## Feature：

- Non-Destructive, Fast Detect & Identify, One-touch Operation；
- Advanced algorithm, mixture detection；
- HD 5.5" capacitive touch screen, smooth operation system；
- double cameras of 13-mega plus 8-mega；
- Barcode & QR scan
- Precision GPS positioning；
- Multiple modes of 4G, GPS, GPRS, Bluetooth, WIFI
- Self-Built Spectral Library
- Test results report export pdf
- Built-in Li battery continuous operation 4-6hrs
- Lightweight（450g），easy-to-take
- IP-67

## Application：

- **Gemstones & Materials Identification, Mineral sorting**
- Public Safety；Food Safety；
- Dangerous Chemicals Detect at High Speed Train, Metro Entrance
- APIs & Pharmaceutical Excipients；
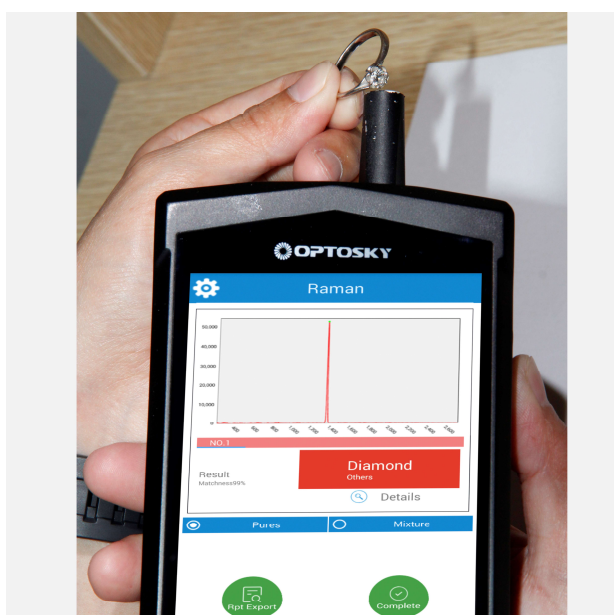- Experimental Research；
- Antique authentication；

## Description：

ATR6500GM is the 4th generation handheld Raman analyzer, with compact size, lightweight (450g), and easy-to-held, It can fast detect gemstones like diamond, emerald, agate, coral, amber and jet etc.

Excellent AI algorithm are embedded in Handheld Raman spectrometer to easily identify substances, and enable users to add their own libraries. It employs Android system，simple interface，5.5" high definition screen, double cameras of 13-mega plus 8-mega taking evidence pictures in the field, multiple modes of inbuilt WIFI, Bluetooth, GPS etc.

Optosky provides full technical support and services, including spectral library building, method & verification, IQ/OQ/PQ validation etc.

**Intelligent Mobile Instrument Available in Your Hand!**



**Light Weight**

**450 g**
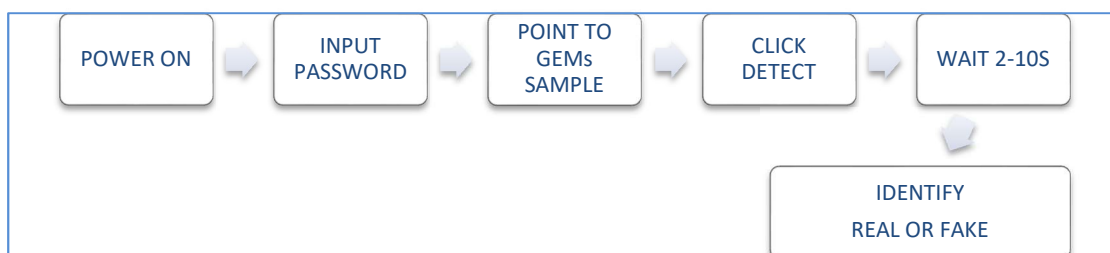
| 1. ATR6500GM Configuration | |
|---|---|
| Operative System | Android |
| Excitation Wavelength | 785 ± 0.5nm |
| Wavenumber Range | 200-4000 cm-1 |
| Resolution | 10 cm-1 |
| Touch Screen | 5.5", 1920×1080, c |
| Size | 6.7"×3.1"×1.2" |
| Weight | 450g |
| Interface | WIFI, USB Type-C, Bluetooth, GSM |
| Library | Including Over 420 Categories of Diamond, Agate, and Emerald… |
| Export Report | Export report scan result, spectral info, evident pictures |
| Battery | 4-6 hour continuous operation |
| Charging Type | USB Type-C |
| Operating Temperature | -20 – 50 ℃ |

2. **Principle**

ATR6500GM is exclusively designed gemstones identification system, and it features Non-destructive, Fast and Accurate identification, Raman spectra are "fingerprint" of the material, which originally found by Indian scientist C.V.Raman in 1928, and it has been widely applied to identify substances.

- **Non-destructive:** ATR6500GM shoots a beam of laser 300mW on the gemstones sample to be measured, then finish detection, so it cannot damage the sample.
- **Accurate：** Raman spectra are "fingerprint" of the substance, each substance (except metal) has unique Raman spectra, Raman spectra are molecular, so that it cannot be wrong.
- **Fast:** Identify a sample just takes 2-20s

3. **Detect Steps**

POWER ON → INPUT PASSWORD → POINT TO GEMs SAMPLE → CLICK DETECT → WAIT 2-10S → IDENTIFY REAL OR FAKE

**4. Libraries list (part of over 420 categories of gemstones list)**

| | | | | | |
|---|---|---|---|---|---|
| Aegirine | Amber | Andalusite | Anorthite | Antigorite | Apophyllite |
| Azurite | Beryl | Biotite | Coral | Celestine | Charoite |
| Chrysoberyl | Cordierite | Corundum | Diamond | Diopside | Dioptase |
| Kyanite | Fluorite | Jet | Malachite | Obsidian | Opal |
| Phlogopite | Pyrophyllite | Quartz | Rosasite | Torbernite | Topaz |
| Tortoiseshell | Tourmaline | Turquoise | Aeschynite | Amethyst | Carnelian |
| Citrine | Garnet | Jasper red | Nephrite | Olivine | Rhodolite |
| Schorl | Spinel | Tigereye | Zircon | Ruby Synthetic | Sapphire |
| Emerald | Jadeite | | | | |