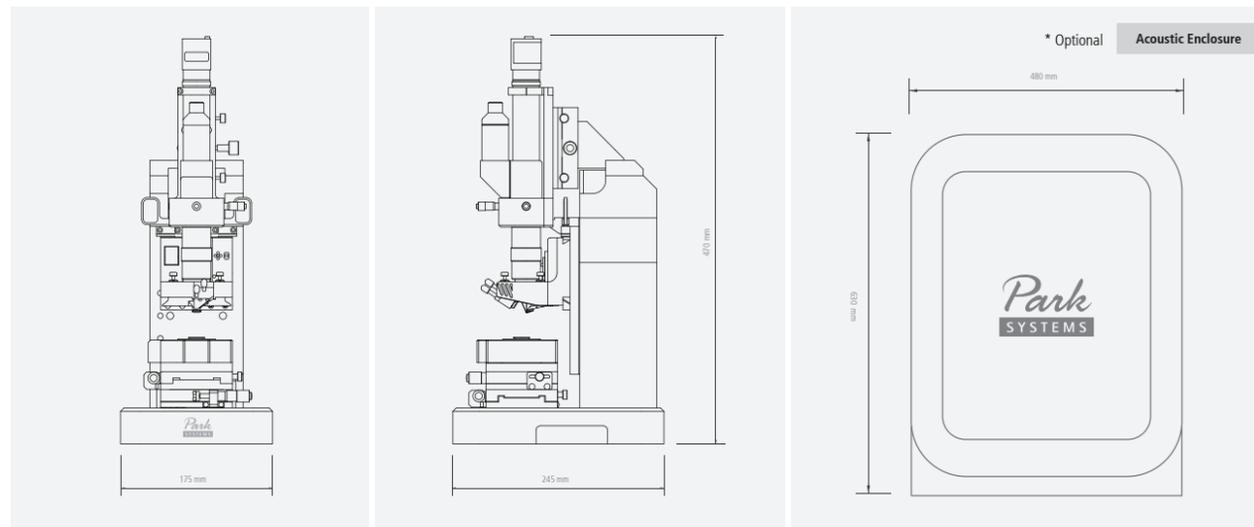


Scanner	Z scanner Flexure guided high-force scanner Scan range: 12 µm (optional 25 µm)	XY scanner Single module flexure XY-scanner with closed-loop control Scan range: 50 µm × 50 µm (optional 10 µm × 10 µm or 100 µm × 100 µm)	Stage XY stage travel range: 13 mm x 13 mm Z stage travel range: 29.5 mm					
Vision	Direct on-axis vision of sample surface and cantilever Field-of-view: 480 µm × 360 µm (with 10x objective lens) CCD: 1.2 M pixel (default), 5 M pixel (optional; Field-of-view: 840 µm × 630 µm)	Sample Mount	Sample size: Up to 100 mm Thickness: Up to 20 mm	Electronics	ADC: 20 channels 16-bit ADCs for X, Y, and Z scanner position sensor DAC: 21 channels 16-bit DACs for X, Y, and Z scanner positioning	Signal processing	Active Q control (optional) Cantilever spring constant calibration (optional) Signal Access Module (optional)	Integrated functions
Options/Modes	Topography Imaging <ul style="list-style-type: none"> Non-Contact Contact Tapping 	Magnetic Properties <ul style="list-style-type: none"> Magnetic Force Microscopy (MFM) Tunable Magnetic Field MFM 	Dielectric/Piezoelectric Properties <ul style="list-style-type: none"> Piezoresponse Force Microscopy (PFM) PFM with High Voltage Piezoresponse Spectroscopy 	Electrical Properties <ul style="list-style-type: none"> Conductive AFM (C-AFM) I/V Spectroscopy Kelvin Probe Force Microscopy (KPFM) KPFM with High Voltage Scanning Capacitance Microscopy (SCM) Scanning Spreading-Resistance Microscopy (SSRM) Scanning Tunneling Microscopy (STM) Photo Current Mapping (PCM) Electrostatic Force Microscopy (EFM) 	Mechanical Properties <ul style="list-style-type: none"> Force Modulation Microscopy (FMM) Nanoindentation Nanolithography Nanolithography with High Voltage Nanomanipulation Lateral Force Microscopy (LFM) Force Distance (F/d) Spectroscopy Force Volume Imaging 			
	Thermal Properties <ul style="list-style-type: none"> Scanning Thermal Microscopy (STHM) 	Chemical Properties <ul style="list-style-type: none"> Chemical Force Microscopy with Functionalized Tip EC-AFM 						
Software	Park SmartScan™ <ul style="list-style-type: none"> AFM system control and data acquisition software Auto mode for quick setup and easy imaging Manual mode for advanced use and finer scan control 	XEI <ul style="list-style-type: none"> AFM data analysis software Stand-alone design—can install and analyze data away from AFM Capable of producing 3D renders of acquired data 	Accessories <ul style="list-style-type: none"> Electrochemistry Cell Universal Liquid Cell with Temperature Control Temperature Controlled Stages Glove Box Magnetic Field Generator 					



Note: All specifications are subject to change without notice. Please visit our website for the most up-to-date specifications.

Committed to Contribute to Impactful Science and Technological Development

More than 25 years ago, the foundations of Park Systems were laid at Stanford University, where Park Systems' founder, Dr. Sang-il Park, worked in Prof. Calvin Quate's group; the group that invented the world's first AFM. After years of development, Dr. Park introduced the first commercial AFM to the world, thus starting the successful path of Park Systems. With good foresight, a superior product and keen business acumen, Park has positioned themselves as the dominant industry leader in AFM Nanoscale Metrology and in 2020, Park Systems will roll out their most exciting line of AFM products in their history.

Park Systems continuously strives to live up to the innovative spirit of its origin. Throughout its long journey, the company has been committed to provide advanced, accurate, and reliable AFM instrumentation, with revolutionary features such as True Non-Contact™ mode and PinPoint™ Nanomechanical AFM. Cutting-edge AFM automation features, like SmartScan™, make Park Systems AFMs not only extremely easy to use, but they also enable users to obtain outstanding results faster, more efficiently, and more accurately.

Park Systems

Enabling Nanoscale Advances

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ATOMIC FORCE MICROSCOPE



Park XE7

The most affordable research grade AFM with flexible sample handling





Park XE7

The economical choice for innovative research

Park XE7 has all the state-of-the-art technology you have come to expect from Park Systems, at a price your lab can afford. Designed with the same attention to detail as our more advanced models, XE7 allows you to do your research on time and within budget.

Accurate XY Scan by Crosstalk Elimination

- Two independent, closed-loop XY and Z flexure scanners
- Flat and orthogonal XY scan with low residual bow
- Accurate height measurements without any need for software processing

The Most Extensible AFM Solution

- The most comprehensive range of SPM modes
- The largest number of sample measurement options
- The best option compatibility and upgradeability in the industry

User Experience-Driven Software and Hardware Features

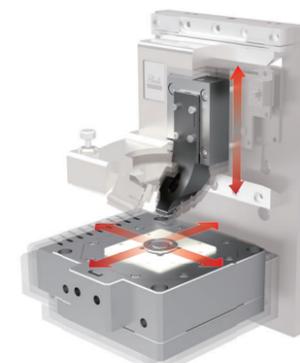
- Open side access for easy sample or tip exchange
- Easy, intuitive laser alignment with pre-aligned tip mount
- Park SmartScan™ - AFM operating software versatile enough to empower both novices and power users alike toward great nanoscale research

Park XE7

AFM Technology

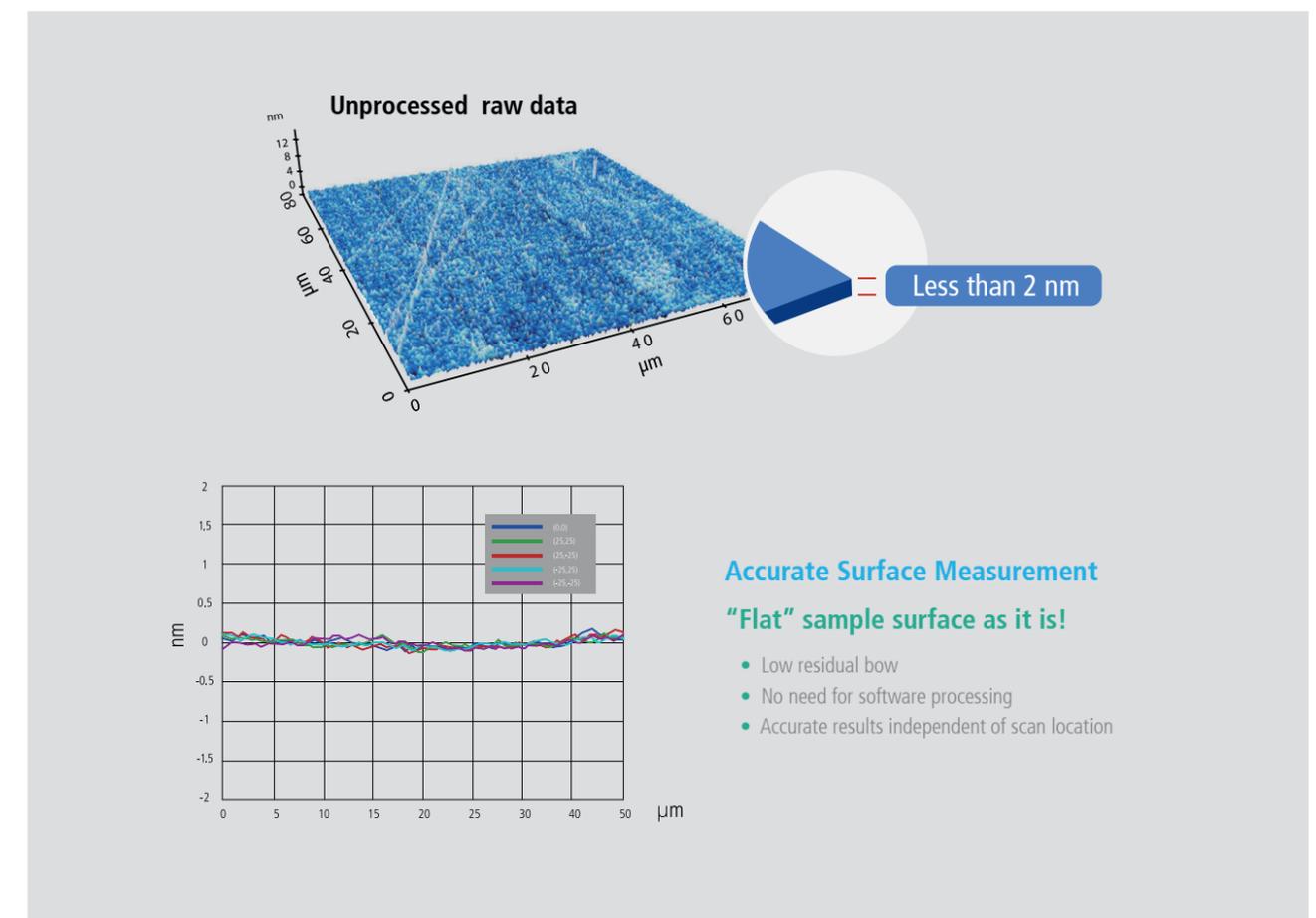
Flat Orthogonal XY Scanning without Scanner Bow

Park's Crosstalk Elimination scanner structure removes scanner bow, allowing flat orthogonal XY scanning regardless of scan location, scan rate, and scan size. It shows no background curvature even on flattest samples, such as an optical flat, and with various scan offsets. This provides you with a very accurate height measurement and precision nanometrology for the most challenging problems in research and engineering.



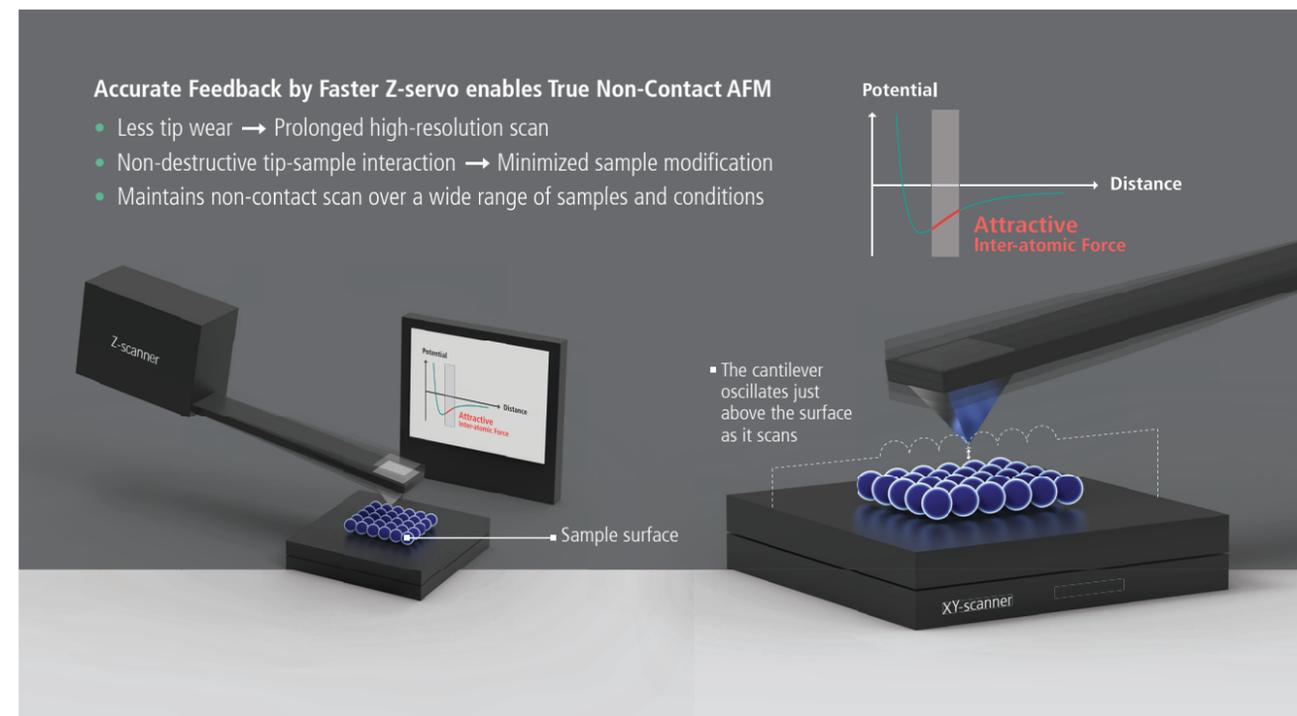
Decoupled XY and Z Scanners

The fundamental difference between Park and its closest competitor is in the scanner architecture. Park's unique flexure based independent XY scanner and Z scanner design allows unmatched data accuracy in nano resolution in the industry.



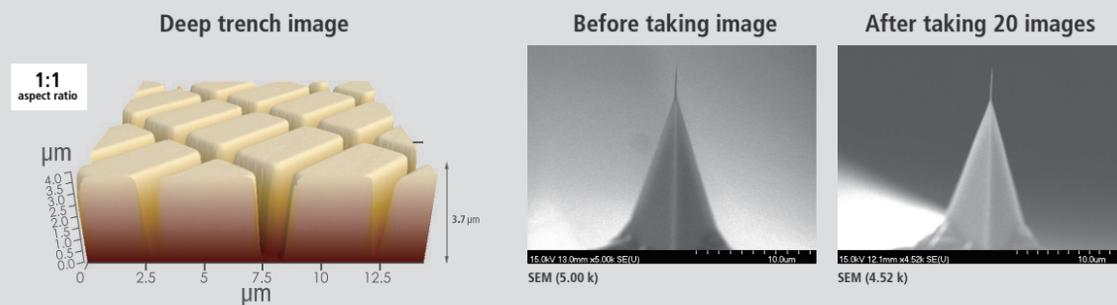
True Non-Contact™ Mode

True Non-Contact™ Mode is a scan mode unique to Park AFM systems that produces high resolution and accurate data by preventing destructive tip-sample interaction during a scan.



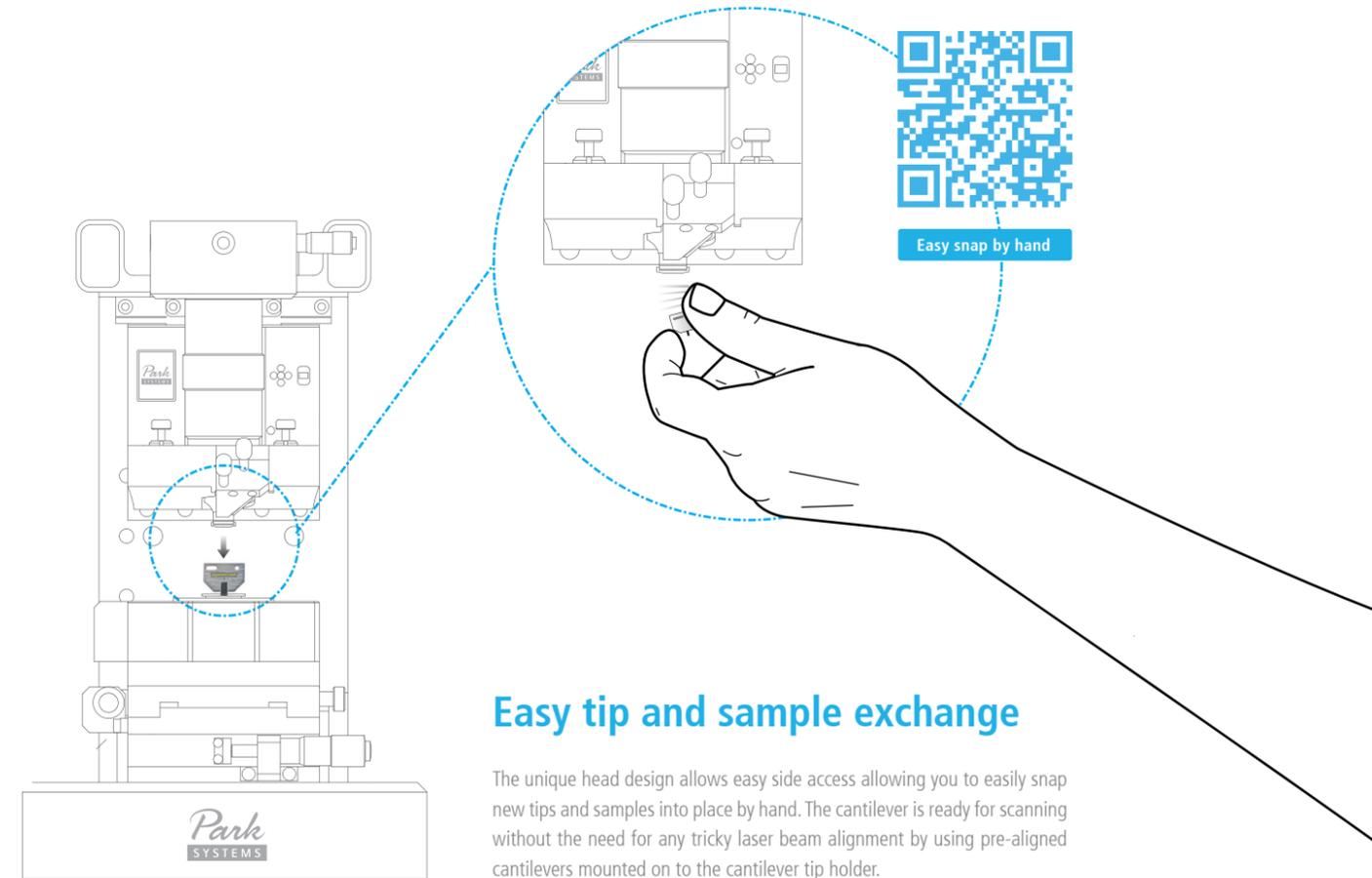
True Non-Contact™ Mode Preserves Tip Sharpness

AFM tips are so brittle that touching a sample will instantly reduce the resolution and quality of the image they produce. For soft and delicate samples, the tip will also damage the sample and result in inaccurate sample height measurements, something that can cost you valuable time and money. True Non-Contact™ mode, a scan mode unique to Park AFMs, consistently produces high resolution and accurate data while maintaining the integrity of the sample.



Park XE7

Why the world's most accurate small sample AFM is also the easiest to use

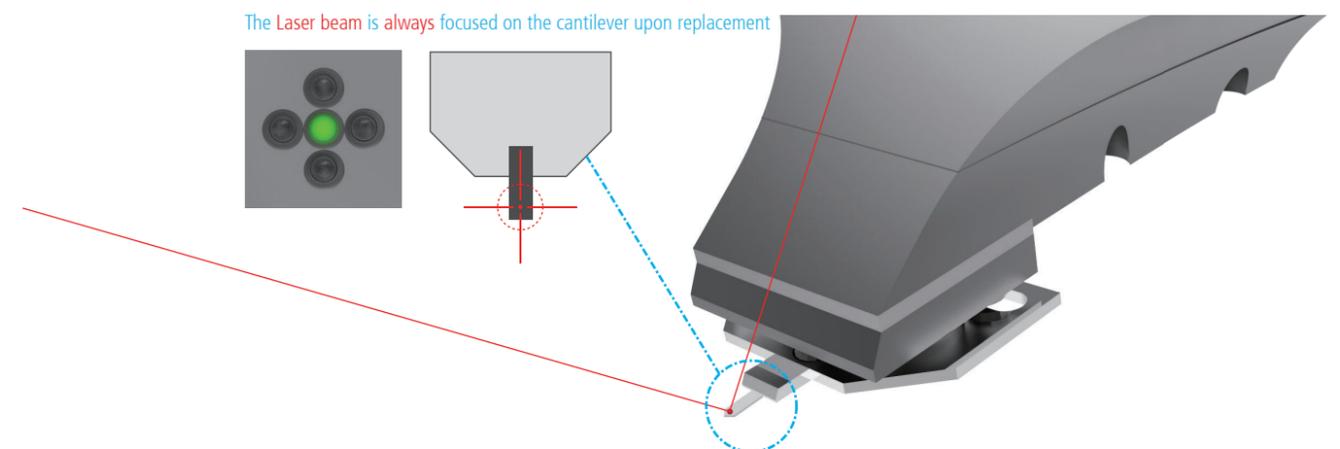


Easy tip and sample exchange

The unique head design allows easy side access allowing you to easily snap new tips and samples into place by hand. The cantilever is ready for scanning without the need for any tricky laser beam alignment by using pre-aligned cantilevers mounted on to the cantilever tip holder.

Easy, intuitive laser beam alignment

With our advanced pre-aligned cantilever holder, the **laser beam** is focused on the cantilever upon placement. Furthermore, the natural on-axis, top-down view allows you to easily find the laser spot. Since the laser beam falls vertically onto the cantilever, you can intuitively move the laser spot along the X- and Y-axis by rotating two positioning knobs. As a result, you can easily find the laser and position it onto the position-sensitive photodiode using our operation software's beam alignment user interface. From there, all you will need is a minor adjustment to maximize the signal prior to starting data acquisition.



Park Atomic Force Microscopy Modes

Get the data you need with Park's selection of scanning modes

TOPOGRAPHY IMAGING				
	Contact	Non-Contact	Tapping	
ELECTRICAL / MAGNETIC PROPERTIES				
	Conductive AFM	PinPoint Conductive AFM	IV Spectroscopy	Photocurrent Mapping
	Scanning Tunneling Microscopy	Scanning Spreading Resistance Microscopy	Scanning Capacitance Microscopy	Electrostatic Force Microscopy
Kelvin Probe Force Microscopy	Piezoresponse Force Microscopy	Magnetic Force Microscopy	Tunable Magnetic Field MFM	
NANOMECHANICAL PROPERTIES				
	Force Distance Spectroscopy	PinPoint Nanomechanical	Force Modulation Microscopy	Lateral Force Microscopy
	Nanoindentation	Nanolithography	Nanomanipulation	
OTHER PROPERTIES				
	Scanning Thermal Microscopy	Scanning Ion Conductance Microscopy	NOT AVAILABLE FOR THIS PRODUCT	

Animal Hair with Skin

Scanning conditions
 Scan Mode: Non-Contact
 Cantilever: AR5T-NCHR
 (k=42N/m, f=330kHz)

Graphene

Scanning conditions
 Scan Mode: Conductive AFM
 Cantilever: NSC36C Cr-Au
 (k=0.6N/m, f=65kHz)

Force-volume Stiffness

Kevlar Fiber

Epoxy

Current

1 μm

F/d spectroscopy

F/d mapping Conditions

- Mapping points: 64x64
- F/d curve pixel: 1024
- Force limit: 6V
- Approach speed: 1 μm/sec
- Retract speed: 1 μm/sec

Legend: Kevlar fiber (red), Epoxy (green)

Kevlar Fiber

Scanning conditions
 Scan Mode: Non-Contact, F/d Mapping
 Cantilever: Diamond probe
 (k=151N/m, f=50kHz)