

Miniature SNIR Spectrometer

ATP8130

Features

- SW-IR : 900-1700nm;
- Compact design, high resolution;
- Integration time: 1ms- 65s;
- CCD parameters: 256 pixel, 25×250 um;
- Power supply: DC 5v;
- ADC bit depth: 16 bits;
- ADC sampling rate: 1mhz;
- Optical input interface: SMA 905;
- Data output interface: USB Type-C and UART;
- 10-pin expansion connector;

Application

- Laser wavelength monitoring;
- Raman spectrometer;
- Food Safety & Food sorting;
- Environmental Science: Wastewater testing;
- Agriculture: Crop testing
- Industry: Paper sorting
- QC : Online monitoring of chinese medicine production;
- Solar panel inspection;

Description

ATP8130 Low Cost Spectrometer adopts 256-pixel InGaAs linear array detector, integrated design, reliable CCD installation and heat dissipation, which improves the measurement reliability of ATP8130. At the same time, Optotech has specially customized an ultra-low noise CCD signal-correlated double sampling processing circuit for ATP8130, which is the best level in the industry.

The ATP8130 Spectrometer can receive SMA905, FC/PC or free space light and output the measured spectral data through the USB-C or UART port.

The ATP8130 measurement tool provides the most advanced spectral analysis and only requires a 5V DC power supply. It can be powered directly by USB, making it very easy to integrate. It is suitable for biochemical analyzer, Raman spectrometer and food sorting, etc.

Model	Describe
ATP8130	Universal spectrometer, SMA905 interface
ATP8130-FC-FBG	Dedicated for fiber optic sensing, C/L/O bands, FC/PC interface
ATP8130SH	High-speed version with acquisition rate up to 5 kHz Standard version with acquisition rate of 100 Hz



Figure 1: ATP8130

1. Parameter

Detector	
Type	High performance linear array InGaAs CCD
Detector cooling temperature	Non-refrigerated
Spectral range	900 ~ 1700 nm, Can be customized within the range
Effective pixels	256
Optical parameters	
Wavelength range	900 ~ 1700 nm, Different ranges can be customized
Resolution	1.0~10 nm (depends on slit, actual spectral range)
Dynamic range	6000:1
Optical design	F/4 asymmetric C-T optical path
Entrance slit	5, 10, 25, 50, 100, 150, 200, 300μm optional, other sizes can be customized
Incident light interface	SMA905, FC/PC fiber interface, free space
Electrical parameters	
Integration time	1ms ~ 65 s
Frame rate	100fps, Typical (300 fps .MAX.)
Data output interface	USB Type-c or UART
Adc bit depth	18 bits (output 16 bits)
Power supply	5VDC±5%
Working current	<0.8 A
Working temperature	-10°C to +50°C
Operating humidity	< 90% RH (non-condensing)
Physical parameters	
Dimensions	55 × 40 × 20 mm ³
Weight	80 g

2. Main Performance Test Report

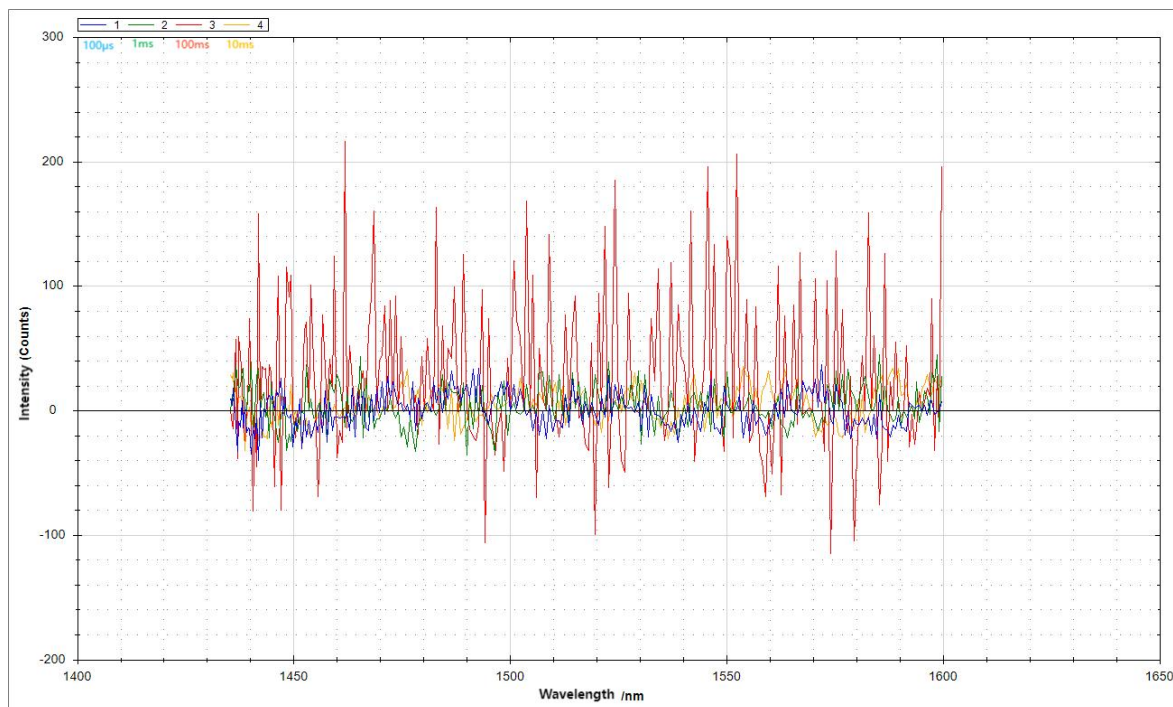


Figure 2: ATP8130 Dark Current Test

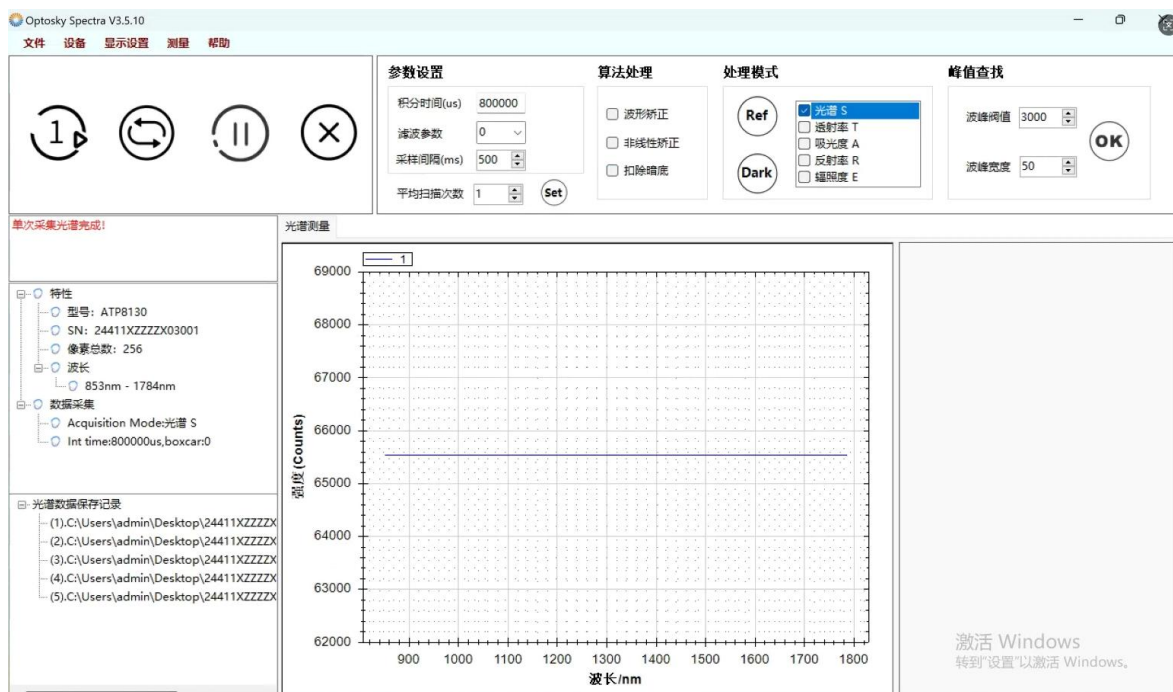


Figure 3: ATP8130 Saturation Value Test

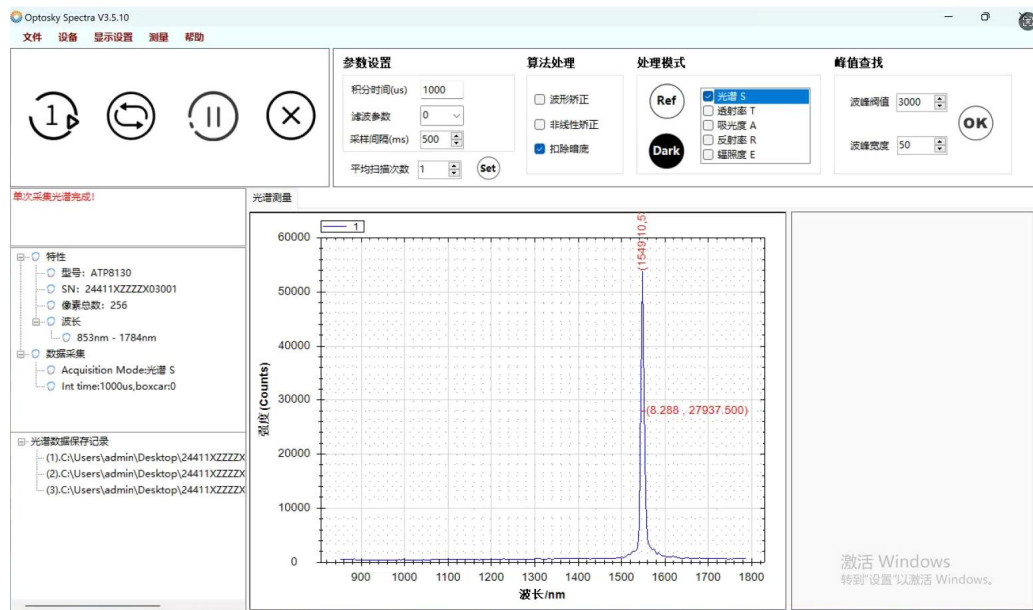


Figure 4: ATP8130 Resolution Test – 8.288 nm @ 1550 nm

3. Physical Product Images



Figure 5: ATP8130 Physical Product Image

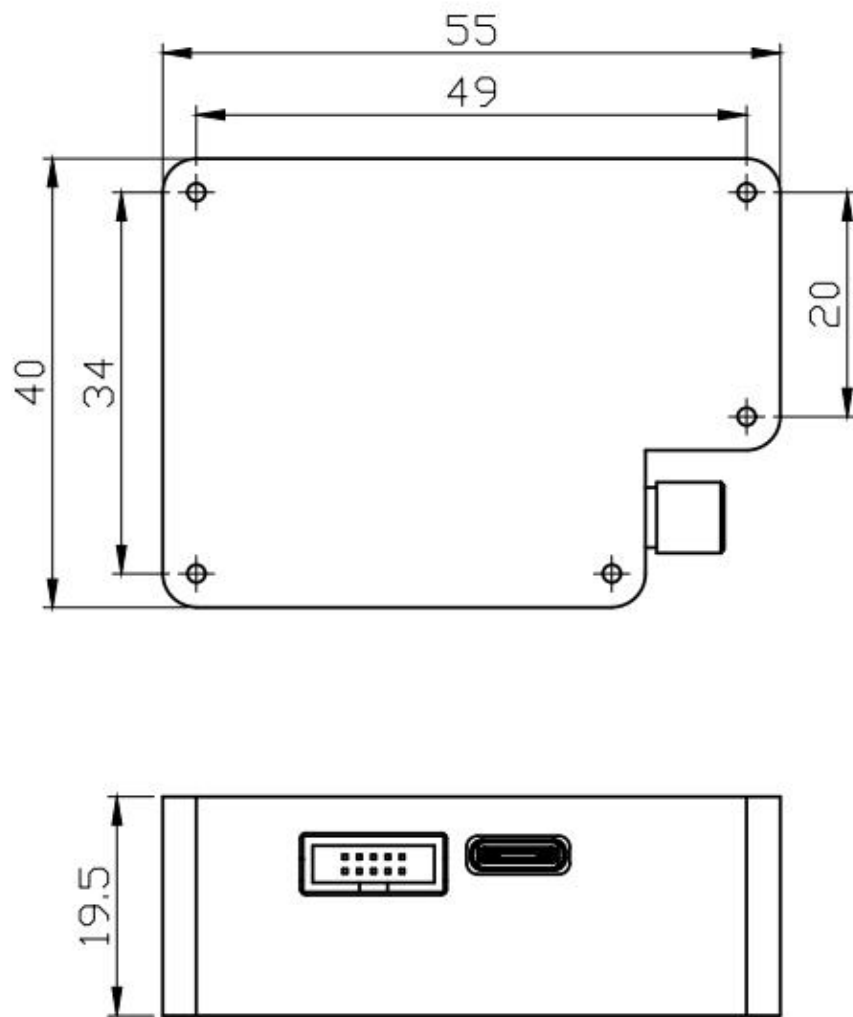


Figure 5 Physical Image of the ATP8130

4. Accessories

Standard Accessories	
1	Type-C USB Data Cable
Optional Accessories	
1	Near-infrared fiber optic patch cord
2	Adjustable Optical Attenuator
3	Standard Diffuse Reflectance White Board
4	Integrating Sphere Bracket for Transmittance/Reflectance Measurements

5. Application Scenarios and Measured Data

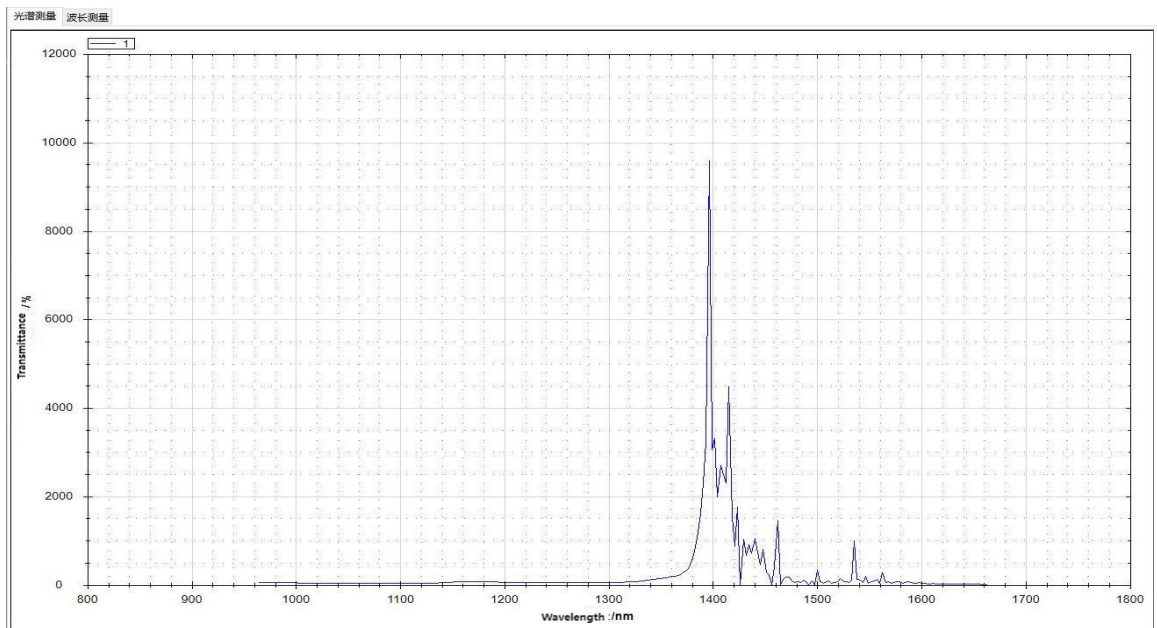


Figure 7: ATP8130 – Glucose Solution Transmission Spectrum Data