



## Laser Spectrum Analyser – LSA

Absolute accuracy: 6000 MHz,

Wavelength deviation sensitivity: 1000 MHz

The LSA is designed to analyse the multi-line or broadband spectrum of light sources like cw and pulsed lasers, gas discharge lamps, super luminescence diodes, semiconductor laser diodes and LEDs.

- **Sensitivity: 5 nJ @ 633 nm**
- **Low stage spectral resolution:  $(\lambda/\Delta\lambda_{FWHM})$ : 1000**
- **High stage spectral resolution  $(\lambda/\Delta\lambda_{FWHM})$ : 30000 (SM fiber), 10000 (50  $\mu\text{m}$  fiber)**
- **max. spectral range: 2 nm @ 350 nm, 7 nm @ 600 nm, 25 nm @ 1064 nm**
- **Linewidth accuracy: 10 %**  
min. linewidth  $\delta\lambda/\lambda = 2 \cdot 10^{-5}$  (e.g. 10 pm @ 633 nm)  
max. linewidth: half of max. spectral range
- **Built-in light source for autocalibration**



Ångstrom



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Technical Data		LSA
Measurement range (nm)	Standard (350 – 1120)	●
	UV (192 – 1120)	●
Absolute accuracy <sup>7)</sup>	192 – 370 nm (pm) <sup>1)</sup>	6
	370 – 1120 nm (MHz)	6000
Quick coupling accuracy (with MM fiber)		10000
Wavelength deviation sensitivity		$\delta\lambda / \lambda = 2 \cdot 10^{-6}$ (e.g. 1GHz @ 633 nm)
Linewidth High stage	Accuracy <sup>3)</sup>	10%
	Min. linewidth (pm)	10 @ 633 nm
	Max. linewidth (nm)	3 @ 633 nm
Measurement speed (Hz) (depending on PC hardware and settings)	Wavelength	10
	Analysis	5
	Linewidth option	10
Required input power (µJ)	Standard	0.005 – 0.2
	UV	0.005 – 5
Coupling fiber diameter (µm)		50 µm or SM fiber set
Calibration		Built-in calibration
Calibration period		> 1 month (will be detected and done automatically)
Warm-up time		No warm-up time under constant ambient conditions
Dimensions L x W x H (mm)		325 x 180 x 77
Weight (kg)		2.8
Interface		High-speed USB 2.0 connection
Power supply		Power consumption < 2.3 W, supply directly via USB cable

1) With MM fiber

2) Values for wide-/fine-mode

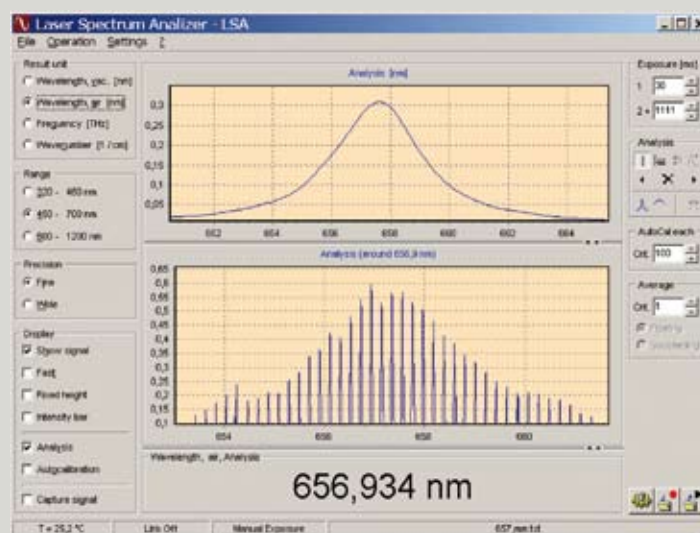
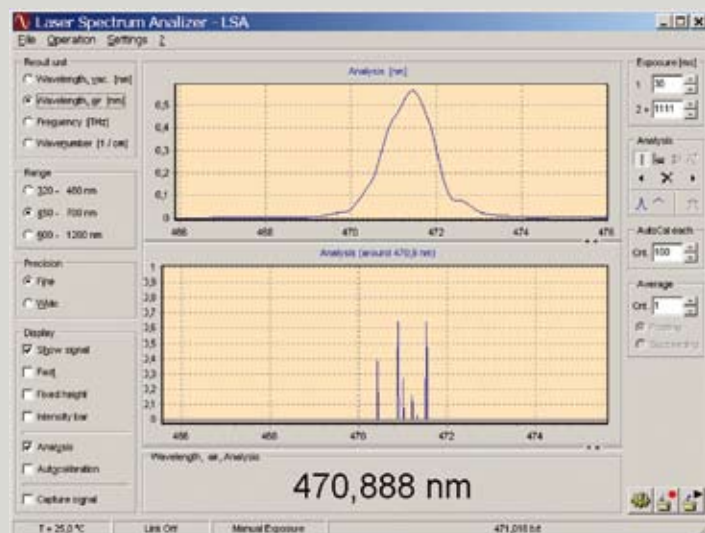
3) Only for standard range

7) according 3σ criteria

## Sample measurements of the Laser Spectrum Analyser

Neon discharge lamp: The group of Ne-lines (spontaneous emission) filtered by interference filter. The upper graph represents the spectrum in the first diffraction order, the lower graph represents the 120<sup>th</sup> order after mathematic analysing.

Spectrum of a laser diode right below threshold. Mode spacing 200 pm.



**HighFinesse**  
Laser and Electronic Systems

HighFinesse GmbH  
Auf der Morgenstelle 14 D  
72076 Tübingen/Germany

T +49 (0) 7071-96 8515  
F +49 (0) 7071-96 8517  
E info@highfinesse.com

Additional information  
and distributors:  
[www.highfinesse.com](http://www.highfinesse.com)