

# High Sensitivity & High Resolution Portable Raman Spectrometer DTR2500

#### Features:

Full free space design, super sensitivity;

Ultra-high sensitivity detector;

Ultra-low noise circuit;

Ultra-light, ultra-small, ultra reliable;

Powerful spectral analysis software;

Eliminate fluorescent background;

Peak search and display;

USB 2.0;

Friendly man-machine interface.

## Application:

Nanoparticles and new materials

Research of Research Institute

Bioscience

Forensic Medicine

Material science

Medical immunoassay

Agriculture and food identification

Gems and inorganic minerals ID

Environmental science



Model	Spectral Range (cm-1)	Resolution (cm-1)
DTR2500-27	250-2700	4~6
DTR2500-40	200-4000	7~10

Note:

Tested according to the American National Standard ASTM E2529-06;

### Describe:

◆ DTR2500 is a Raman spectrometer developed by Optosky for more than 20 years. After 5 years, it has developed a brand-new, optimized and designed high-sensitivity Raman spectrometer with breakthrough characteristics. It has ultra-small and ultra-light, High resolution, high sensitivity, high reliability, etc. DTR2500 adopts Optosky's latest full free space optical path technology, which increases the Raman signal collection efficiency by nearly 4 times, thereby increasing the sensitivity by 4 times.

The DTR2500 Raman spectrometer is very suitable for laboratory scientific research. It is small in size, high reliability, easy to measure, and the detection results are accurate and reliable. The excellent low stray light design of DTR2500 makes it easy to use. The multi-function software randomly distributed by DTR2500 has been strictly tested by hundreds of scientists around the world and collected their improvement opinions. After nearly a hundred versions of updates, the function is very complete and stable, which is very suitable for the development of Raman research.



#### Parameters

nterface	USB 2.0		
ntegration time	4ms - 120s		
Voltage	DC 5V±5%		
Work temperature	-10~45°C		
Work humidity	< 95%		
Dimension(L*W*H)	Without probe! 119.2x89x35 mm With probe I 139x89x35 mm		
Veight	390 g		
Reliability			
Spectral reliability	o/p < 0.5% (COT 8 hours)		
Temperature reliability	Spectral shift < 1 cm -1 (10-40°C)		
Spectral intensity	<b>⟨±5% (in 5 ~40°C)</b>		
Optical parameter			
Spectral range (cm )	250-2700		200-4000
Resolution (cm )	4~6		7~10
SNR	>1300:1 (918 cm-lof Acetonitrile, 4sIntergation, 130mW)		
Detector			
Model	Ultra-sensitive linear array detector		
Spectral range	200-1100 nm		
Effective pixels	2048 pixels		
Dynamic range	50000: 1		
Laser			
Center wavelength	785±0.5nm		
Half width	0.08 nm		
Maximum output power	>300 mW, the actual output power software can be set		
Minimum power output adjustment	lmW		
Power stability	$o/p < \pm 0.2\%$		
Raman probe			
Rayleigh Scatter Resistance	6 mm		
Operating Distance(OD)	OD>8		
VA	0.3		
Aperture	7mm		

#### ATR2500 Spectrum

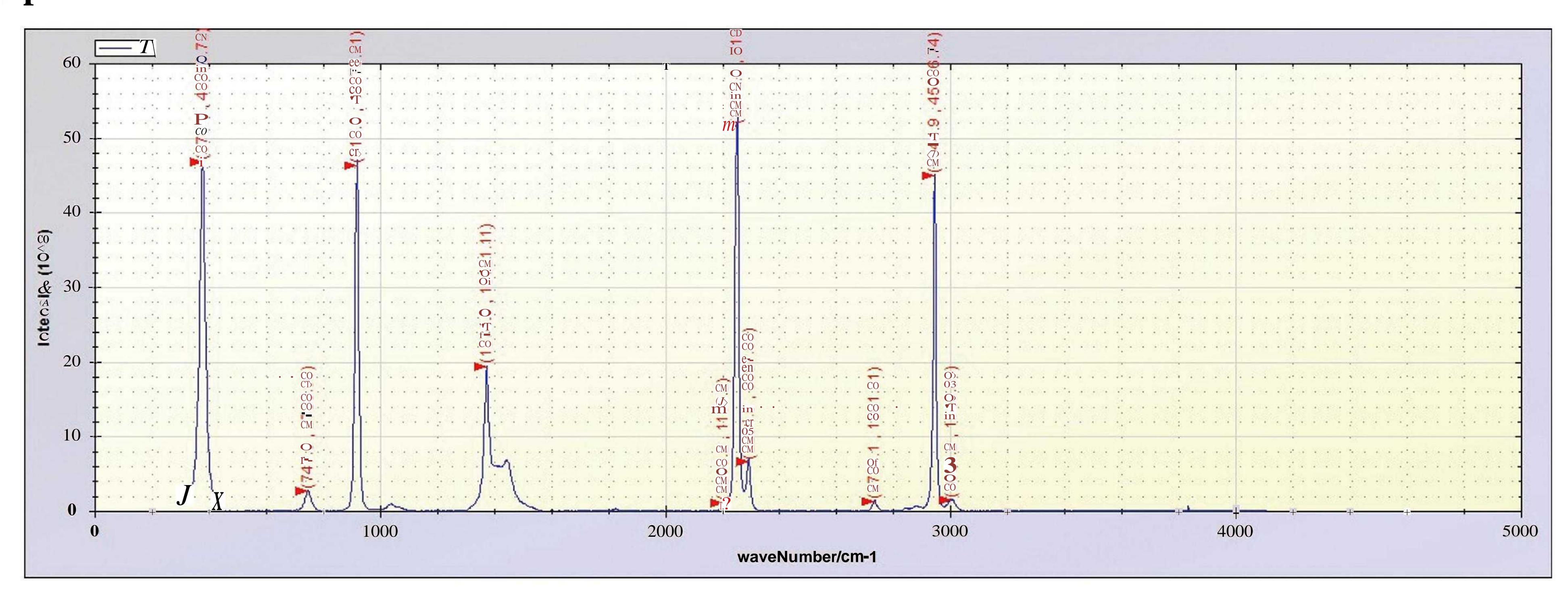


Figure 1 Raman spectrum curve test results; sample: acetonitrile, laser power: 130mW, measurement integration time: 4000ms.



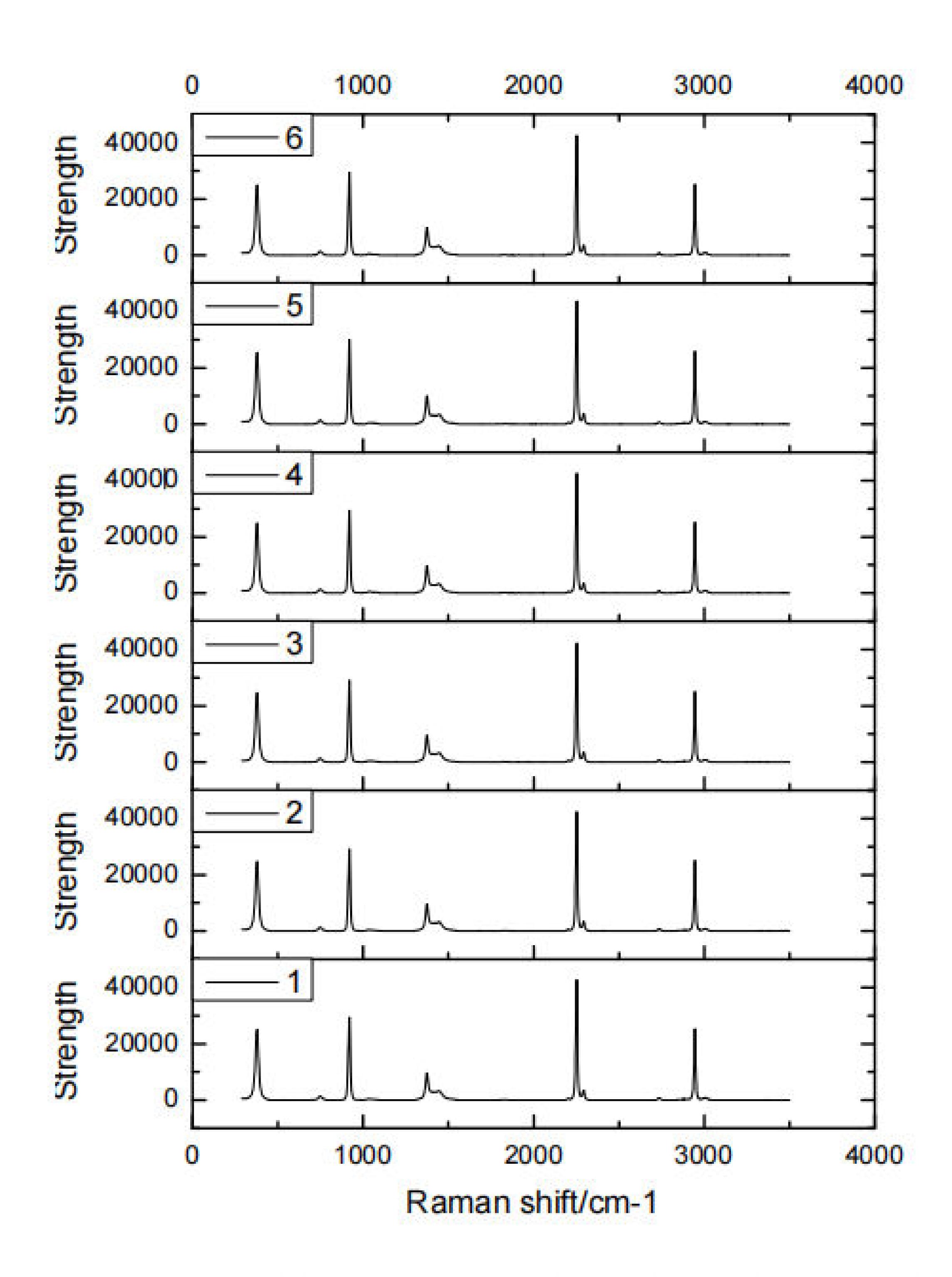


Figure 2 Spectral intensity repeatability test, the result is 0.06%, the spectral intensity stability is good.

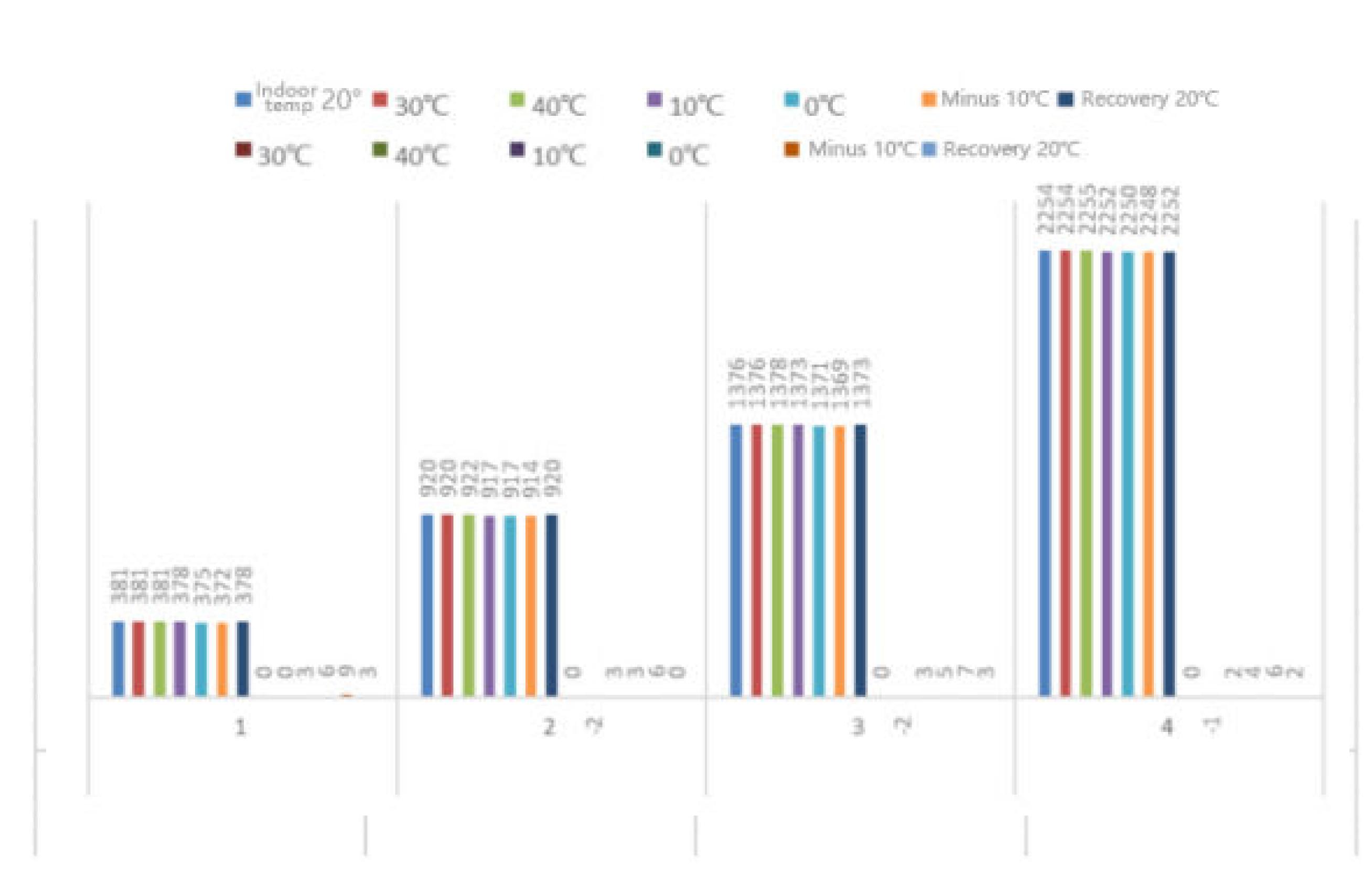
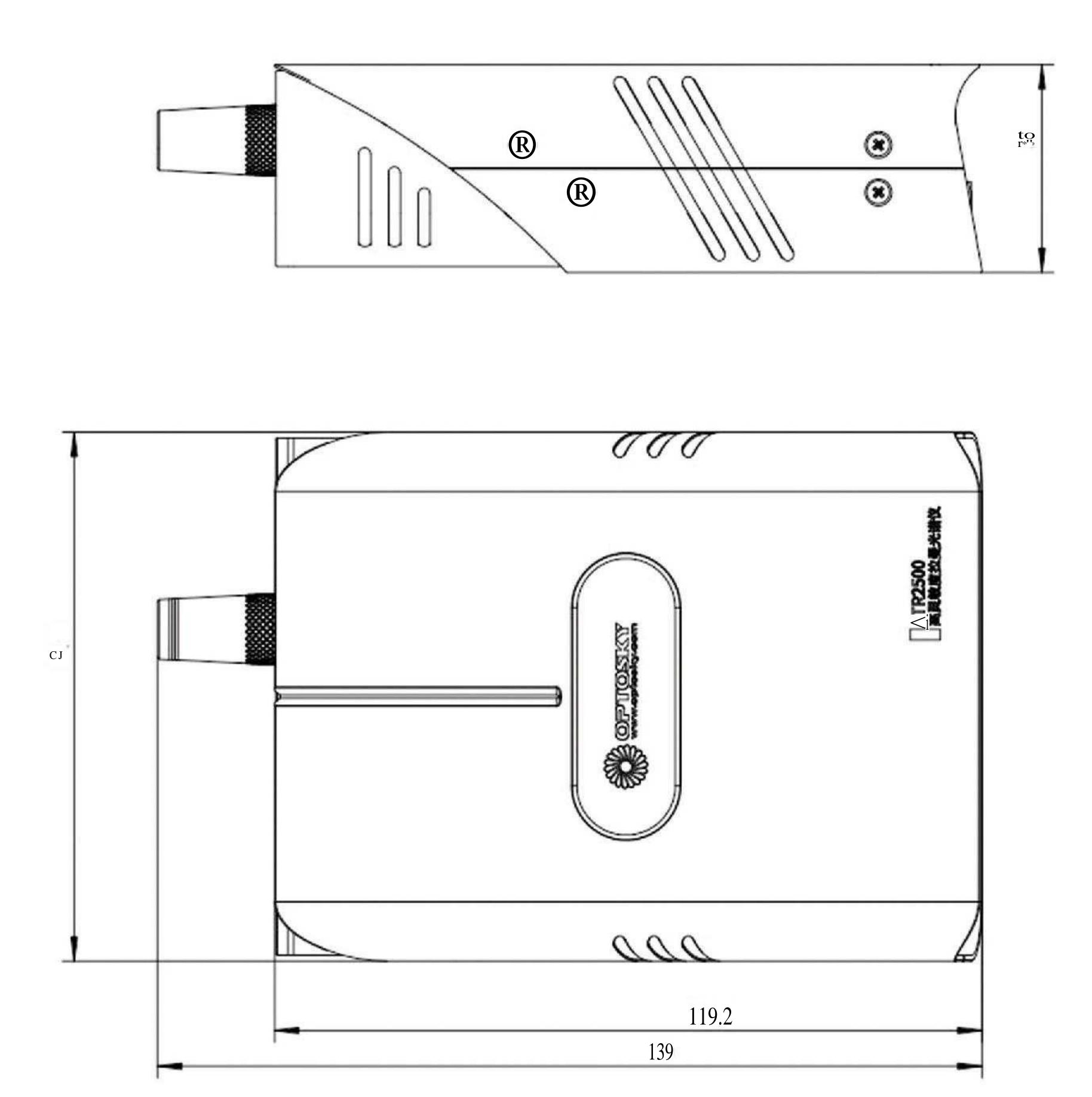


Figure 3 Temperature drift test, -10<sup>-</sup>/<sub>-</sub>40°C wavenumber drift



DTR2500 Dimensions

Figure 4 ATR2500 Dimensions