coherent communications
- Analog & RF Photonics

### MAKO SERIES

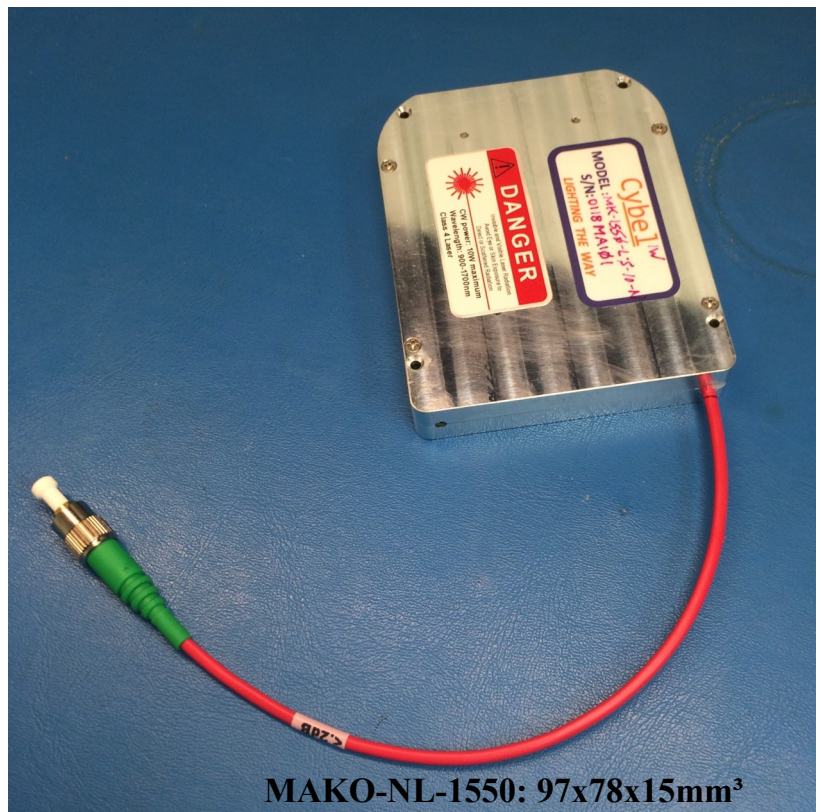
Also available at different standard wavelengths with same high performance and compact footprint:

- ◆ MAKO-1030
- ◆ MAKO-1064
- ◆ MAKO-1550+
- ◆ MAKO-NL-1900
- ◆ MAKO-NL-2000

The **CYBEL MAKO-NL-1550** is a single frequency narrow linewidth fiber laser designed for low noise applications in the wavelength range from 1540 to 1565nm. The **MAKO-NL -1550 OEM** module produces a highly stable 1550nm CW output of more than a 1W with a sub-MHz linewidth range, low RIN and intensity noise and excellent OSNR.

Since the **MAKO-NL -1550** design uses a Master Optical Power Amplifier design (MOPA), it allows large scalable output power and a wavelength selection in a robust and small form factor packaging (97x78x15mm<sup>3</sup>). This OEM laser product comes as either a standard or an all polarization maintaining laser that provides steady performance in adverse environmental conditions.

The **MAKO-NL -1550** is ideally suited for integration in Lidar systems, optical sensing or RF & analog photonic applications. External monitoring and control can be achieved via RS 232 computer interface.



MAKO-NL-1550: 97x78x15mm<sup>3</sup>

# MAKO-NL-1550 Specifications

OPTICAL	Unit	Value	Comment
Center wavelength	nm	1550	1540 to 1565
Output power	W	>1	Scalable ; High power available
Output signal linewidth (3 dB)	MHz	<1	Option of 100KHz or less
Beam quality (M <sup>2</sup> )	M <sup>2</sup>	<1.1	
Side mode sup. ratio (SMSR)	dB	50	@Pout=1W, Res; 0.05nm
Polarization Ext. Ratio (PER)	dB	≥ 18	PM version
Relative intensity noise (RIN)	dBc/Hz	<120 @ 500Hz	
Output fiber stability	%	<1	With 30dB output isolator
Pigtail output fiber	m	SMF 28 or PM Panda fiber	Armored cable, optional
Fiber length	cm	100	FC/APC connector termination
Output power tuning range	%	10 to 100	
<b>ELECTRICAL/MECHANICAL</b>			
Voltage	V	12 & 2	
Warm-up Time	min	20	
Mechanical package	mm	97x78x15	
Supply power consumption	W	25	@Pout max=1W
Control interface		RS 232	
<b>ENVIRONMENTAL</b>			
Operating temperature	°C	-10 to 50	
Operating relative humidity	%	0 to 95	Non-condensing

## CUSTOMIZATION

The **MAKO** is a laser platform that can be customized to match Customers' specific requirements. Please contact Cybel.

**COMPLIANCE with Regulatory Requirements:** These OEM products are Class 4 lasers as designated by the Center for Device and Radiology Health (CDRH). As such they are intended only in integration into other equipment and do not comply with CDRH requirement. It is the customer responsibility for CDRH certification of the full system that incorporates this industrial laser.



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