

# SCANNING KELVIN PROBE SYSTEMS

SKP5050 • ASKP100100 • ASKP200250 • ASKP300300

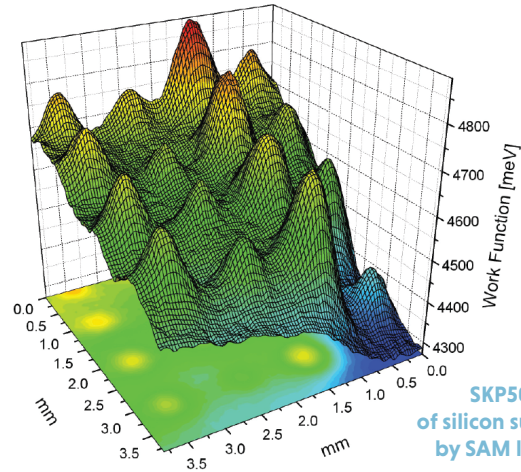
## SYSTEM DESCRIPTION

Our large range of Scanning Kelvin Probes give the user full access to 2D and 3D work function plots of samples ranging in size from 50 mm to 300mm.

With work function resolution of 1-3 meV, and the spatial resolution of the probe tip diameter, the Scanning Kelvin Probe gives reliable, repeatable measurements for work function ( $\Phi$ ) and contact potential difference (CPD) measurements.

Effects of corrosion can be measured across a surface with high precision e.g. coating uniformity and performance.

A Faraday enclosure shields all of our scanning systems from unwanted ambient light, fast changing environmental conditions, electromagnetic interference and provides the perfect platform for our Ambient-pressure Photoemission Spectroscopy (APS) and Surface Photovoltage add-on modules.



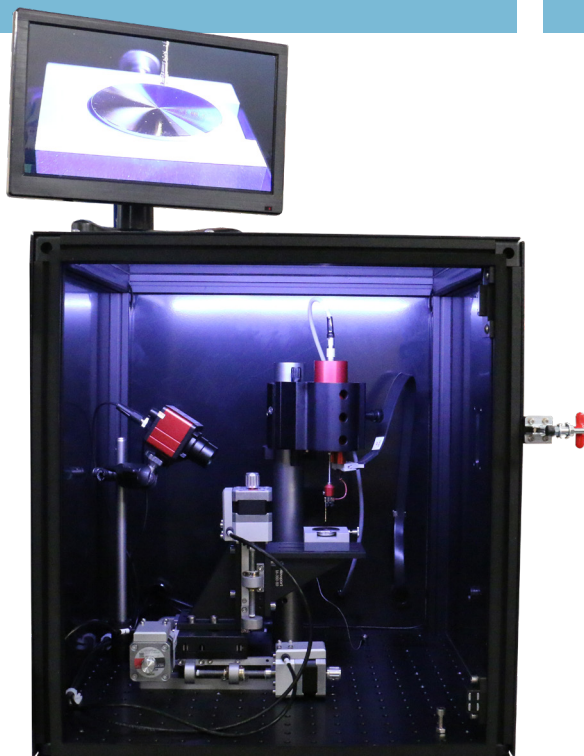
SKP5050 measurement of silicon substrate modified by SAM layer, tip diameter was 0.05mm

## FEATURES

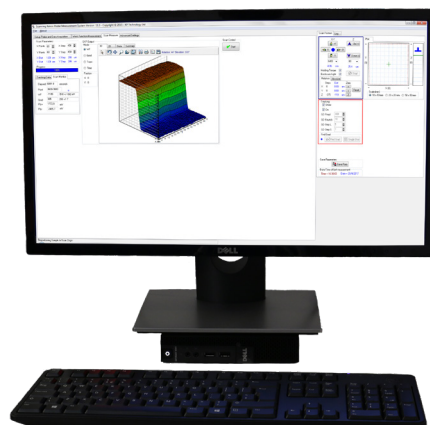
- Work function measurement
- Work function resolution of 1-3 meV
- Scanning area from 50mm<sup>2</sup> to 300mm<sup>2</sup>
- Scanning resolution equal to tip diameter
- Automatic height regulation
- Tip diameter 2.00mm or 0.05mm (SKP5050)

## APPLICATIONS

- Organic and non-organic semiconductors
- Metals and metal alloys
- Thin films and surface oxides
- Solar cells and photovoltaics
- Corrosion and nanotechnology
- Quality control



Scanning Kelvin Probe SKP5050 pictured inside standard optical enclosure with PC and software.



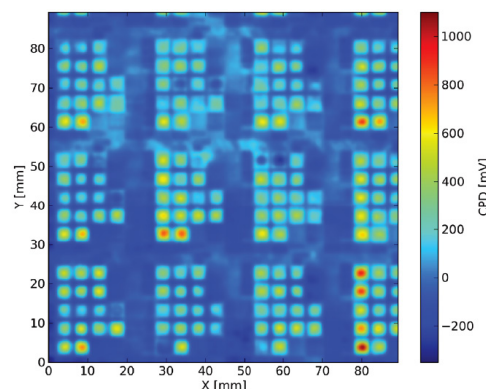
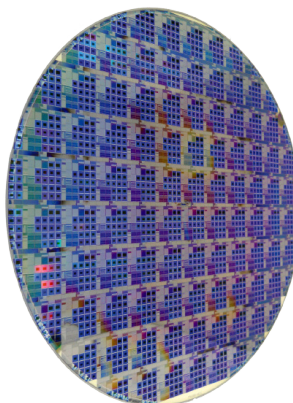
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SYSTEM SPECIFICATIONS	SKP5050	ASKP100100	ASKP200250	ASKP300300
Tip material / diameter	2mm Au plated tip	Stainless steel 2mm tip	Stainless steel 2mm tip	Stainless steel 2mm tip
Work function resolution	1-3 meV			
Sample scan size (stepper motor controlled)	50 x 50mm	100 x 100mm	200 x 200mm	300 x 300mm
3D sample area	Square	Square	Square	Square & Circular
Height control (auto)	25mm	50mm	50mm	50mm
Visualisation	3D map of surface potential			
Optical system	Colour camera with zoom lens and monitor			
Oscilloscope	Digital TFT oscilloscope for real time signal			
Test sample	Au / Al Reference sample			
Faraday enclosure base (mm)	LE450 (450 mm x 450 mm)	LE450 (450 mm x 450 mm)	LE450 (450 mm x 450 mm)	LE600 (450 mm x 600 mm)
Control supplied	PC control with dedicated software for full digital control of all parameters			
Detection system	Off-null with parasitic capacity rejection			
Warranty	12 months			

## UPGRADES AND ADD-ONS

- Ambient-pressure Photoemission Spectroscopy (APS)
- Surface Photovoltage Spectroscopy (400-1000nm)
- Surface Photovoltage (QTH or LED)
- Sample heater to 250°C
- Relative humidity control and/or nitrogen environmental chamber
- Tips: 0.05mm to 2.00mm



12" silicon wafer measured using the ASKP300300 Scanning Kelvin Probe

**KP Technology has been serving the scientific community since 2000 and has grown to be the leading supplier of Kelvin Probe systems worldwide.**

Founded with the aim of bringing new surface research tools to the market, we offer a spectrum of dedicated Kelvin Probe systems for work function and energy level measurement. Our systems have been specially developed for applications in a variety of environments, ranging from ambient and controlled atmosphere to Ultra-High Vacuum. Recent developments include a patented dual mode Kelvin Probe and Photoemission Spectroscopy system for measurement of the absolute work function of a material by photoemission in air.

The range of Kelvin Probe systems offered, and the accuracy of the work function resolution provided by our unique systems is unsurpassed by any other Kelvin Probe supplier.

A strong research and development team, coupled with decades of experience in materials research and characterisation has supported the rapid growth KP Technology has experienced over the years. We now service hundreds of companies and research institutes worldwide in their materials research and characterisation requirements.

KP Technology systems have been named in hundreds of research papers and continue to feature in peer reviewed client publications year after year.

## KP TECHNOLOGY

Contact us for more information, to request a quotation or to discuss how our systems can support your research.

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T: +44 1955 602 777

Or visit our website:

[www.kelvinprobe.com](http://www.kelvinprobe.com)

**KP Technology Ltd. is the proud winner of the Queens Award for Enterprise: Innovation 2018**



THE QUEEN'S AWARDS FOR ENTERPRISE 2018