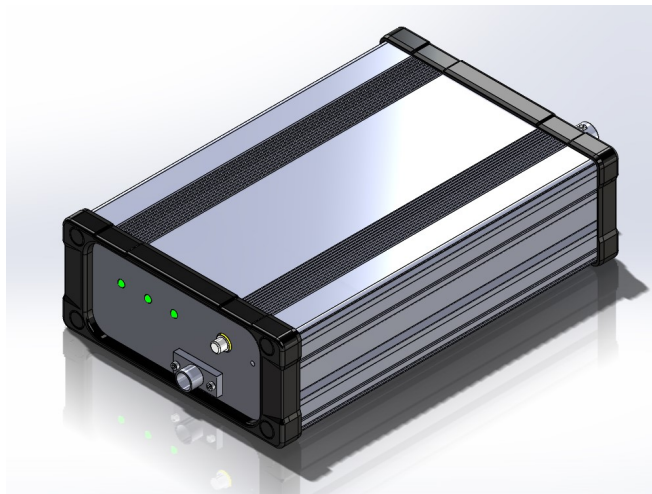


## Clarity NLL Narrow Linewidth Laser Module

A compact low phase noise laser source with an unparalleled value proposition



### Applications

- Distributed Acoustic Sensing (DAS)
- Coherent LIDAR
- Test and Measurement
- Interferometric Sensing
- Research

### Features

- Narrow Linewidth
  - 5kHz, 1-2kHz typical
- High Power
  - 40mW standard
- High Stability
  - Stabilized to NIST-traceable molecular reference.
- Fast Frequency Modulation
  - +/- 70MHz DC to 1 MHz
- Compact module or board-level product
  - Custom digital I/O communication and command sets available.

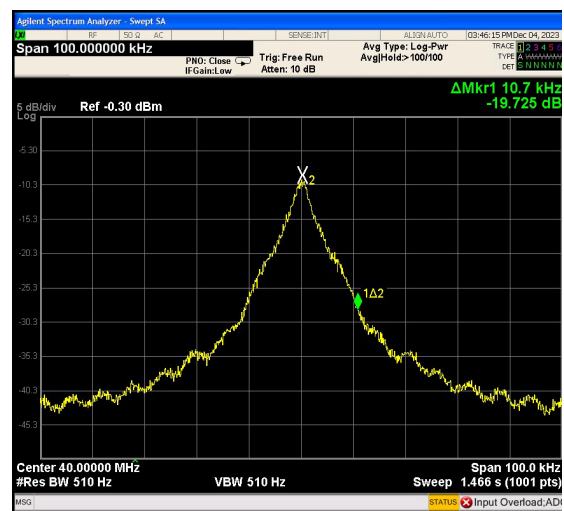
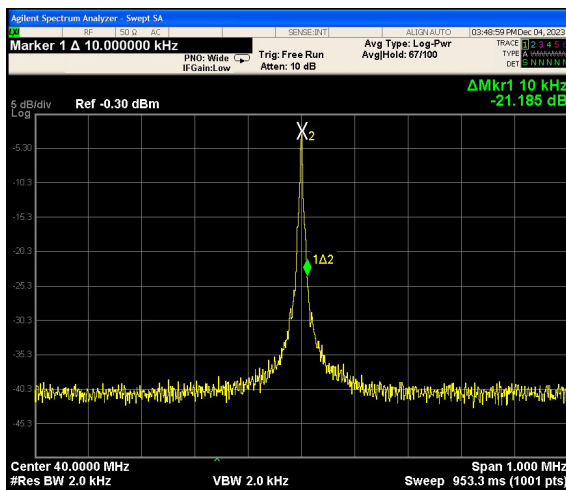
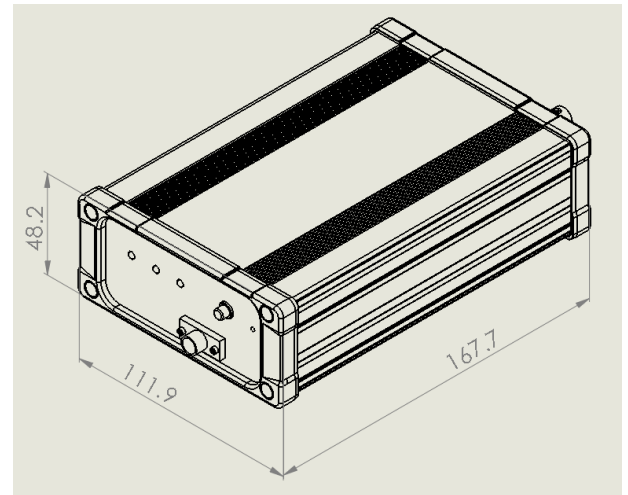
Specification	Performance	Notes
Wavelength	1550 +/- 3 nm	Consult factory for availability
Output Power <sup>1</sup>	35mW (15 dBm)	Typical
Wavelength Accuracy	±0.2ppm	NIST traceable
Laser linewidth <sup>2</sup>	5 kHz	1-2 kHz typical
External frequency modulation <sup>3</sup>	±70Mhz	Nominal with ±5V input DC to 1Mhz
Side mode suppression	-35dB	
Optical isolation	60dB	
Relative Intensity Noise	-135dB	
Fiber type	PM Panda	
Fiber interface	FCAPC	
Polarization Axis	Slow Axis	
External Communication	USB	RS232 header on board
Size	112 X168 X48	mm
Power	+12V at 1Amp maximum	
Temperature Range	-10 to +50 °C operating -40 to +80 °C storage	

- 80mW available
- Measured with delayed self-heterodyne at 35Km delay.
- Greater tuning range available - determined by gas absorption width. May affect laser linewidth.

Ordering Information:

**CLM-NLL-1550-EXT70**

Describes Clarity Laser Module Narrow Line Laser locked to 1550nm with +/- 70MHz External Modulation option.



Spectrum analyzer plots of the self-heterodyne signal from the laser using a 35Km delay. Assuming a Lorentzian line the laser linewidth will be one tenth of the single sided -20dB linewidth or about 1KHz as shown in the graphs. Even after 35Km coherence can be seen by the ripples in graph 2.