

Mini Monochromator

ATP7510

Features

- Wavelength Range: 190-5 μ m (three selectable bands)
- Wavelength Accuracy: ± 1 nm
- Wavelength Resolution: ± 0.1 nm
- Spectral Resolution: < 5 nm
- Wavelength Repeatability: ± 0.1 nm (1200 g/mm grating)
- Stray Light: $< 0.1\%$ (typical value)
- Grating: Aberration-Corrected Concave Holographic Grating
- F#: F/2.95
- Focal Length: 100 mm (incidence), 94 mm (emission)
- Motor Accuracy: Better than 0.01°
- Scanning Speed: 200 nm/s
- Communication Interface: USB-B
- Incident Slit: D8 $\times$ 100 μ m $\times$ 2mm $\times$ 0.03mm
- Exit Pinhole Diameter: 0.5mm
- TTL External Trigger Input/Output

Applications

- Raman Spectroscopy
- Fluorescence Spectroscopy
- Photoluminescence Spectroscopy
- Absorption, Reflection, and Transmission Spectroscopy
- Various Other Spectroscopic Applications

Description

ATP7510 is a High-Performance Scanning Monochromator with an Aberration-Corrected Concave Holographic Diffraction Grating, designed for Scientific Research, Industrial Applications, and High-Precision Spectroscopy. Its Single-Piece Optical Design and High-Line-Count Precision Grating ensure High Spectral Dispersion and Ultra-Low Stray Light, ideal for Optical Testing and Spectral Analysis. With Superior Diffraction Efficiency and High Scanning Accuracy (better than 0.01°), the ATP7510 supports Wavelength Scanning Speeds up to 200 nm/s, making it perfect for High-Resolution Spectrometry and Laser Characterization.

It offers flexible Input/Output Options like SMA905 Fiber Optic and Free-Space Optical Input, with data output via USB 2.0 or UART Ports. Powered by +5V DC, the ATP7510 is portable and suitable for both Lab and Field Applications, with broad potential in Photonics, Medical Diagnostics, Remote Sensing, and Astronomy.



1. Selection Guide

Model	Description
ATP7510	190-1100 nm: UV to Visible Spectrum
ATP7510-NIR	NIR: Operating Wavelength Range: 900-2500 nm
ATP7510-MR	MIR: Operating Wavelength Range: 1.0-5.0 μm

2. Parameter

	Parameters	ATP7510
Optical Parameters	Wavelength Range	190-1100nm, 900-2500nm, 1.0-5.0 μm (three selectable bands)
	Optical Design	Single-piece, symmetric optical path
	Focal Length	100mm (incident); 94mm (emission)
	Diffraction Grating	Aberration-corrected concave holographic grating
	Grating Rotation Mechanism	Electrically controlled
	Grating Rotation Accuracy	<0.01°
	Incident Slit Width	100 μm ×2mm (other sizes customizable)
	Exit Slit	Selectable: 50 μm , 100 μm , 200 μm , 500 μm
	Incident Light Interface	SMA905 fiber optic interface, free space
	Exit Light Interface	SMA905 fiber optic interface, free space
Electrical Parameters	Data Output Interface	USB 2.0 (USB-B)
	ADC Bit Depth	16 bit
	Power Supply	5V DC
	Operating Current	<2.3 A
Physical Parameters	Operating Temperature	-20°C ~ +45°C
	Storage Temperature	-30°C ~ +70°C
	Operating Humidity	< 80% RH (non-condensing)
	Dimensions	132×118×115 mm ³
	Weight	1.5 kg

3. Accessories

Standard Accessories	
1	USB data cable
2	5V standard power adapter
Optional Accessories	
1	Deuterium-Halogen lamp or Xenon lamp light source
2	Fiber optic jumper cable

4. Effect Diagram



5. Performance Test

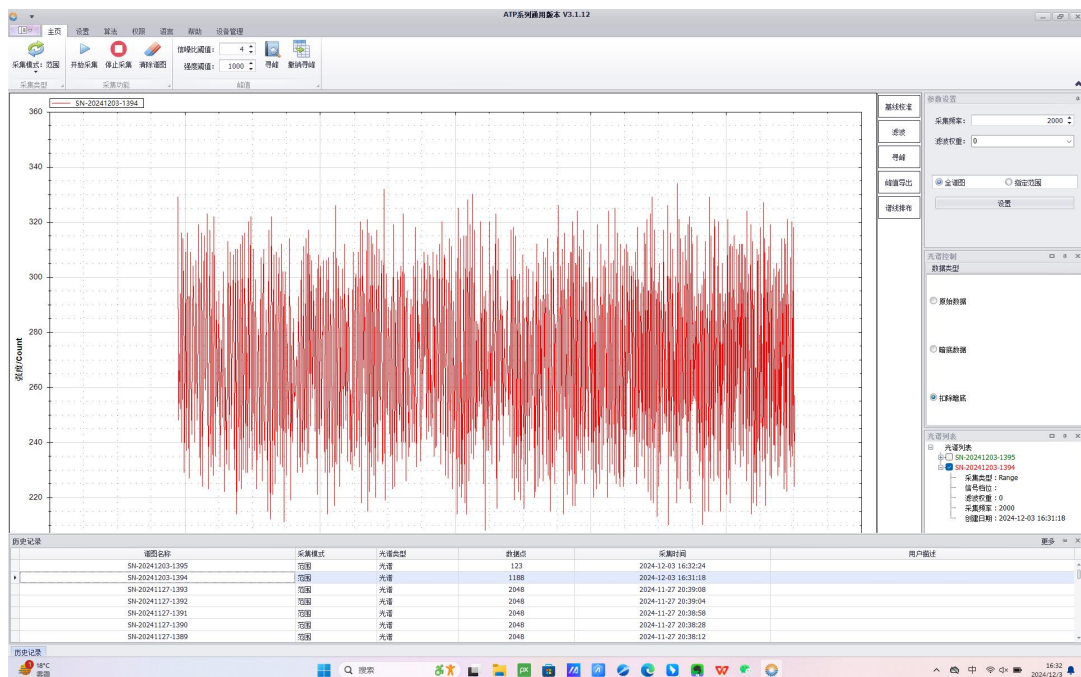
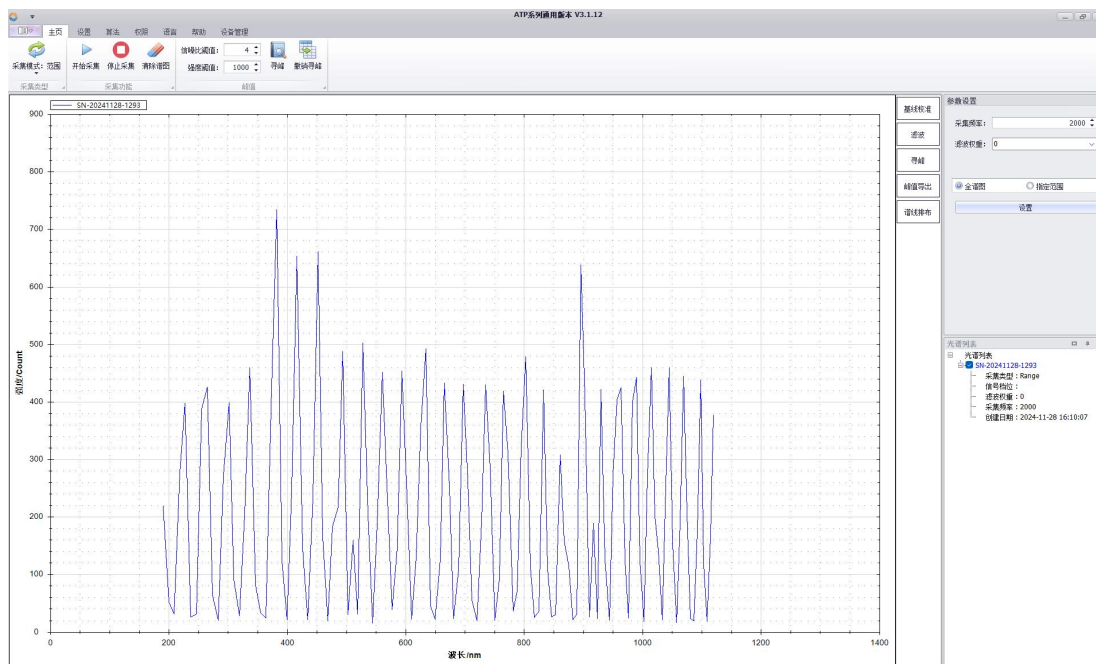
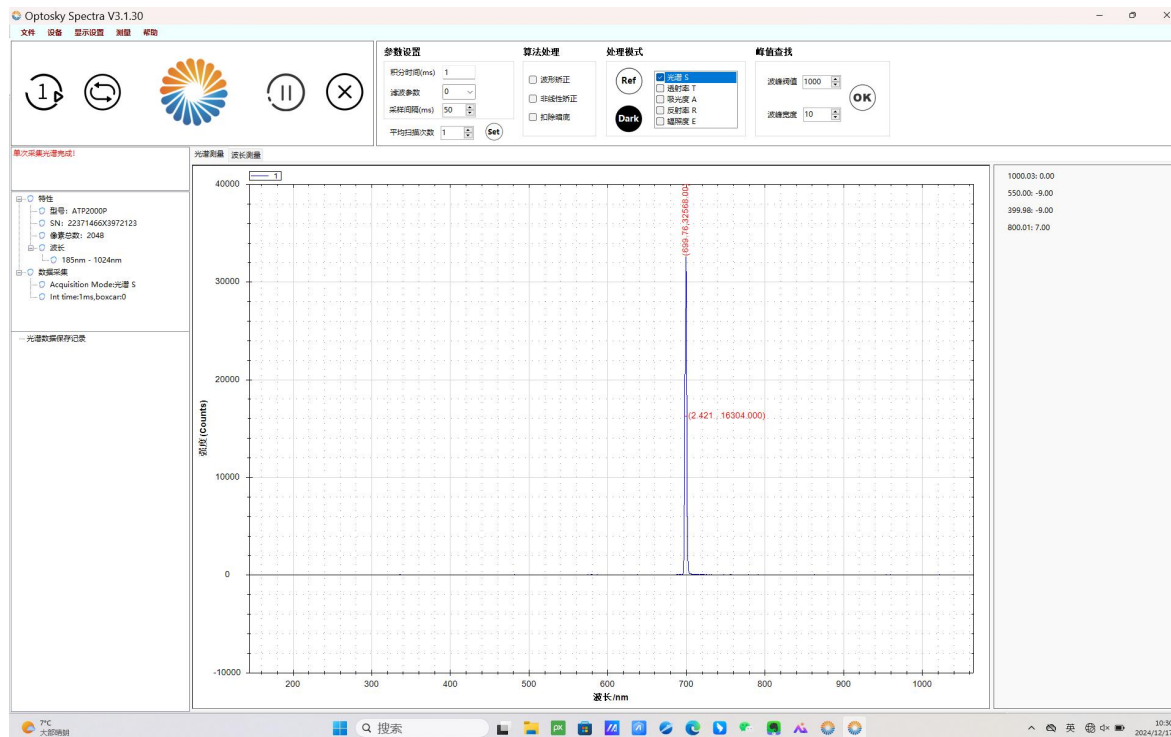


Figure 2: ATP7510 Scanning Range - 190nm ~ 1104nm



6. Application Scenarios and Measured Data



Figure 6: ATP7510 Test Optical Path

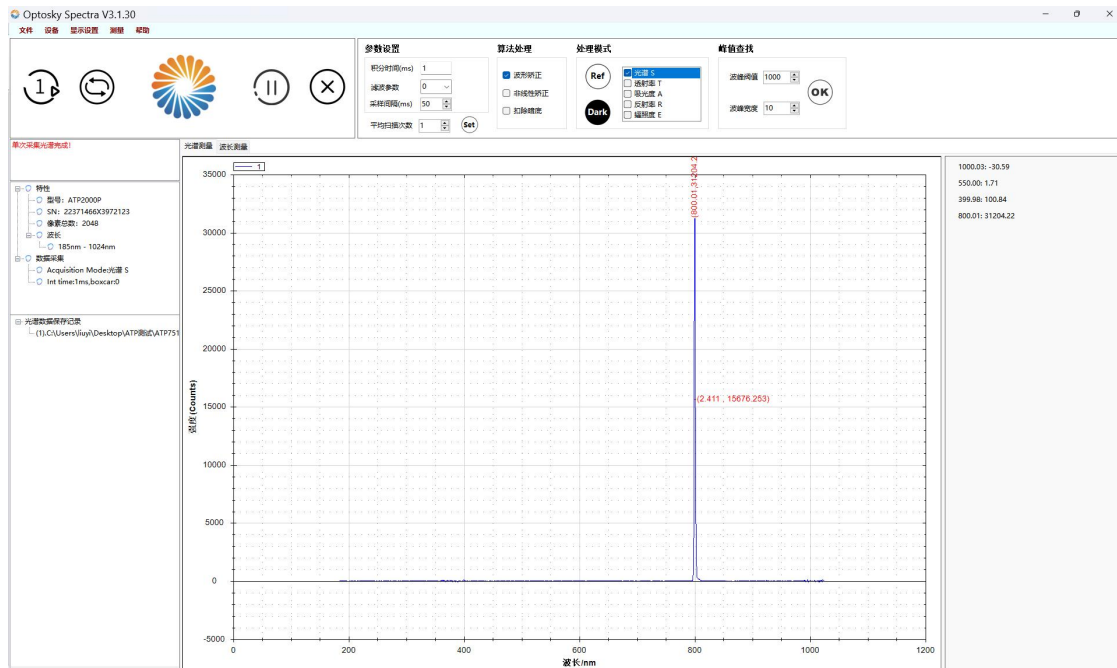


Figure 7: ATP7510 Monochromator with ATG1100 Halogen Lamp – Tunable Monochromatic Light Source