

# EUV Tech Introduces New Multi-Use Actinic EUV Metrology Tool

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[/EINPresswire.com/](https://EINPresswire.com/) -- EUV Tech, a global leader in the production of at-wavelength EUV metrology tools, is excited to announce the release of the new EUV N&K and Phase Measurement Tool, its latest innovation in extreme ultraviolet lithography (EUVL) technology. The multi-use EUV N&K and Phase Measurement Tool is designed for direct actinic measurement of the optical properties of materials in the Extreme Ultraviolet (EUV) regime.



Operator Using the EUV N&K and Phase Measurement Tool

From smartphones and artificial intelligence to the CHIPS and Science Act of 2022, the future of semiconductor manufacturing has become top-of-mind in terms of the need for continued technological progression as the demand for high-volume production of smaller and more energy efficient semiconductor chips increases. The EUV N&K and Phase Measurement Tool helps address this challenge by being the

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*Dr. Patrick Naulleau*

industry's first tool capable of being installed in an EUV production fab that can make actinic measurements of the optical properties, including phase, of EUV materials. In the past, these measurements were only possible at very large, complicated, and expensive synchrotron facilities.

Specifically, the EUV N&K and Phase Measurement Tool can measure the complex index of refraction ( $n$  and  $k$ ) of materials, the thickness and roughness of films and stacks,

the relative phase and reflectance of absorber films and/or film stacks including multi-layers, and film-stack characteristics such as thicknesses, densities, roughness and interdiffusion. The system supports two measurement modes:

- Reflectometry: A variable-angle spectroscopic reflectivity measurement that is used to determine planar film characteristics
- Scatterometry: A variable-angle spectroscopic diffraction measurement that is used to determine the patterned material or stack characteristics, including Mask 3D (M3D) effects critical to lithographic performance

With these capabilities, the EUV N&K and Phase Measure Tool now fills a significant and unique gap in the current landscape of semiconductor manufacturing. Using proprietary techniques, the EUV N&K and Phase Measurement Tool allows phase and as-deposited film parameters to be extracted for an EUV multilayer and absorber stack. With the ability to support standard mask formats and full automation, the tool enables parameter and phase mapping over the full area of the mask; thus, enabling the next generation of EUV phase shift masks.

“With this one-of-kind tool, we can now fully characterize the phase shift properties of EUV masks and materials,” said Dr. Patrick Naulleau, CEO of EUV Tech. “Thanks to that capability, the EUV N&K Phase Measurement Tool is a true game-changer that will lead us into the next generation of EUV technology.”

EUV Tech has a proven track record of delivering cutting-edge equipment for use by major semiconductor manufacturers, and has set the standard for the development of precision-built EUV metrology tools. With the EUV N&K and Phase Measurement Tool now in its product lineup, EUV Tech continues to demonstrate its forward-thinking ability to push the boundaries and define new frontiers in EUVL technology development.

The first EUV N&K and Phase Measurement Tools were delivered to customers worldwide during the second half of 2022.

#### About EUV Tech

EUV Tech enables technology advancement in the frontiers of semiconductor manufacturing and material science through the development of world-leading EUV and soft-x-ray instrumentation and techniques.

Natalie Hill

EUV Tech, Inc.

+1 925-229-4388

info@euvtech.com

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