Handheld Raman Spectrometer ATR6100

Features

- Compact Design with handle
- Built-in HD screen
- Bluetooth connectivity
- Built-in lithium battery with a battery life of 4-6 hours.
- Non-destructive, rapid detection and identification with one-touch operation.
- Built-in infrared temperature measurement with an overheat alert for samples.
- Integrated detection button on the instrument
- Mobile app for operation and display.
- Precise algorithms capable of analyzing mixtures.
- PDF reports of the results.
- Ultra-lightweight (only 280 grams
- IP-65

Application

- Public Safety : Drugs, Explosives, Hazardous Chemicals, Toxicology
- Public Safety : Detection of hazardous chemicals at high-speed rail, subway, and BRT entrances.
- Chemical Science & Biochemical Science : Identification of raw and auxiliary materials for Pharmaceutical companies
- Food safety testing.
- Material Science : Gemstone identification.
- Scientific Research : Identification of cultural relics

Description

The ATR6100 is the latest fourth-generation ultra-miniature handheld Raman spectrometer from Optosky. It is compact and easy to grip, weighing only 280 grams, making it suitable for one-handed operation and highly portable to fit into a pocket.

The ATR6100 comes with an Android app that can be installed on any Android smartphone, including police communication devices. It features advanced Raman spectral recognition algorithms and includes a comprehensive spectral library with over 20,000 standard substances, allowing for indiscriminate material detection and easy identification. Users can also add their own spectral data.

Operation is straightforward, initiated via a detection button on the device or through the app, and the whole process takes only a few seconds, with results displayed directly on the smartphone app.

The ATR6100 incorporates a patented ultra-miniature 785 nm laser module and a spectral splitting system, along with a high-performance detector system, ensuring fast and accurate identification.

Optosky offers comprehensive technical support and services, including spectral library development, methods and validation, IQ/OQ/PQ certification support, and compliance with CFR 21.

For public safety, food safety, and pharmaceutical safety, the ATR6100 offers rapid, non-destructive testing—all within your grasp!

Model	Features
ATR6100	785nm excitation wavelength
ATR6100-532	532nm excitation wavelength
ATR6100-1064	1064nm excitation wavelength

1.Parameter

ATR6100 System Parameters			
Operating System	App installed on Android smartphones		
Laser Wavelengths	785 ± 0.5nm	532 ± 0.5nm	1064 ± 0.5nm
Laser Power	100mW	80mW	300mW
Wavenumber Range	300-2400 cm^{-1} (default) 200-3000cm^{-1} (custom)	200-3000cm^{-1}	300-2400 cm^{-1} (default)
Resolution	13 cm^{-1}	15 cm^{-1}	18 cm^{-1}
Dimensions	150 X 150 X 45 mm		
Weight	280g		
Interface	USB Type-C、Bluetooth		
Instrument Series and Application Areas	Model	Spectral Library	Application Area
	ATR6100	User-created database	Scientific research
	ATR6100DH	● Drugs: Heroin, methamphetamine, cocaine, ketamine ● Precursors: Ephedrine, chloroform, ether ● Explosives: TNT, RDX, TATP, ammonium nitrate ● Hazardous Chemicals: Sulfuric acid, gasoline, nitric acid, toluene ● Food Safety: Illegal food additives, pesticide residues	Public security, customs, subways, courts, prisons, and public safety checks
	ATR6100PH	Identification of raw and auxiliary materials in drug production	Pharmaceutical factories
	ATR6100GM	Gemstones: diamonds, agate, jade	Gem identification
	ATR6100IN	Chemicals, plastics, rubber, polymers, synthetics	Industrial applications
Report Output	Supports the export of detailed inspection reports (results and spectral information)		
Battery Life	Built-in lithium battery, 4-6 hours.		
Charging Method	USB Type-C		
Working Temperature	-20 – 50 ℃		

2.ATR6100 Image

3.ATR6100 Measured Spectra

Figure 1: Flammable solid acetonitrile CH_3CN

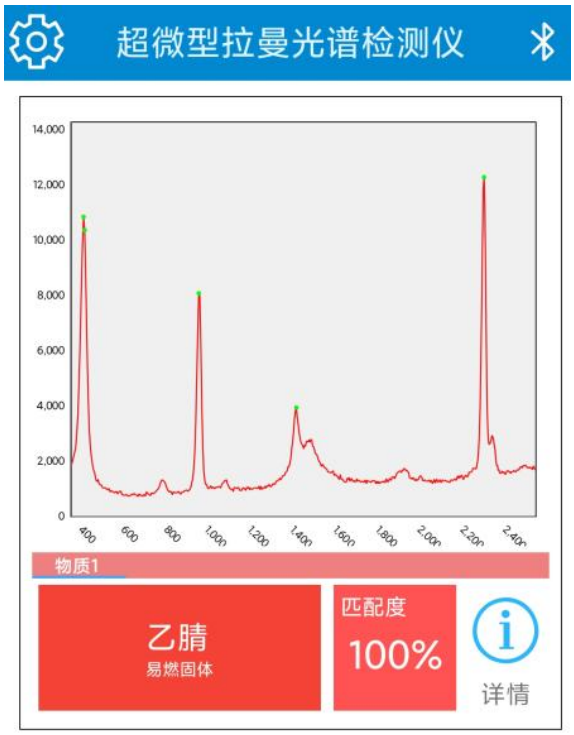

Figure 2: Calcium carbonate $CaCO_3$

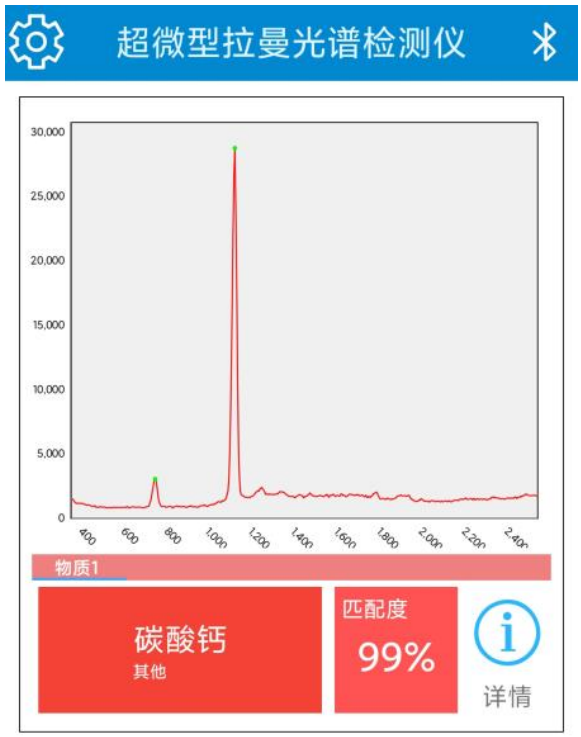

Figure 3: Flammable liquid n-pentane C_5H_{12}

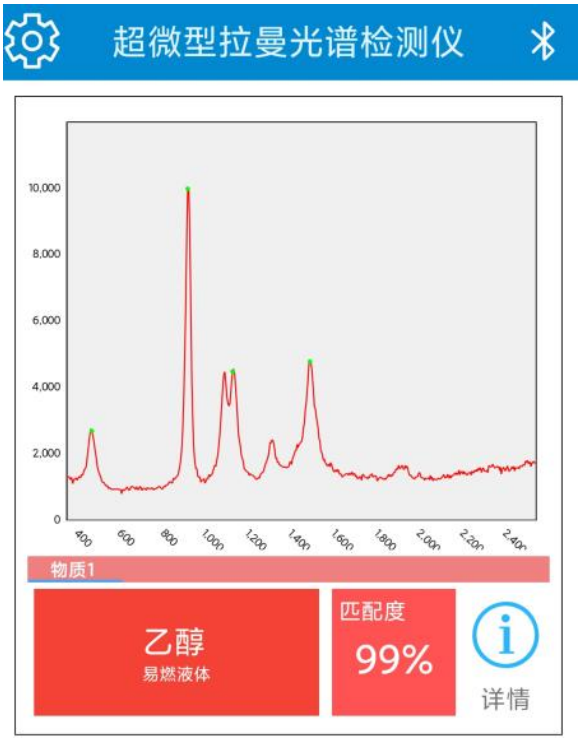

Figure 4: Flammable liquid ethanol C_2H_5OH