

# 4G Handheld Raman Analyzer

# ATR6500

## Features:

- 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 compliant

## Application:

- Public Safety; Food Safety;
- Hazardous detect at High Speed Train, Metro Entrance
- APIs ,Pharmaceutical raw materials, excipients;
- Gemstones & Materials ID, Mineral sorting
- Experimental Research;
- Antique authentication;
- Minerals Sorting;

## Description:

ATR6500 is upgraded on the basis of handRam, and not only reserve the advantages of super thin, ultra-light, fast ID, but also make it rechargeable battery for field detection extending battery life. The toxic and hazardous gases alarm and readout altitude sensor.

Excellent spectral identification algorithm are embedded in Handheld Raman spectrometers to easily identify substance, and enable users to add their own spectral data. 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 Available in Your Palm!**

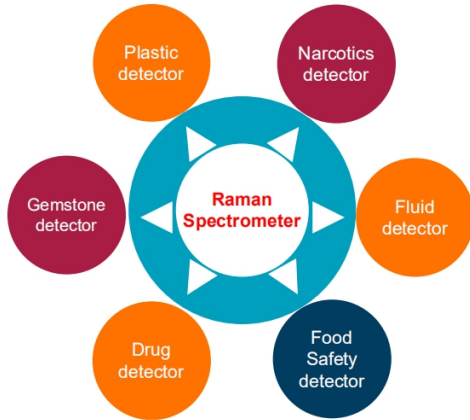


# 1 Performance

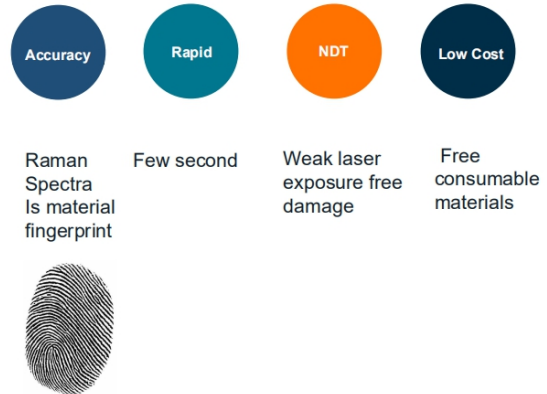
ATR6500 System Parameters			
Operative System	Android		
Excitation Wavelength	785 ± 0.5nm		
Wavenumber Range	200-4000 cm-1		
Resolution	10 cm-1		
Touch Screen	5.5", 1920×1080, Multi-Touch		
Size	172×85×30 mm		
Weight	450g		
Interface	WIFI, USB Type-C, Bluetooth, GSM		
Model with Library	ATR6500	Self-Built Database	Application Scientific Research
	ATR6500DH	Pharmaceutical drugs:Heroin, Cocaine, Metamfetamine, Ketamin... Precursor: (-)-ephedrine, Chloroform, Diethyl ether... Explosives: TNT,RDX,TATP, Ammonium nitrate Hazmat: sulfate, gasoline, nitric acid, Toluene Food safety: Illegal food additives, residues of pesticide,veterinary drugs	Police Customs Metro Court Prison Public Safety
	ATR6500PH	Pharmaceutical raw materials, APIs, excipients...	Pharmaceutical Factory
	ATR6500GM	Gemstones of Diamond, Agate, Emerald...	Gemstones
	ATR6500IN	Chemical products, Plastics, Rubber, Polymer, Compound..	Industrial Application
Export Report	Reports format pdf, csv, txt of detect results, spectra, evident pictures		
Battery	replaceable battery for unlimited battery life , standby times >72hrs;		
Charging Type	USB Type-C		
Operating Temperature	-20 – 50 °C		

## 2 Application & Advantages

### OPTOSKY Raman Spectrometer Series Categories



### Advantages of Raman Spectrometer



1 Raman Application & Advantages

## 3 Optosky Raman Technology Milestones

### Raman Spectrometer Technology

- Focus on developing Raman spectrometer for 20-year.
- China National Standards drafter of Raman spectrometer
- In 2016 launch the first generation handheld Raman spectrometer,
- In 2017 launch the dual-band Raman spectrometer
- In 2020, launch the triple-band Raman microscope
- In 2021, launch the quadriband scientific-grade Raman microscope
- ISO, CE, FDA Approval, Police Approval, API Approval
- Originate in Chinese Academic of Science University and Xiamen University



2 Optosky Raman Spectrometer Milestones

## 4 Raman Spectrometers Family

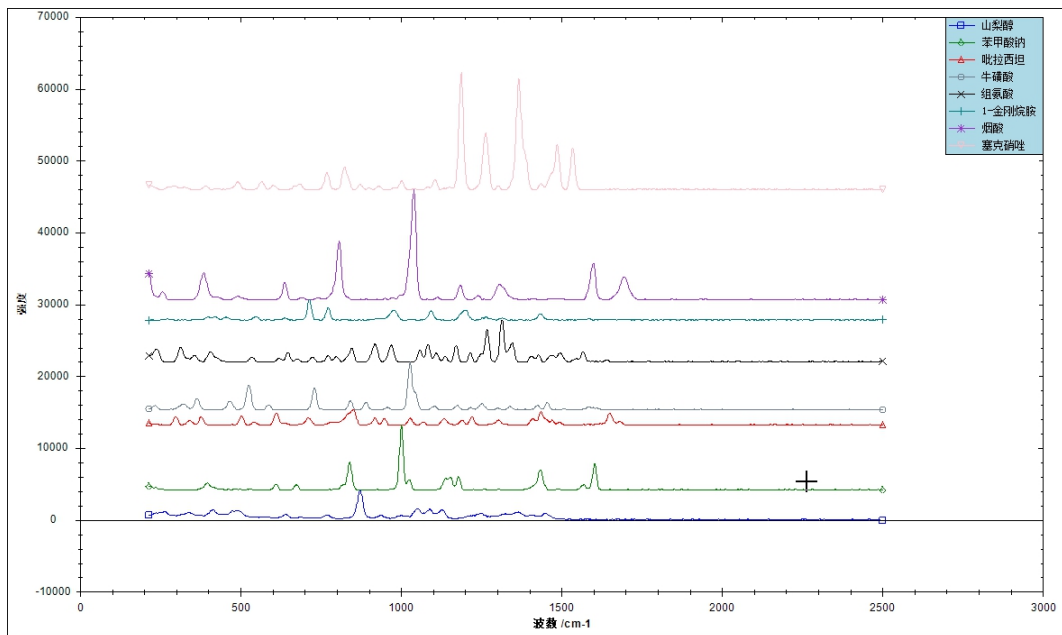


**Raman Spectrometer Series**

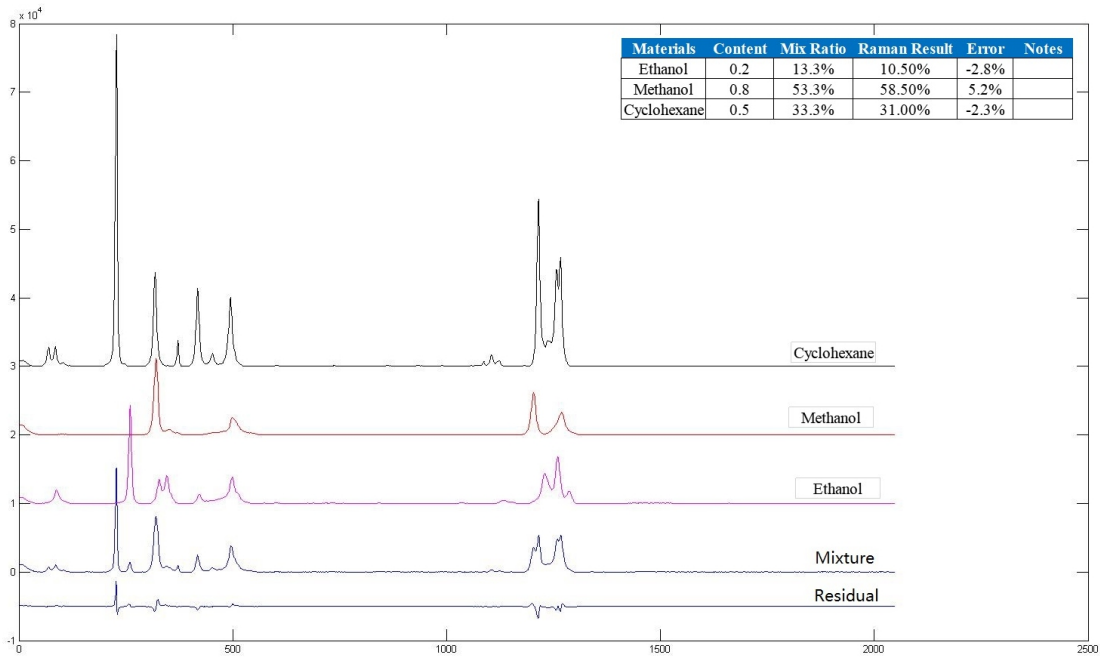
- Scientific-Grade Raman Microscope Quadriband ATR8800 Series
- Triband Raman Microscope ATR8500 Series Confocal Raman Microscope
- Raman Microscope ATR8300 Series
- High Troughput Raman ATR8000
- ATR3110
- ATR3000
- ATR3000FD
- ATR 3200
- Portable or Benchtop Raman
- ATR6600 Pro Super Speed 1064nm
- ATR6600 1064nm
- ATR6500CH 785nm
- ATR6500CH 532nm
- ATR6500 785nm
- Handheld Raman Analyzer
- Mini-Raman ATR1600
- Teaching Raman ATR1200
- Mini portable Raman ATR2500
- Underwater Raman ATR3700

3 Raman Models Selection

## 5 ATR6500 Spectra Example

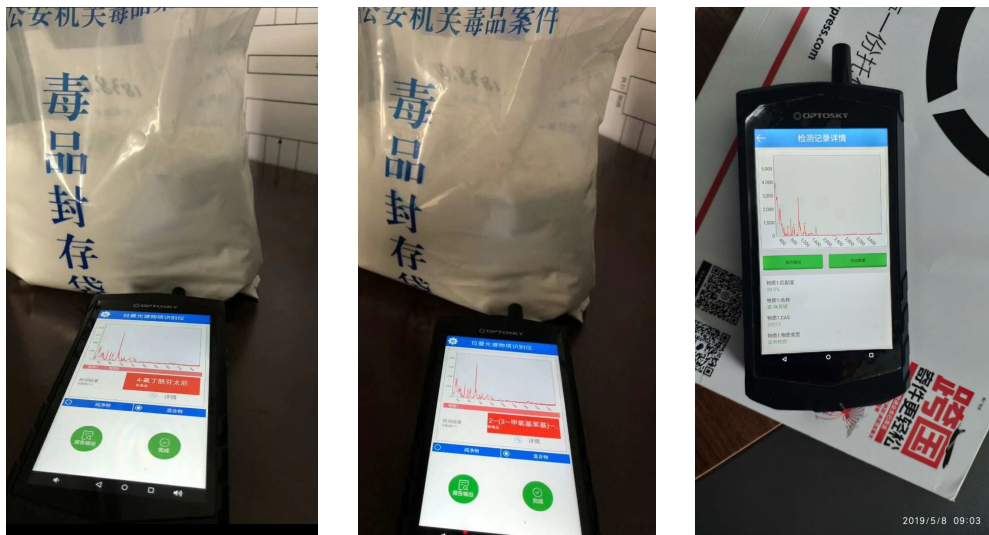


4 ATR6500 measured Spectra of Sorbitol, Sodium Benzoate, Piracetam, Taurine, Histidine, Amantadine, Niacin, Secnidazole



5 ATR6500 Mixture Spectra

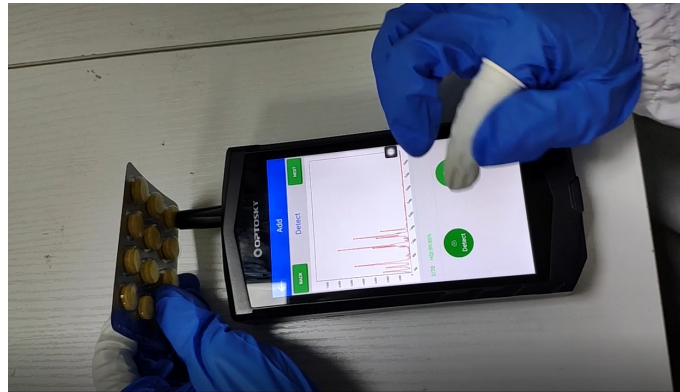
## 6 ATR6500 Field Pictures



6 ATR6500 pictures of narcotics ID in police station



7 ATR6500 ceramics ID



8 ATR6500 Pharmaceutical ID

## 7 Company Profile

Optosky company is a first-class spectroscopy solution provider, with the headquarter locates in the 7<sup>th</sup> floor of the research institute of the Chinese Academic of Science at an area of 2500 square meter in Xiamen city where successfully held the international 9<sup>th</sup> BRICK summit in 2017. The subsidiary company locates in Wuhu city with an area of 2035 square meters.

The company founder Dr. Hongfei, Liu graduated Doctor degree from the Chinese Academic of Science and postdoctoral degree from Xiamen University, by integrating both of top Universities' spectroscopy technology background into Optosky company aiming at developing the leading spectroscopy equipment in the world.

The company bases on unique technologies of Optomechatronics, Spectroscopy Analysis, Process Weak Optical and Electrical Signals, Cloud Computing, and have been developed wide products line of the competitive Raman spectroscopy instruments, micro spectrometer, hyperspectral imager, field spectroradiometer, fluorescence spectroscopy, LIBS etc. Driven by

advanced technologies and products, Optosky brand has been well-known to customers all over the world.

Optosky company base on technology innovation, market-driven direction, customer first, provides first-class products and services, and one-stop solutions to many fortune 500 companies in many industries. The company received praise from different industry companies, as well as many innovative intellectual properties, software copyright, qualification certification, and winner awards over hundred numbers.

Optosky receives top class A introduced the high-tech company to international Xiamen city, the national high-tech and new innovative technology company award. The founder Dr.Hongfei Liu receives the innovation talent award by the ministry of science and technology.

The company is currently conducting the exclusive project of major industrialization national oceanic administration with a total fund of five million us dollars. The company in charge of drafting national industry standard of VNIR and SWNIR Field Spectroradiometer, and six national standard drafters, including China National Standard Drafter for Hazmat detector based on Raman spectroscopy, China National Standard Drafter for Buoy-type Monitor eco-environment, China National Standard Drafter for water quality monitor in the unmanned boat, China National Standards drafter for online water quality monitor by spectroscopy, China National Standard Drafter for UV-absorbent measure fabrics.

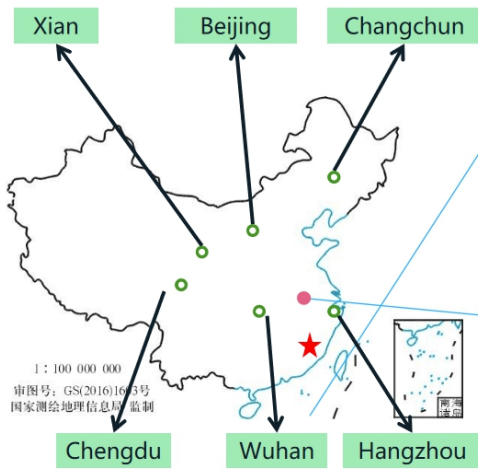
The company has over 70 IPs and over 20 innovative patents.

The company received ISO9001:2015 certification, CE certification, Police Administration Certification, FDA approval compliant, IQOQPQ compliant.




### 9 Optosky (Xiamen) Photonics Inc. Company Headquarter

**Company Area**



**Optosky (Xiamen) Photonics Inc.**

- Business: Spectroscopic instruments (Raman, FieldSpec, HyperSpec, Environmental Measure, Industrial Measure etc.)
- Area: 2500 m<sup>2</sup>
- R&>50 person




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**KHJC (Wuhu) Informatonal Tech Inc.**

Business:

- Oceanic Instrument
- Geological Information Instruments
- Drone Hyperspec Remote Sensing Analysis

Area: 2035 m<sup>2</sup>

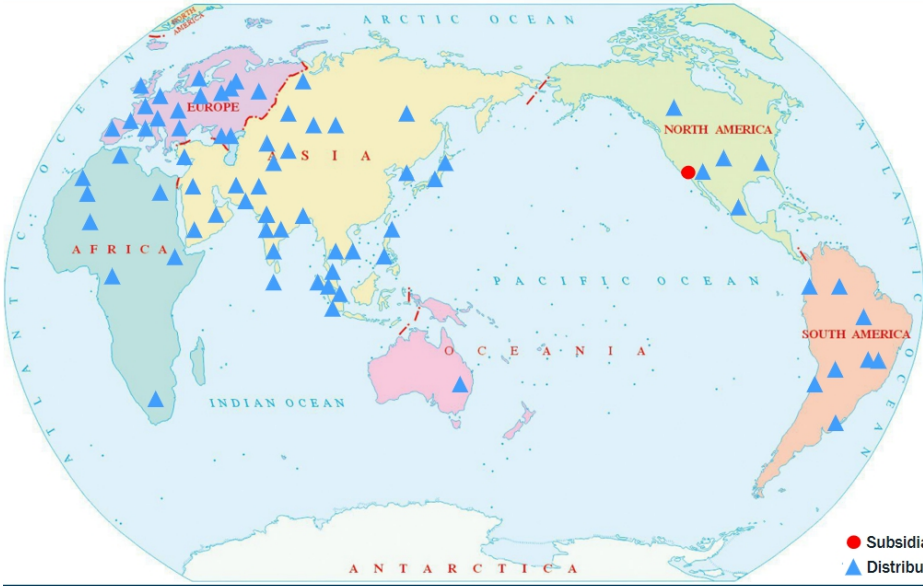



★ Headquarter    ● Subsidiary    ○ Office

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sales@optosky.com
5


### 10 Optosky Company Area

**Oversea Market Shares**






**Export to 53 countries**



**>230 Distributors**



**31% Sales Share**

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### 11 Oversea Market Shares



**Optosky Chair and Draft National Standards Lists:**

<h2 style="text-align: center;">Chair Drafter</h2> <p style="text-align: center;">National Industry Standard Of VNIR &amp; SWNIR Field Spectroradiometer</p>		 China National Standard Drafter for Buoy-type Monitor eco-environment	 China National Standard Drafter for water quality monitor in unmanned boat
		 China National Standard Drafter for Raman spectrometer	 China National Standard Drafter for Hazmat detector based on Raman spectroscopy

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12 Optosky Chair and Draft National Standards Lists.

**Qualification**

	 ISO9001:2005	 GB/T 23001 Informationization & Innovation	 CE, RoHS, LVD 17 models	 Police Approval 11 models
	 GB/T 29490 IP implementation	 5 Innovative patents	 35 patents new utility design	 32 Software copyright

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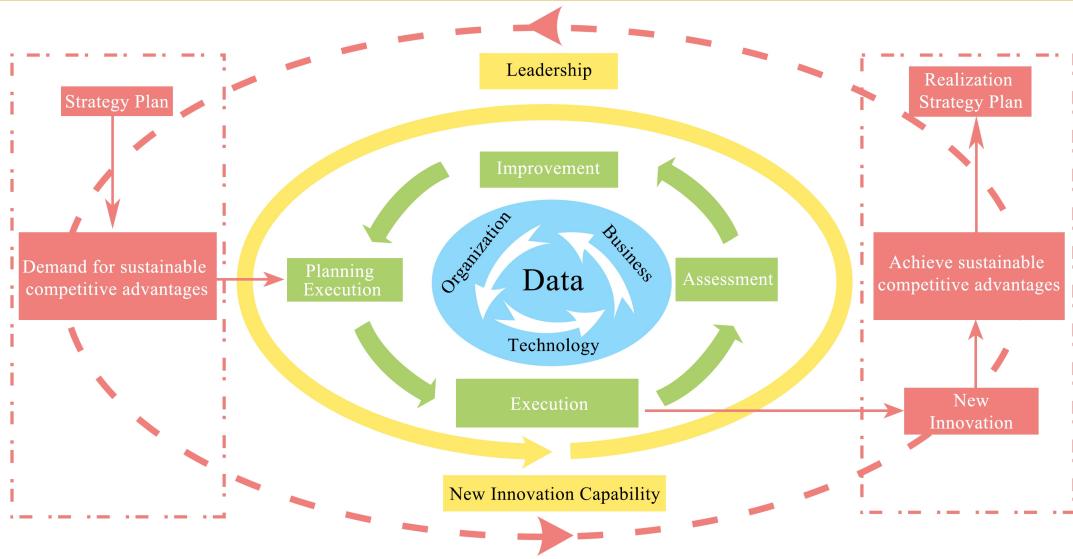
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13 Qualification

# Informationization & Industrilization Fusion Management System



14 GB/T 23001\_ Informationization & Industrilization Fusion Management System

Co-Founder—Dr. Hongfei Liu



**Postdoctoral Hongfei Liu**

- Selected "Innovative Talent" by Science and Technology ministry
- Top Class A Talent by Xiamen City
- CCTV Science & Technology Interview
- Fortune 500 experience in Agilent, II-VI

- Honors**
  - Selected by science & technology ministry as "Innovation Talent"
  - CCTV Science & Technology Interview
  - Top Class A Talent credited by Xiamen City
  - Innovation Hero**
- Education**
  - PhD • Chinese Science of Academic • Prof. Gui-Lin Chen, Originator in spectroscopy
  - Postdoctoral • Xiamen University • Prof. Zhong-Qun Tian guided by the SERS founder M.Fleischmann
- Career**
  - Engineer → R&D Manager → GM
  - Agilent**, Leader of instrument, Fortune 500 company, Job: engineer
  - II- VI Incorporated (Nasdaq: IIVI) leader in optical & electrical industries, Job: GM of Instrumentation and Automation
- Academic**
  - University graduate tutor
  - obtain more than 60 IPs, more than 10 Innovation patents;
  - Publish more than 20 papers, 2 recorded SCI, 8 recorded EI



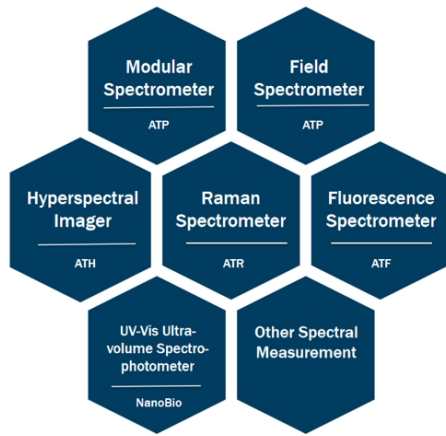


Founder & Tutors

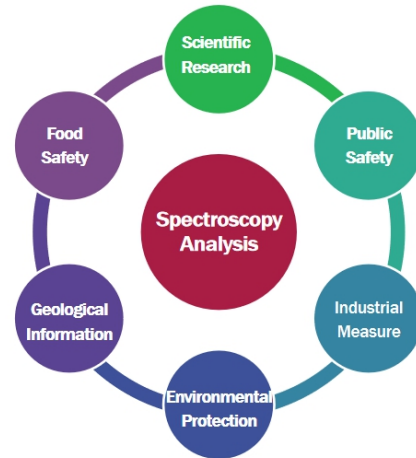
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15 Optosky's Co-founder\_Dr. Hongfei Liu

### Category



### Application

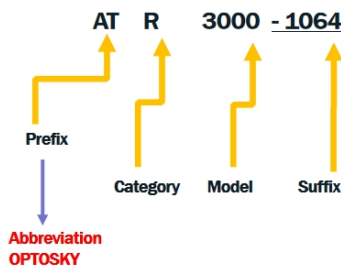


### 16 Category & Application

### Model Name Rule

**Model Name Rule:**

- Prefix
- Category
- Model
- Suffix



- **ATR** - Raman Spectrometer
- **ATP** - Micro Spectrometer
- **ATH** - Hyperspectral Imager
- **ATF** - Micro Fluorescence Spectrometer
- **ATL** - LIBS
- **ATW** - Water
- **ATE** - Environment Protect
- **ATFD** - Food Safety
- **GA** - Public Safety (**Gong An**)
- **GF** - Gas Monitor (**Gas Finder**)
- **GY** - Industrial Monitor (**Gong Ye**)

eg:

- Raman Microscope: ATR8300MP-1064
- Hyperspectral Imager: ATH9500

### 17 Model Name Rule

## 8 Reference Lists:

 清华大学 Tsinghua University	 北京大学 PEKING UNIVERSITY	 復旦大學 FUDAN UNIVERSITY	 廈門大學 XIAMEN UNIVERSITY
 浙江大學 ZHEJIANG UNIVERSITY	 武漢大學 WUHAN UNIVERSITY	 國防科學技術大學 National University of Defense Technology	 中南大學
 西安交通大學 XI'AN JIAOTONG UNIVERSITY	 華僑大學 HUAQIAO UNIVERSITY	 中山大學 SUN YAT-SEN UNIVERSITY	 同濟大學 TONGJI UNIVERSITY
 大連理工大學 Dalian University of Technology	 東北大學 Northeastern University	 中國農業大學 China Agricultural University	 四川大學 SICHUAN UNIVERSITY
 東華大學	 華南理工大學 South China University of Technology	 中國石油大學 CHINA UNIVERSITY OF PETROLEUM BEIJING	 東南大學 SOUTHEAST UNIVERSITY