

	<p>C) Sample stage</p>	<p>mode, Force curve mode, Electric force microscopy, Magnetic force microscopy, Single pass Kelvin probe microscopy, Piezo response force microscopy and Quantitative nano scale maps must be available. The system allows conductive measurements at user specified locations (I-V curves) with a variable gain range.</p> <p>a) Motorized</p> <p>b) Must accommodate samples up to 20 mm x 20 mm x 20 mm</p> <p>c) The travel range of Z stage should be at least 20 mm with 0.1 μm step</p>		
2	<p>Scanner Specifications</p> <p>a) General</p> <p>b) XY Scanner</p> <p>1) Range</p> <p>2) Noise in close loop (average deviation measured up to 1kHz)</p> <p>3) Resolution</p> <p>c) Z Scanner</p> <p>1) Range</p> <p>2) Noise in close loop (average deviation measured up to 1kHz)</p> <p>3) Resolution</p> <p>4) Resonant</p>	<p>XY-Z orthogonality error of less than 0.5°, linearity error of less than 0.1%</p> <p>90 μm or above</p> <p>$\leq 0.25 \text{ nm}$ or below</p> <p>0.05 nm or better</p> <p>$\geq 15 \mu\text{m}$ or better</p> <p>$\leq 0.03 \text{ nm}$ or below</p> <p>0.015 nm or better</p> <p>9 kHz or better</p>		

	frequency			
3	<p>Computer, Controller and Electronics & Software</p> <p>a) Computer</p> <p>b) Controller and Electronics</p> <p>c) Software</p>	<p>a) Preferably Intel i5/i7 or higher / equivalent with 16 GB RAM or better</p> <p>b) Latest OS with dual 23/24" monitors etc</p> <p>a) The data acquisition system must be capable of recording individual image sizes of minimum 4000 to 8000 pixels or better. All the above 8 channels should acquire higher pixels.</p> <p>b) Maximum 4 inbuilt Lock-in amplifier must be included in AFM configuration.</p> <p>a) The system's software must include a one-click configuration tool that sets up the software for common and user-defined operation modes, such as contact/non-contact mode imaging and EFM, KPFM, PFM, force measurements, etc.</p> <p>b) The AFM system's software should also be capable of multitasking with windows-based data acquisition, and equivalent image processing software, at the same time.</p> <p>c) The feature cannot employ any predictive algorithms, and the software must permit real-time adjustment and control of the AFM feedback parameter.</p> <p>d) Software must have a function that automatically optimises AFM topography acquisition settings without the requirement for setup parameters like set-point, gains, and so forth.</p>		
4	Laser and Photodetector	a) Using an infrared SLD (Super Luminescent Diode) laser with a		

		<p>coherent length of less than 50 μm and a wave length of 830 – 860 nm or better.</p> <p>b) Using an integrated motorised module, automatic SLD beam alignment should be included.</p> <p>c) For lateral force mode and phase imaging applications, the laser and photodetector must have the ability to change or control both vertical and lateral position.</p>		
5	Camera	<p>a) 5MP camera with 10 x objective lens</p> <p>b) Field of view of 840 μm \times 630 μm or better using 10 x objective lens.</p> <p>c) The optic & camera system should have the resolution of 1 μm or better</p>		
6	Automatic Probe Exchange	<p>a) A machine learning algorithm of vision recognition detects whether probes are loaded onto their correct positions of the designated probe slots</p>		
7	Instrument vibration Isolation and sensors	<p>a) The system includes a thermally- and acoustically isolating enclosure and an active vibration isolation table</p> <p>b) Multiple sensors detect environmental conditions such as vibration, temperature, humidity, and levelling near the system</p>		
8	Standard Sample and Manuals	The systems must come with demo probe kit and necessary tool kit.		
9	Warranty for the complete system	a) Minimum One year warranty from the date of installation of the equipment		

(Note: It is mandatory for the bidders to provide the compliance statement (comply/not comply) for the Above points with document proof as required).If the compliance statement (comply/Not comply) is not furnished for the evaluation. Bidders will be disqualified.