

*Enabling Nanoscale Advances*

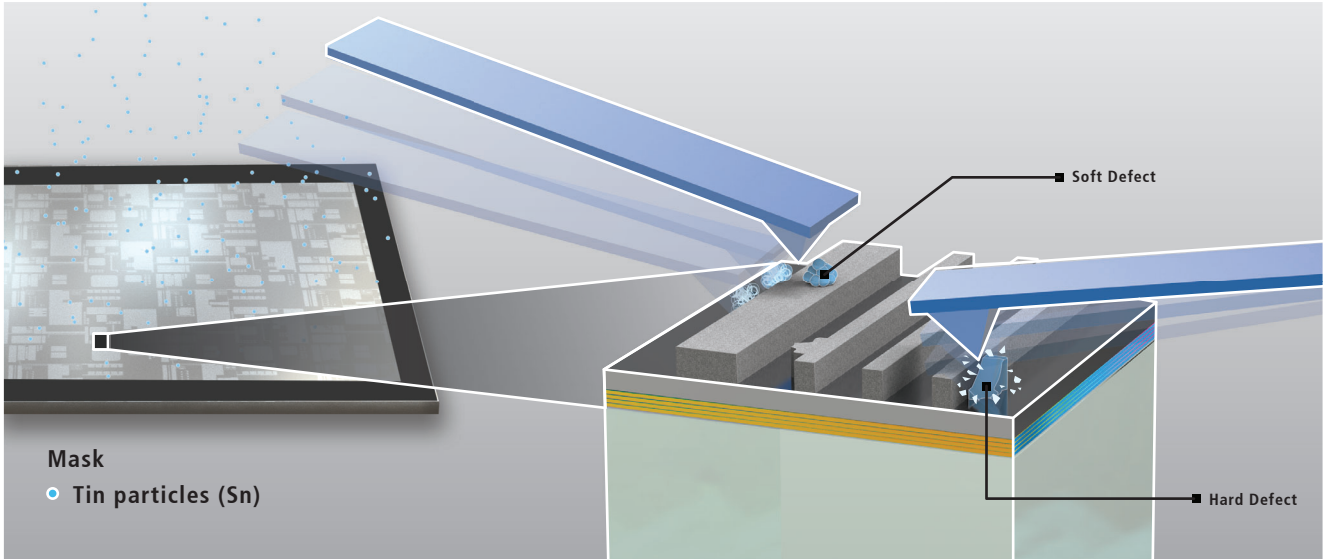


# Park NX-Mask

## An AFM-based Mask Repair and More

Park NX-Mask is the new generation photomask repair system that addresses the latest challenges of shrinking device geometries and increasing photomask complexities. Park NX-Mask is an innovative tool for the repair of high-end mask incorporating advanced atomic force microscopy technology. It provides all in one solution from auto defect review to repair of defects to verification of the repair, accelerating the throughput at unprecedented repair efficacy.



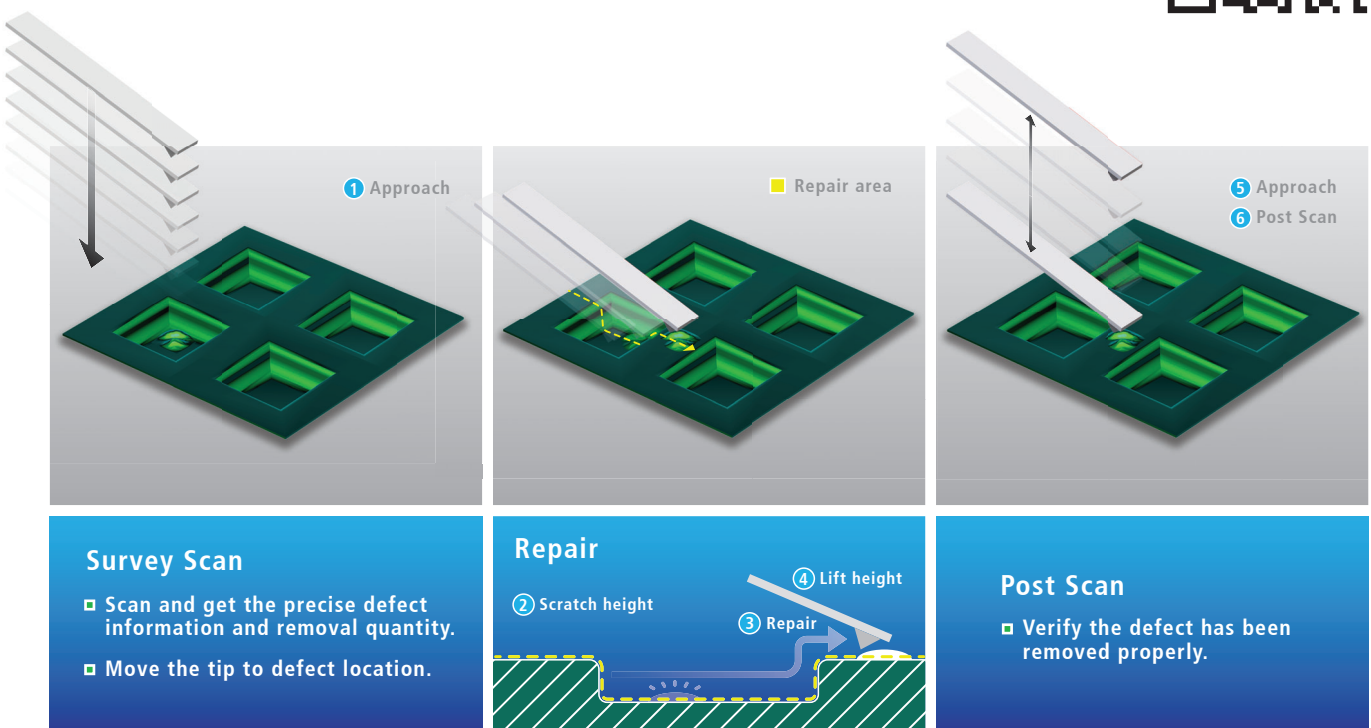


## Repair of defects with an AFM tip completely safe

Debris such as tin (Sn) particles from a light source may reach the photomask and reduce light reflectivity. Park NX-Mask utilizes its proven nano-mechanical AFM technology to find and remove extraneous particles and the complexity of pattern defects in a completely safe manner. Unlike conventional photomask repair systems, Park NX-Mask executes the repair without causing any damage or perturbing the mask surface.

### How It Works

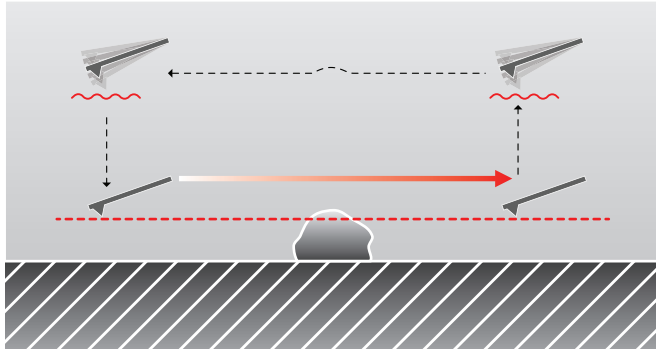
Park NX-Mask first performs a survey scan to locate the defects using its proprietary non-contact AFM technology that offers the safest method of scanning. From the survey scan, Park NX-Mask learns the quantity and precise location of the defects, and information on each of those particles and faults.



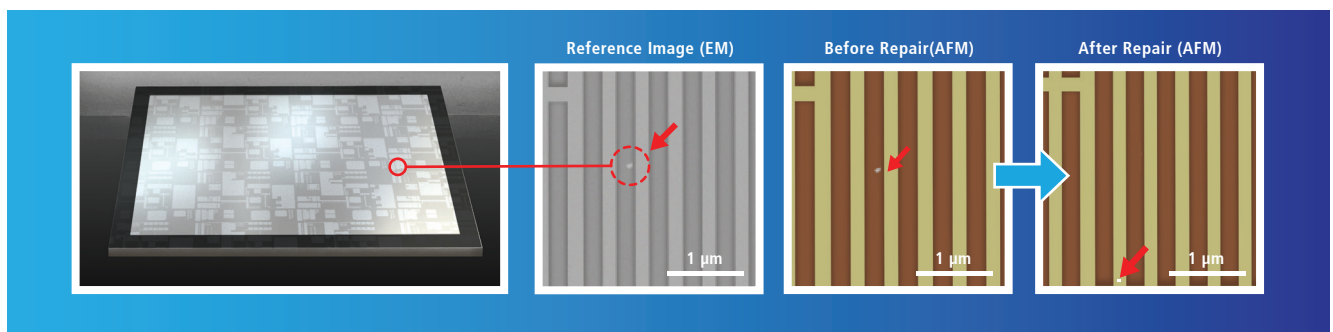
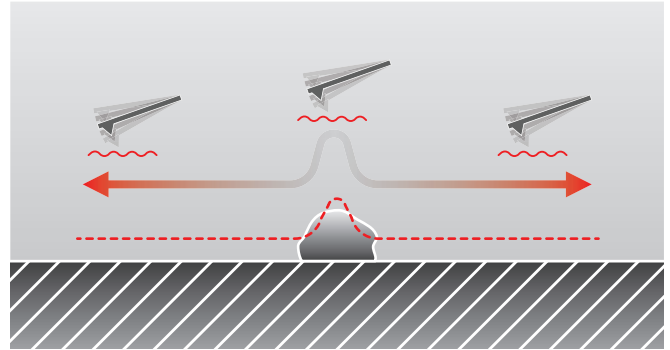
Following the repair, Park NX-Mask employs our non-contact AFM technology to conduct post-repair verification, generating nanoscale 3D topography and other critical metrology data such as surface roughness.

## Park NX-Mask repairs all types of defects

### Repair Mode

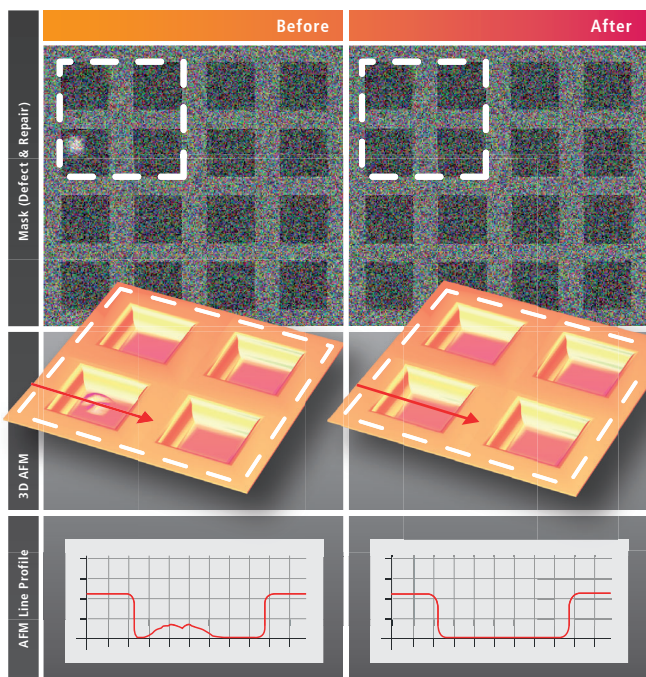


### Sweep Mode

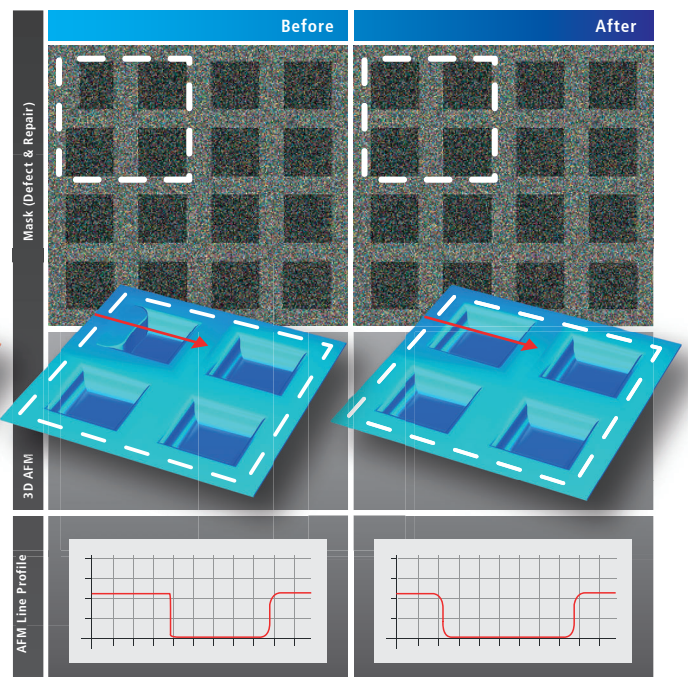


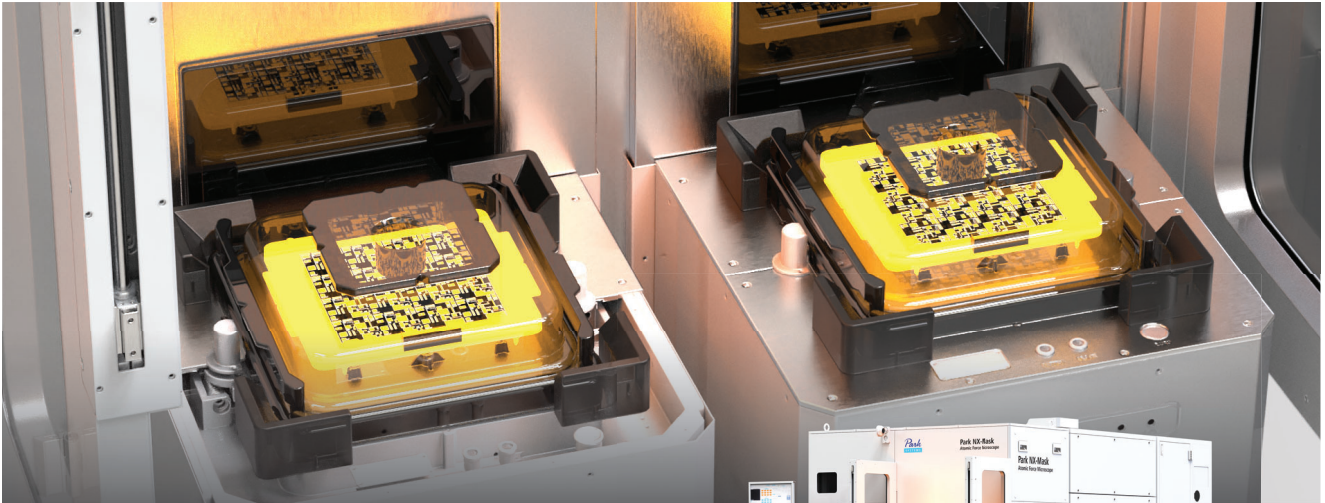
Photomask defects are a result from foreign particles in the environment or by erroneous pattern processing. The most commonly found defects on high-end photomasks are tin particles generated during the lithography process. The AFM nanomechanical method of Park NX-Mask offers many advantages that are superior and completely safe for photomask repairs.

### Soft Defect Repair



### Hard Defect Repair





## Inline production for automatic and seamless repair

Park NX-Mask offers optimized solutions for inline production with an automated dual pod design for handling masks.

- No risk of damage and seamless repair of any type of defects based on AFM technology
- Automated dual pod design for handling mask on inline production
- All in one solution from automatic defect review to repair of defects and to verification of the repair

Contact Park Systems sales for more information.

## Committed to contributing to impactful science and technology

Park Systems Corporation is a leading manufacturer of nanoscale microscopy and metrology solutions that encompasses the atomic force microscopy, white light interferometry, infrared spectroscopy and ellipsometry systems. Its products are widely used for scientific research, nanoscale engineering, and semiconductor fabrication and quality assurance. Park Systems provides a full range of AFM products from desktop to fully automated systems with integrated robotic arms. Furthermore, its product line includes WLI AFM, Photo-induced Force Microscopy spectroscopy and ellipsometry systems for those in the chemistry, materials, physics, life sciences, and semiconductor industries. In 2022, Park Systems acquired and merged Accurion GmbH, a leader in high-end ellipsometry and active vibration isolation, to form Park Systems GmbH, Accurion Division.

Park Systems is a publicly traded corporation on the Korea Stock Exchange (KOSDAQ) with corporate headquarters in Suwon, Korea, and regional headquarters in Santa Clara, California, Mannheim, Germany, Paris, France, Beijing, China, Tokyo, Japan, Singapore, India, and Mexico. To learn more, please visit [www.parksystems.com](http://www.parksystems.com).

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