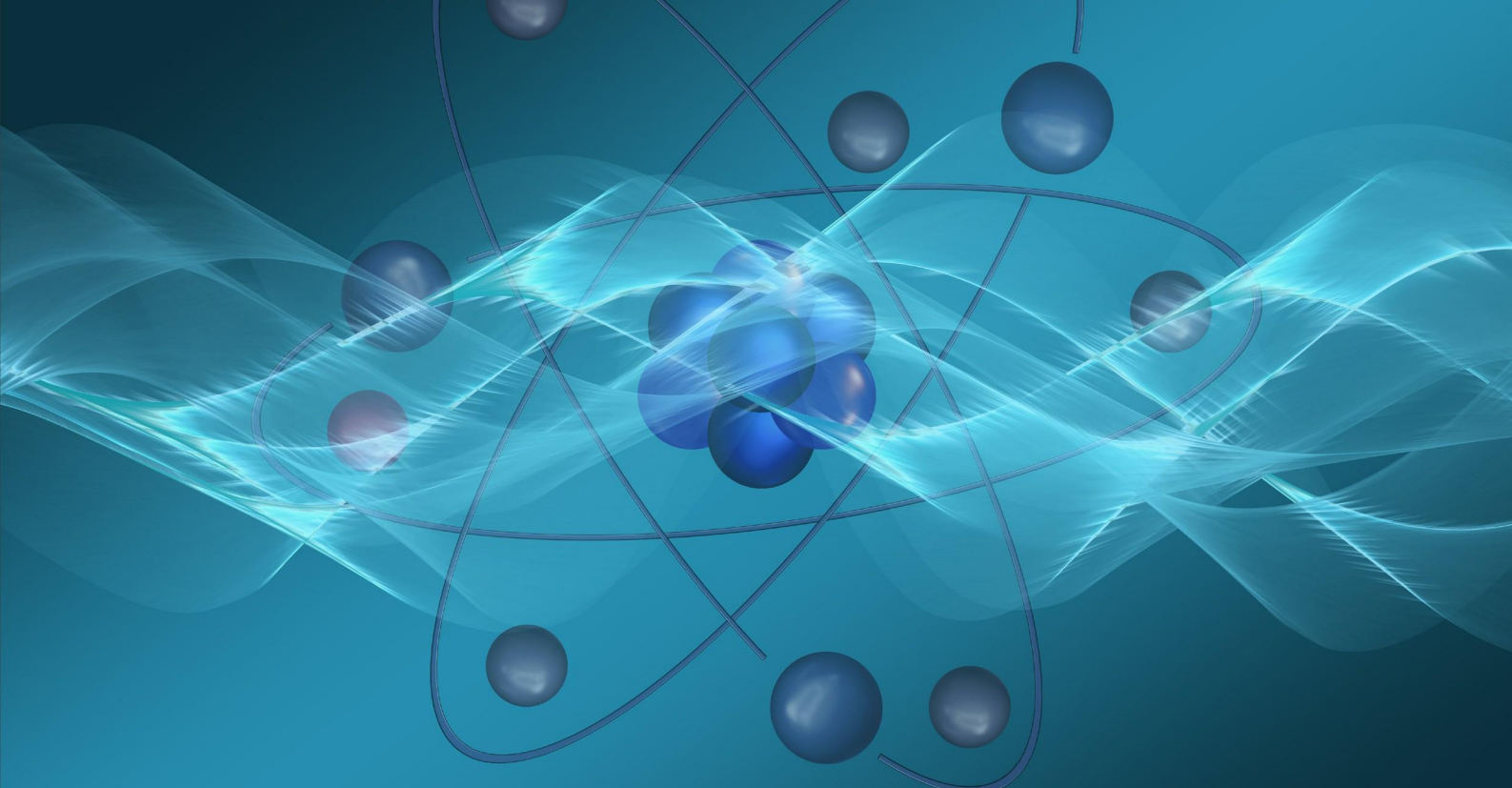




Narrow Linewidth Fixed External Cavity Diode Laser

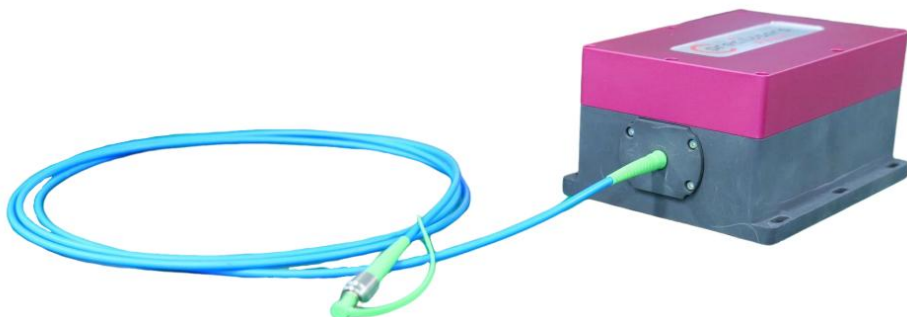
Precilasers' fixed external cavity semiconductor lasers have the characteristics of no mode hopping, narrow line width, ultra-low intensity noise and ultra-large modulation bandwidth. It has important applications in research fields such as atomic gravimeters, optical lattices, lidar, coherent optical communications, high-precision optical sensing, optical measurement and precision spectroscopy.

Features

- Narrow Line Width
- Low Intensity Noise
- High-Speed Tuning Possible
- Linear Polarization
- Never Mode-hop
- Excellent Beam Quality

Applications

- Rb Atom Experiment and Application
- Optical Phase Locking
- Fiber Optic Sensing



Specification

Wavelength Optional Range	450-1000nm			
Typical Wavelengths	461nm、679nm、689nm、698nm、707nm、780nm、795nm、813nm			
Line Width ⁽¹⁾ (100us)	<200kHz/100kHz ⁽²⁾			
Temperature Frequency Tuning Range (Never mode hop)	>5GHz			
Package Type	Butterfly Package, No isolator	With current source and temperature control drive, Built-in isolator		
Output Power	>15mW	>15mW/30mW ⁽³⁾	>10mW/20mW ⁽³⁾	>10mW/20mW ⁽³⁾
Output Mode	Free Space	Free Space	FC/APC	Fiber Port
Beam Quality	TEM ₀₀ mode, M ² <1.3	TEM ₀₀ mode, M ² <1.3	TEM ₀₀ mode, M ² <1.1	TEM ₀₀ mode, M ² <1.1
Polarization Extinction Ratio	>20dB			
Power Stability (3 Hours RMS)	<1%			
Intensity Noise (10Hz-10MHz integration)	<0.03%			
Intensity Noise (10kHz)	<-140dBc/Hz			
Current Tuning Range	>500MHz			
Current Tuning Bandwidth	>1MHz			

Other Parameters

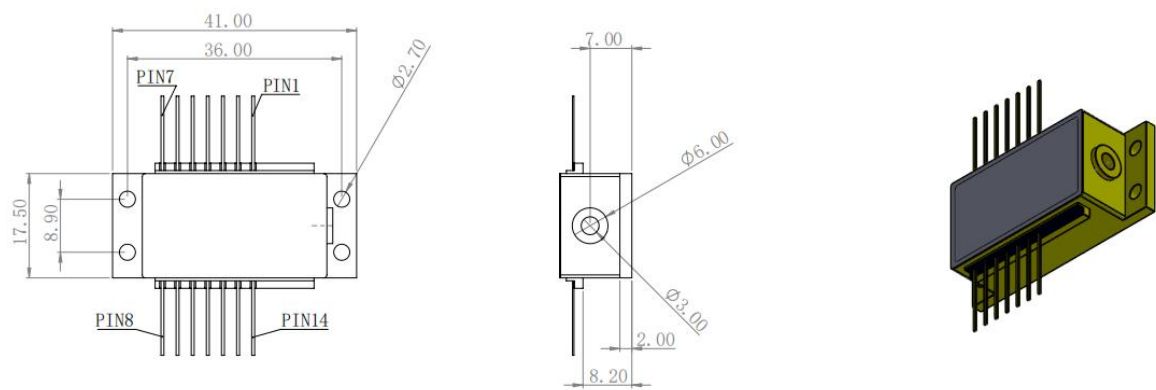
Weight	Driver version included, <1.5kg
Operating Temperature	0-60°C
Power Consumption	<3W
Powered By	5VDC, 1A, power adapter included

(1) Fiber delay self-heterodyne beat frequency measurement

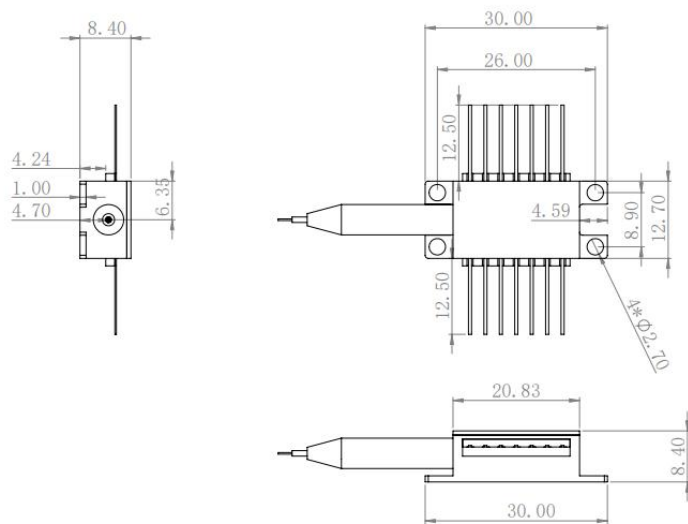
(2) Narrow linewidth option

(3) High power option

❖ Butterfly device large tube shell size diagram & pin definition diagram

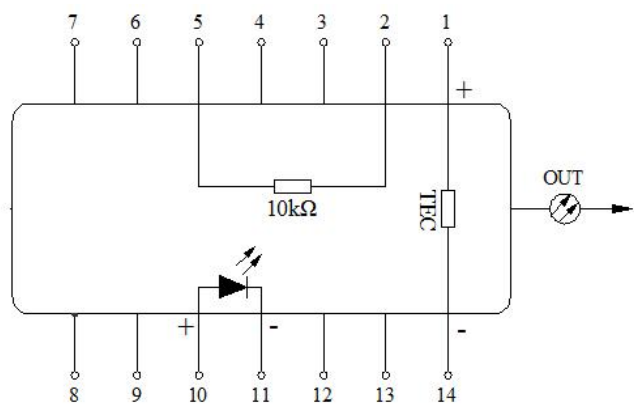


❖ Butterfly device small tube shell size diagram & pin definition diagram

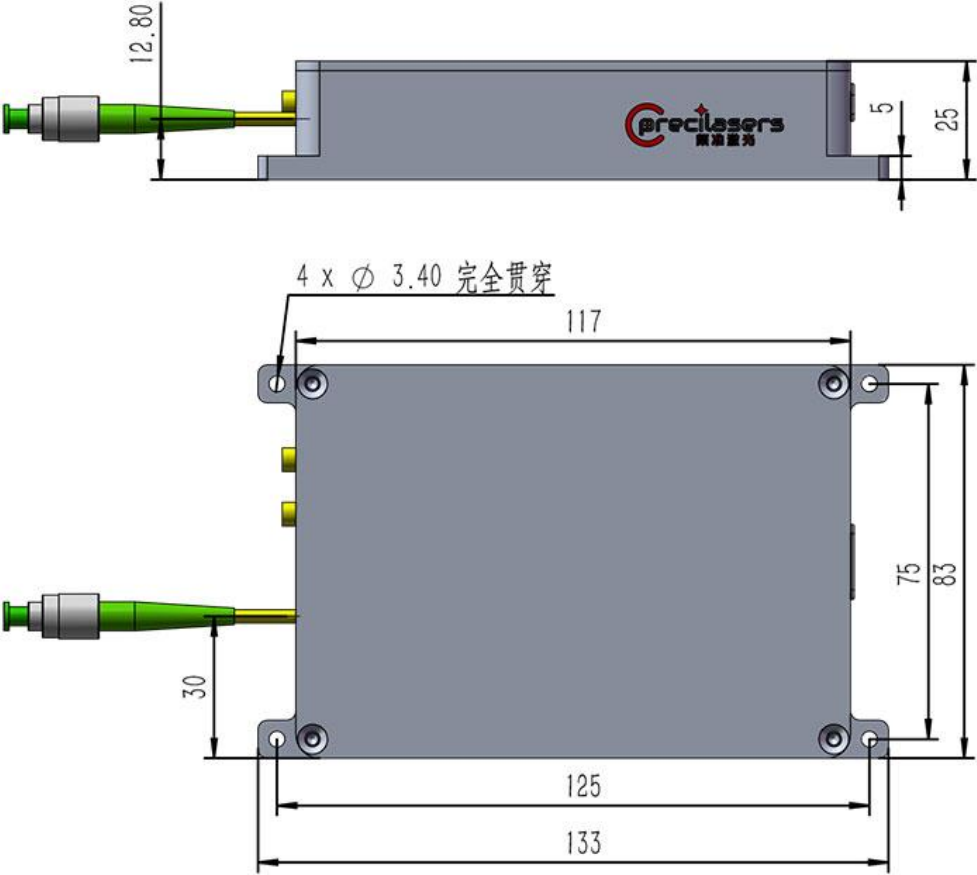


Pin definition diagram

1	Thermoelectric Cooler (+)
2	Thermistor
3	NC
4	NC
5	Thermistor
6	NC
7	NC
8	NC
9	NC
10	LD Anode (+)
11	LD Cathode (-)
12	NC
13	NC
14	Thermoelectric Cooler (-)

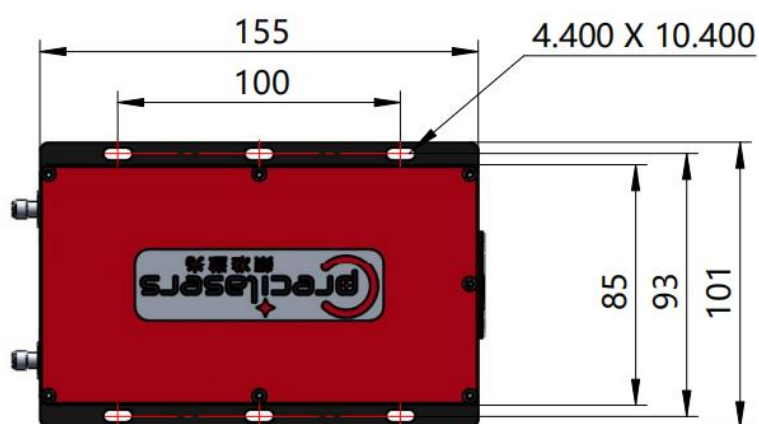


❖ Butterfly Package-Small tube shell-including driver size drawing



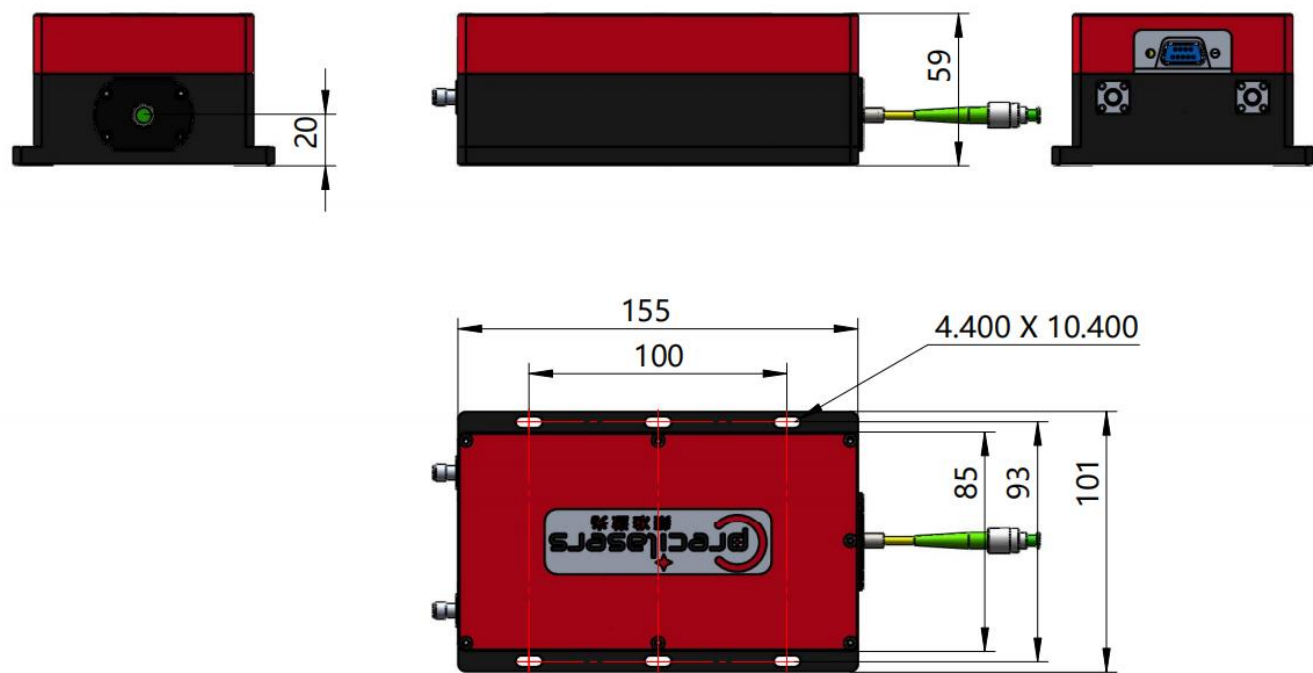
Product Dimensions

❖ Shortwave Universal System Module Dimensions -Spatial Output

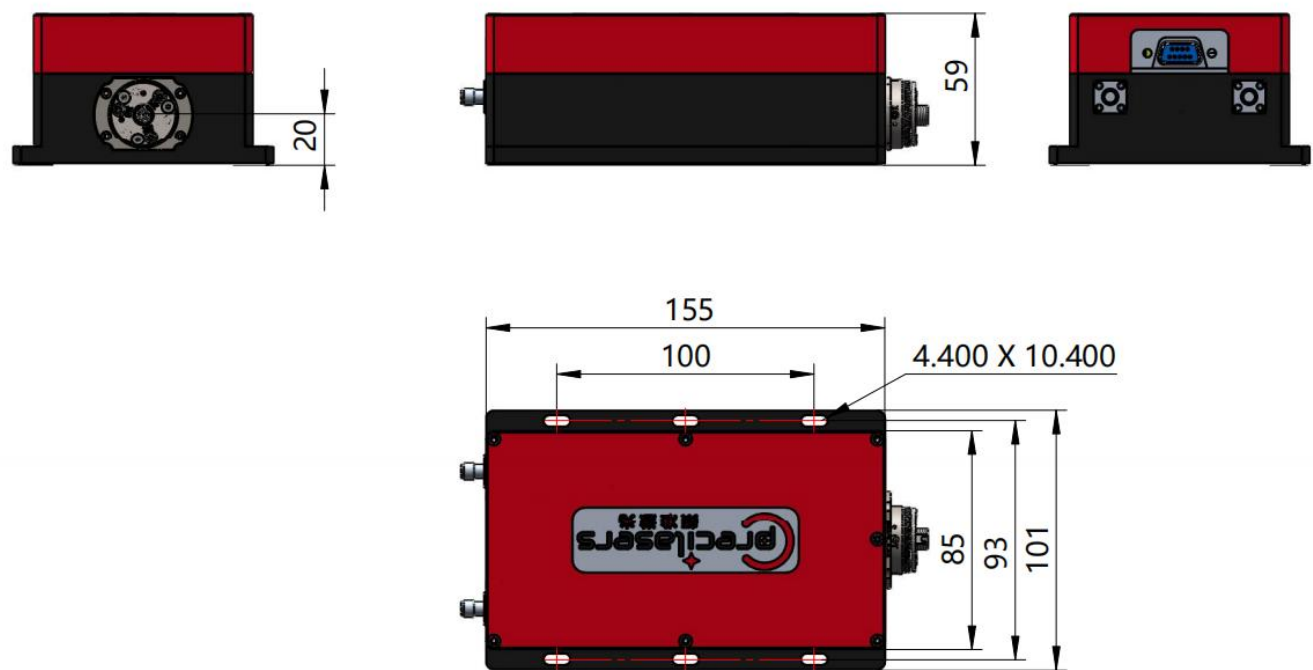


Shortwave Universal Free Space Output Product Dimensions

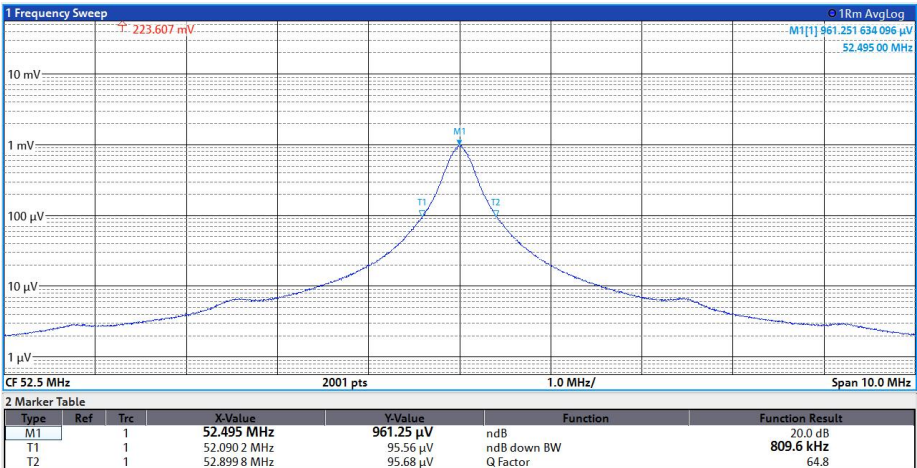
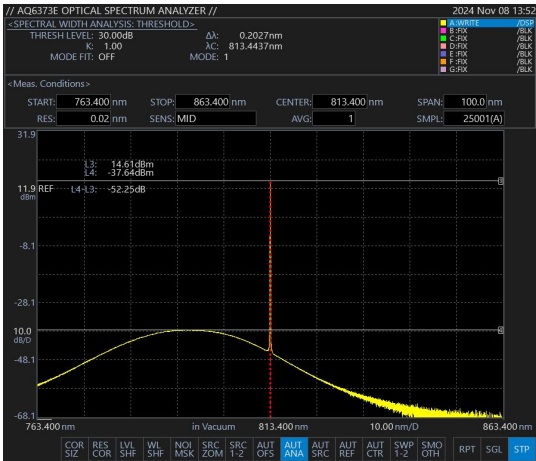
❖ Shortwave Universal System Module Dimensions - Fiber Optic Output



❖ Shortwave universal system module dimensions-fiber port output

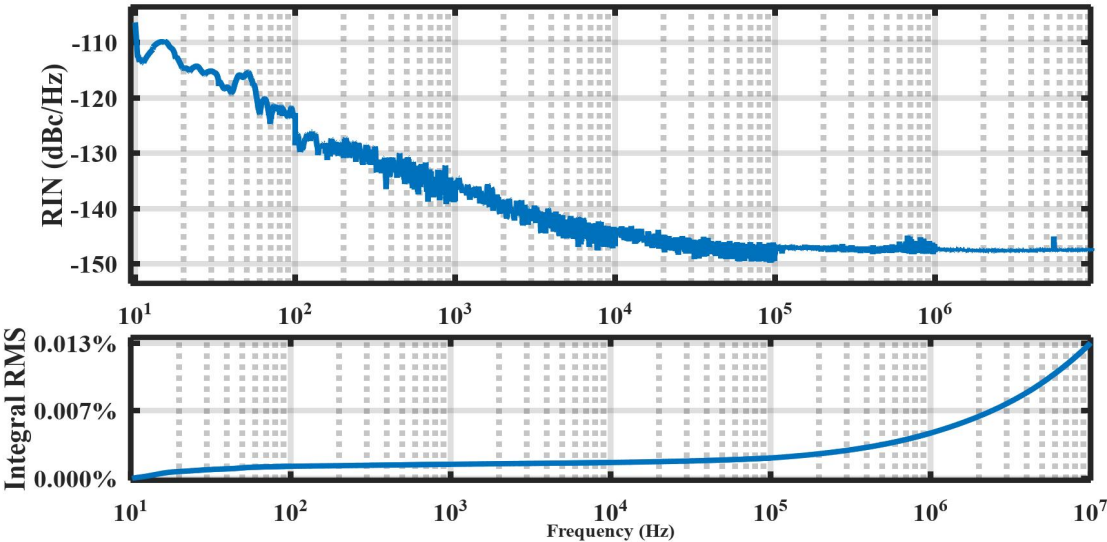


❖ Performance (typical value)



Spectral signal-to-noise ratio: > 50 dB

Line width test chart: 40.5kHz



Relative intensity noise test (RIN) :0.013%[10Hz-10MHz]



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⚠ Laser Hazard

Visible or invisible laser radiation, avoid eye or skin exposure to direct, reflected or filtered radiation.
CLASS 4 Laser Products