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DATASHEET
EOC-SI-R8500
Fully-automated Focus Raman Microscope Mapping

Description

EOC-SI-R8500 series Raman microscope integrates two or three lasers into the system, combine both advantages of Raman spectrometer and microscope in order to make “eyes see is to be detected” possible. Visualize accurate position by Raman detect platform, and the observer can detect Raman signal of samples on different surface status, meanwhile synchronizing on PC dispay microarea status to be detected, it has greatly facilitated Raman icroarea detect.

EOC-SI-R8500 series can perform auto-focus, auto-scan, one button operate can perform experiment in batches, no wait time to obtain high reliable scanned Raman data.

EOC-SI-R8500 configured exclusive objective for Raman system, it makes laser spot size close to diffraction limits, and using 5-mega camera display focus information intuitively on PC. It overcomes existing problem of common Raman spectrometer, Raman signal collected focal plane could higher or lower than actual one, so that it improve Raman signal.

EOC-SI-R8500 unique software optical path switch reduce optical path loss during camera imaging, it realize Raman signal collection is separated from camera imaging, and obtain the best signal intensity. Meanwhile, EOC-SI-R8500 uses the highest Raman spectrometer with excellent sensitivity, SNR, stability are excel in the Raman research industry.

Features:

- Fully automated Raman experiment, auto-focus, auto-scan;
- Large area imaging（50X50mm）, Automated imaging spicing;
- Max. 3 types of wavelengths lasers;
- Ultra depth Imaging function（Optional）;
- High sensitivity, SNR>6000:1
- True-Focus to ensure accurate Raman image
- High spatial resolution
- Unique switch optical path controlled by software
- Fast positioning, fast find focus position
- High quality objective, spot size at micrometre
- 5-mega camera provide clear image
- USB2.0 direct connect to PC

Application:

- Nano particles & new materials
- Scientific research institute
- Biological Science
- Forensic medical identification
- Materials science
- Medical Immunology Analysis
- Agricultural & food safety
- Water pollution analysis
- Gemstones and inorganic minerals identification
- Environmental Science

Fig 1 EOC-SI-R8500 Order Guide:

	Model	Laser wavelength/nm	Laser Power/mW	Wavenumber	Resolution /cm^{-1}
Single wavelength Raman Microscope	EOC-SI-R8500-532	532	100	200 ~ 3700	5 ~ 7
	EOC-SI-R8500-633	633	50	200 ~ 3500	3 ~ 6
	EOC-SI-R8500-785	785	500	200 ~ 3500	3 ~ 8
	EOC-SI-R8500-1064	1064	500	200 ~ 2600	7 ~ 12
	EOC-SI-R8500-830	830	500	200 ~ 3500	3 ~ 8
Dual wavelength Raman Microscope	EOC-SI-R8500-785+1064	785+1064	500	200 ~ 3500	3 ~ 8
			500	200 ~ 2600	7 ~ 12
	EOC-SI-R8500-532+633	532+633	100	200 ~ 3700	5 ~ 7
			50	200 ~ 3500	3 ~ 6
	EOC-SI-R8500-532+1064	532+1064	100	200 ~ 3700	5 ~ 7
			500	200 ~ 2600	7 ~ 12
	EOC-SI-R8500-532+785	532+785	100	200 ~ 3700	5 ~ 7
			500	200 ~ 3500	3 ~ 8
	EOC-SI-R8500-633+1064	633+1064	50	200 ~ 3500	3 ~ 6
			500	200 ~ 2600	7 ~ 12
Tri-bands wavelength Raman Microscope	EOC-SI-R8500-532+633+1064	532+633+1064	100	200 ~ 3700	5 ~ 7
			50	200 ~ 3500	3 ~ 6
			500	200 ~ 2600	7 ~ 12
	EOC-SI-R8500-532+785+1064	532+785+1064	100	200 ~ 3700	5 ~ 7
			50	200 ~ 3500	3 ~ 8
			500	200 ~ 2600	7 ~ 12

EOC-SI-R8500 Performance Parameters	
Microscope Camera System	5-mega pixels
Focus Type	True Focus
Laser spot size	>1μm
Laser stability	σ/μ <±0.2%
Interface	USB2.0
X,Y-axis Electronic controlled two-dimension platform	
Move range	50 X 50 mm
Move resolution	0.1 μm
Positioning Accuracy	1 μm
Scan Speed	20 mm/s

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Z-axis（Auto-Focus）	
Focus Accuracy	≤ ±0.2 μm
Max range	20 mm
Focus speed	Over 10 s

Fig 2 EOC-SI-R8500 Performance Parameters

Fig 1 EOC-SI-R8500 Raman Microscope

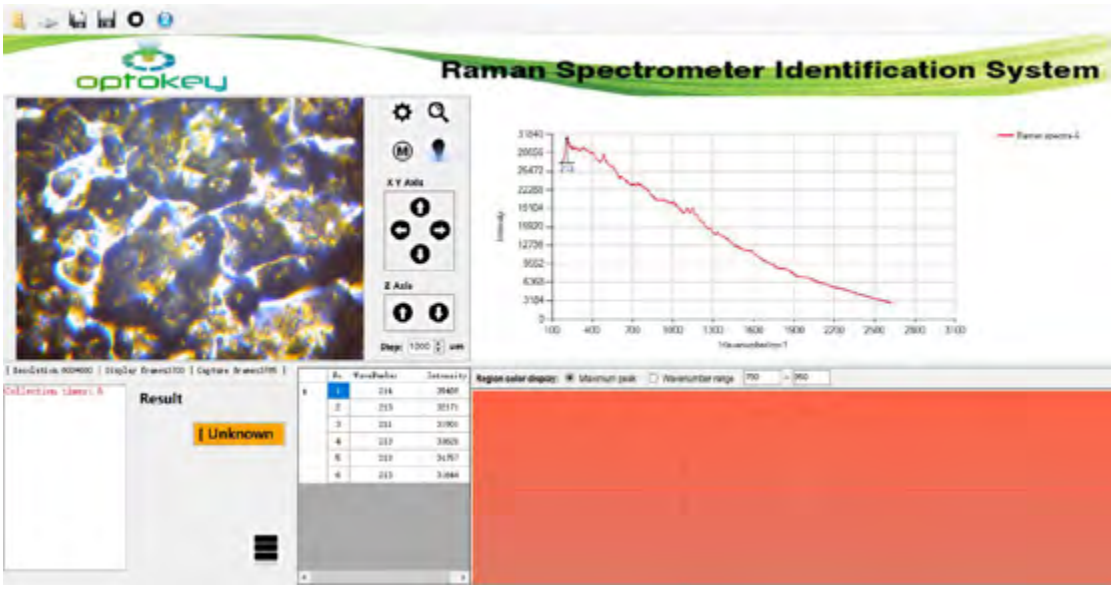

Fig 2 EOC-SI-R8500 software interface

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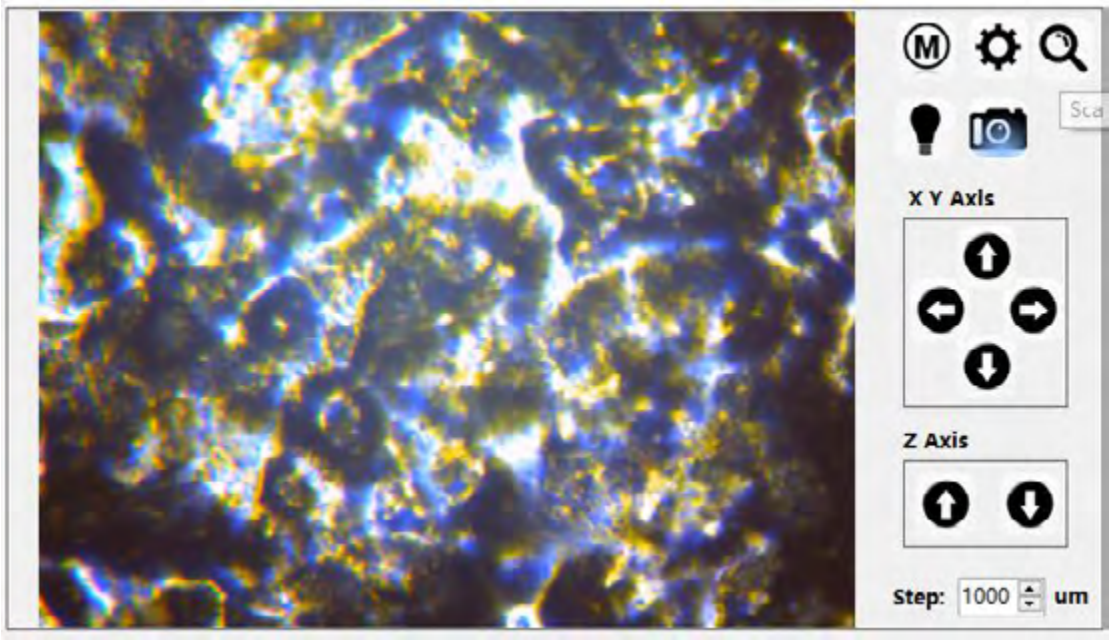

Fig 3 EOC-SI-R8500 imaging and scanned imaging controlled interface

2Optical Performance

2.1Spectrum

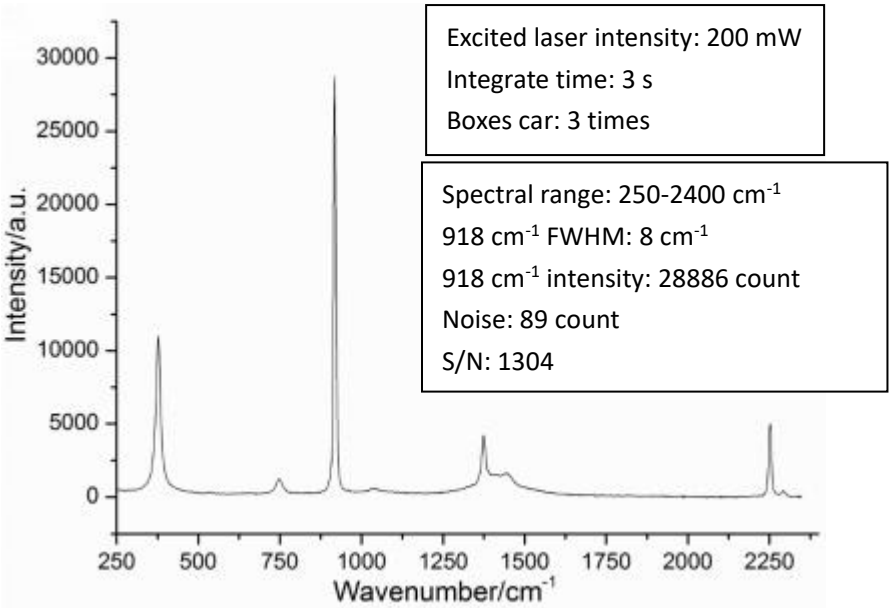

Fig 4 EOC-SI-R8500 acquire acetonitrile spectrum

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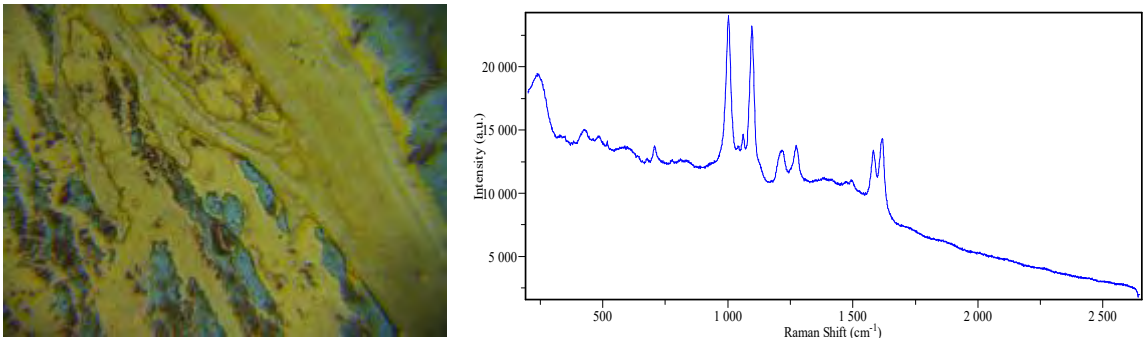

Fig.5 EOC-SI-R8500 perform SERS test 1: Left picture is sample, right picture is Sers Raman spectra

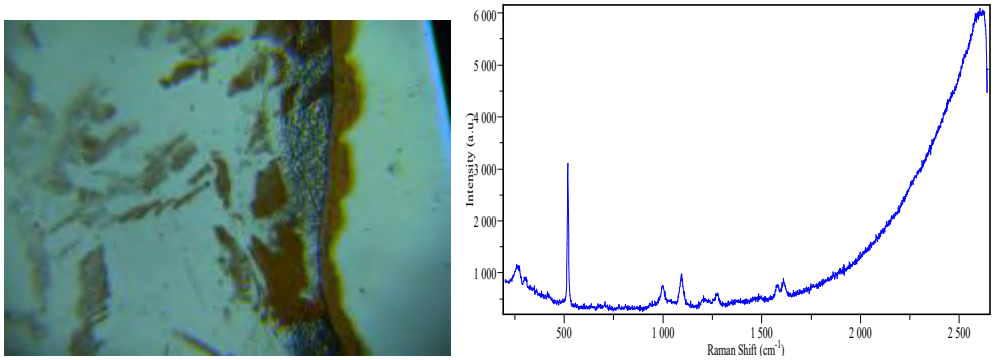

Fig.6 EOC-SI-R8500 perform SERS test 2: Left picture is sample, right picture is Sers Raman spectra

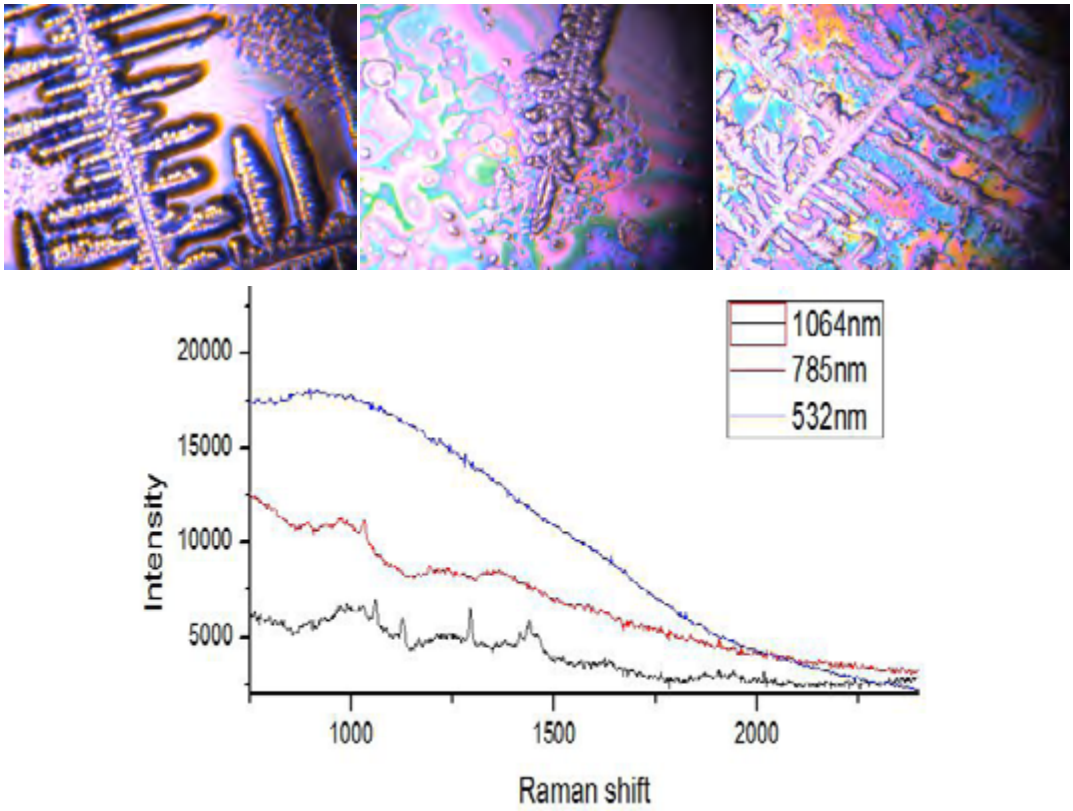

Fig 7 EOC-SI-R8500 Test cell metabolite, the above surface outlook, the below is Raman spectrum separately by EOC-SI-R8500-1064, EOC-SI-R8500-785, EOC-SI-R8500-532

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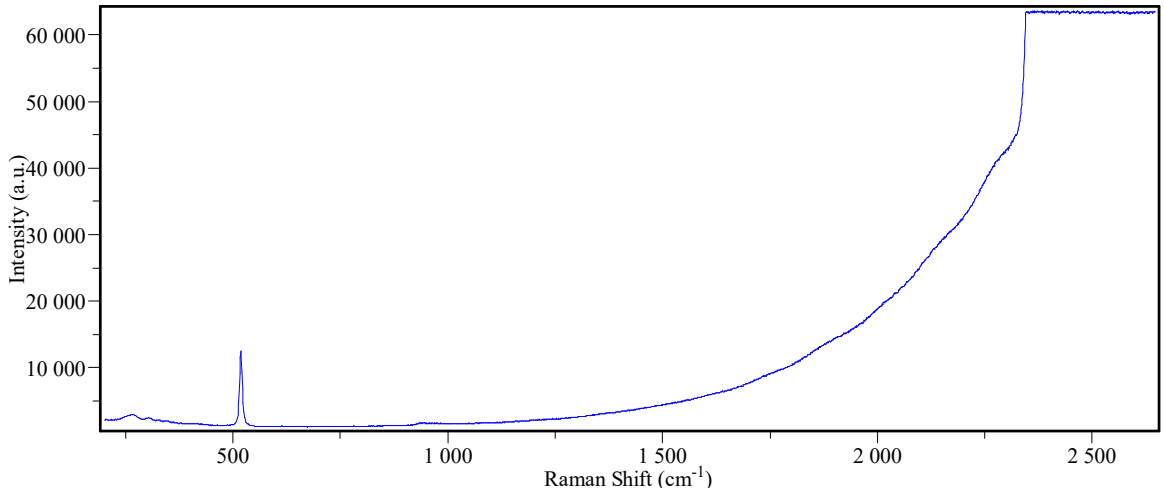

Fig 8 EOC-SI-R8500 test Si Raman Spectra (500mW,1S Integration time)

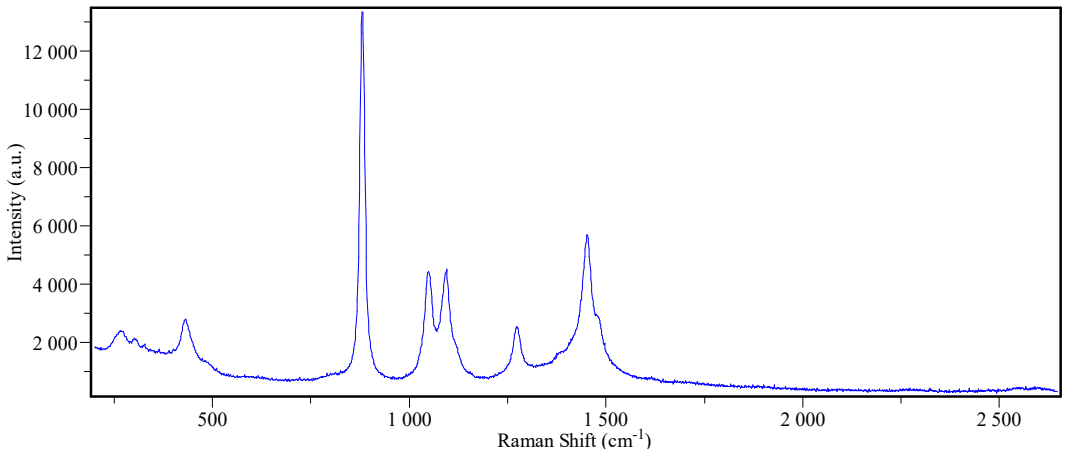

Fig 9 EOC-SI-R8500 measure ethanol spectra (500mW, 1S integration time)

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5. Details

Fig 10 Raman signal high through put objective, objective as long as 8mm;

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