

# Automated Laser Linewidth and Phase/Frequency Noise Measurement System



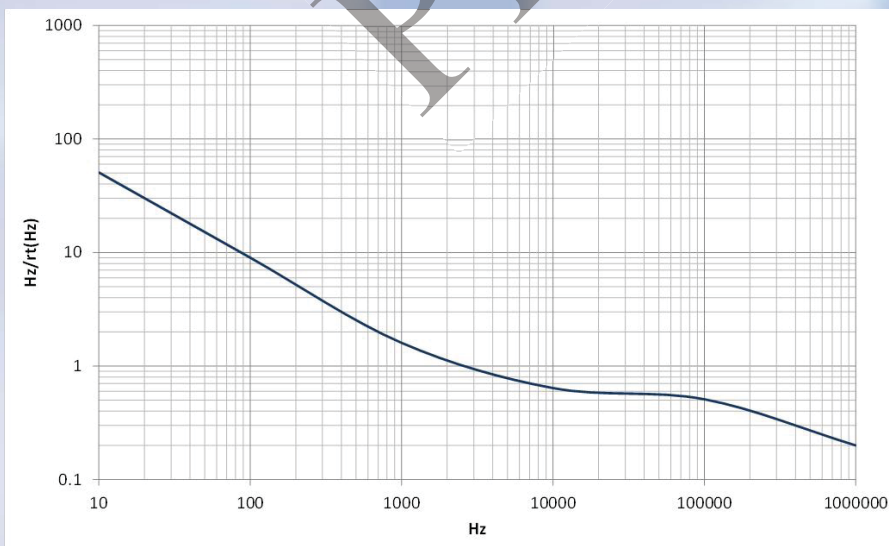
## Features

- Ultra-Narrow/Low Linewidth/ Frequency Noise Measurement
- Fast Real-Time Measurement
- Fully Automated
- No Low Noise Reference Source Required
- User Friendly Interface
- Simple PC-based Operation
- 3U x 19" Rack System
- Customizable Configurations, Upgrades, and Options

OEwaves' Ultra-Narrow Laser Linewidth and Frequency Noise Measurement System utilizes a homodyne methodology for automated measurement capable of testing ultra-low phase noise laser sources. The user friendly test system is capable of rapidly measuring  $<100$  Hz of Lorentzian linewidth of a laser source without the complicated setup typically required to make such a narrow linewidth measurement. This homodyne based system is unique in wide band measurement without requiring another low noise reference laser source. The complete system operates with ease, speed and precision, and a simple graphic user interface via a PC/tablet, without requiring any additional test equipment. The unmatched ultra-low phase/frequency noise measurement system is scalable to various input wavelengths and capable of low relative intensity noise (RIN) measurement.

## Optional Configurations

- Extended input wavelength range measurements within 780nm-2  $\mu$ m
- RIN Measurements
- Extended Input Power Range
- Performance Level and Frequency Range Options and Upgrades



**Absolute Frequency Noise Measurement Floor for C-Band**

## Graphic User Interface



## Specifications

Parameter	1530-1565nm Input			
Absolute Frequency Noise Floor (Hz/rt-Hz)	10 Hz	100 Hz	1 kHz	>10kHz
	50	10	2	1
Offset Frequency Range	10Hz - 1MHz			
Measurable Linewidth	<100 Hz (Lorentzian)			
Optical Input Power Range (dBm)	+5 to +15 dBm			
Measurement Types	Homodyne RIN option			
Display Functions	Spectrum Spectral Density Markers Spurious Content			
Data Storage & I/O	HDD USB Port			
Resolution Bandwidth	0.1 Hz - 200 kHz			
Operating Temperature Range	15° - 35° C			
Power	110/120 or 220/240 Vac, 50/60 Hz			
Size	3U x 19" Rack Mount			
Options				
Extended Input Power	0 to +20 dBm (Consult Factory)			
Custom Optical Input Wavelength Range	Example: 1950-2050 nm (Consult Factory)			
Extended Offset Frequency Range	1 Hz - 10 MHz or 100 MHz			
Additional Measurement	Relative Intensity Noise (RIN)			

For ordering or other inquiries contact:



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**NOTE:** These specifications are subject to change without notice due to OEwaves ongoing development cycle. Unless otherwise noted, all specifications in this documents are to be treated as "typical," actual performance may vary contingent on operating environment. Patents Pending.