

Product Description

TERS probes based on AFM Top Visual cantilevers provide TERS (and AFM) performance in Semicontact/Noncontact mode.

The probes provide guaranteed TERS performance on a test sample (organic molecules on Au substrate):

- Enhancement factor >50x (Tip IN vs. Tip. OUT) for ~70% of probes. Typical enhancement factor : > 100x. Some probes reach >500x enhancement.
- TERS (nano-Raman mapping). ~20-70 nm resolution. >50% of probes.
- Remarkable lifetime without considerable enhancement degradation

The specified parameters are guaranteed only on the TERS sample – TERS_S.

Cantilevers lifetime is 3 months.

Probes are guaranteed to work on the NT-MDT AFM-Raman system with the following system requirements:

(i) Confocal Raman microscope (OMUxxx series), 633 nm gas laser (LM633 series), Optical AFM head (SNAxxx series), Laser scanning module (S1001) with corresponding controller. If this requirement is not fulfilled, TERS probes can only be supplied without any performance guaranty – “as is”.

Probes can be supplied for equipment from other manufacturers without any performance guarantee.

TOP VISUAL High Resolution Semicontact / Noncontact Silicon AFM Cantilevers VIT_P series are specially designed for tip or laser spot precise positioning over the point of interest.

Typical Resonant Frequency 300 kHz (guaranteed range 200-490 kHz), Typical Force Constant 50 N/m (guaranteed range 25-95 N/m).

Cantilevers have no coating. Probes are also available with Au reflective coating as well as with conductive tip coating.

Probes are packed in boxes with 7 and 10 pieces.

General Features

Material	Single Crystal Silicon, N-type, 0.01-0.025 Ohm-cm, Antimony doped
Chip size	3.4x1.6x0.3mm
Reflective side coating	No
Tip curvature radius	< 35 nm

Special Features

Cantilever series	Cantilever length, L±10µm	Cantilever width, W±5µm	Cantilever thickness, T±0.5µm	Resonant frequency, kHz			Force constant, N/m		
				min	typical	max	min	typical	max
VIT_P	160	50	5.0	200	300	490	25	50	95