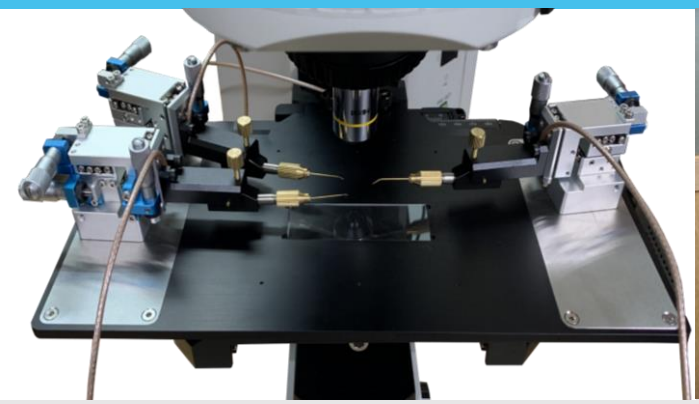
XPER PC

NANO**BASE**'s answer to photocurrent analysis

- Photocurrent imaging and analysis
- Ultra fast 2D scanning
- Bright field microscopic imaging
- Multiple laser selections
- Measurement capabilities for source/drain, gate dependence

Scanning photocurrent microscopy (SPCM) is a powerful mapping equipment used to investigate spatially resolved optoelectronic properties of semiconductors. Laser excitation by raster scanning generates a position-dependent photocurrent map from which carrier diffusion length, electric field distribution, doping concentration and more can be explored.



Xper-PC's 3-probe measurement using a high performance 2-channel source-meter unit provides a variety of photocurrent information, helping you obtain such information more easily by displaying detailed photocurrent differences in a large area in a form of high quality 2D maps.

The size of probe station is fully customizable, and we are more than happy to assist you with your even most unique needs so you can fulfill your research goals.

Not only semiconductor analysis, Xper-PC offers a wide range of applications as well serving both research and industrial fields.

Nano technology
Quality analysis for 1D, 2D nanomaterials

Semiconductor
Analysis of electrical characteristics

Optoelectronic materials
Analysis of electrical properties of materials

Solar cell
Analysis of electrical properties of solar cell film

Battery material
Analysis of electrical properties of battery materials

Xper-PC specifications

Microscope	- Reflected LED illuminator for bright field - Mechanical X-Y-Z stage with right-hand control (Automatically controlled Z-axis position option available upon request) - Includes main frame, stage plate, control box, interface cable, power cable
Objective	- 10X, long WD 40X
Laser scanning module	- Wavelength range : 400 – 1000nm - Laser scanning mode : Raster scan - Scanning area : 200 um x 200 when using 40X - 6 MP camera for optical image acquisition (FOV : 220 X 150 um when using 40X) - Laser controller (USB 1.1)
Laser	- Up to three laser options may be added - 405, 532, 633, 785 nm Freespace - Fiber couple laser options also available
System platform	- 1 slot to connect a laser density (ND) filter or a polarizer - 2 slots to connect polarizers or waveplates
Photocurrent module	<u>Probe positioner unit</u> - Manipulator : LM lead guide with a fine knob - Magnetic base - Resolution : 3 um - Travel length : 6 mm <u>On-stage plate</u> - Vacuum chuck - Slide glass groove <u>Probe tip</u> - Material : Gold BeCu - Size : 0.5 x 25 mm - Either bending type or straight type selectable
Sourcemeter unit	- Voltage range : 100 mV ~ 40 V - Programming resolution : 5 μV ~ 500 μV - Source accuracy (1 year) : 0.02% + 250 μV ~ 0.02% + 12 mV - Current range : 100 nA ~ 10 A - Programming resolution : 2 pA ~ 200 μA - Source accuracy (1 year) : 0.06% + 100 pA ~ 0.06% + 4 mA
NanoSpectrum software suite	- Photocurrent acquisition & imaging - 2D current mapping data export format : .csv

The above specs are subject to change without prior notice for product enhancement.

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