

Archer[™] 800

Imaging-Based Overlay Metrology System



The Archer™ 800 overlay metrology system provides accurate feedback of on-product overlay error for fast technology ramps and stable production of leading-edge memory and logic devices.







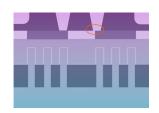
Accurate

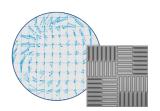
Extended Measurability

Robust

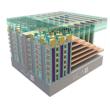
Fast

Overlay metrology tool measures alignment of the pattern of features between process layers.





Advanced ICs: Supports R&D, fast ramp and stable production of leading-edge devices.



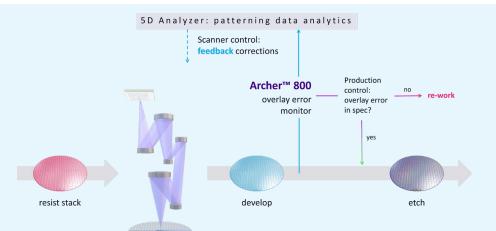




3D NAND

Logic

DRAM



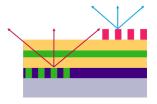
Archer overlay metrology systems produce data that enable lithographers to identify excursions and improve On Product Overlay (OPO) control.



Optimized Conditions Per Layer

Parallel Color per Layer (PCPL) and Focus Per Layer (FPL) measurement modes enhance target signal-to-noise for accurate overlay measurements on challenging lithography stacks, EUV thin resists and opaque films.

Separate signals from each layer

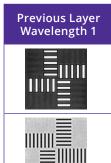


Separate gratings Asymmetry decoupled from layer thickness variations

Target 1

Target 2







Supporting Capabilities

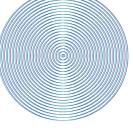
Deep Learning and Machine Learning Algorithms

- mTIS (Model TIS) produces calibrated overlay for best measurement performance (accuracy, TMU, matching).
- mFocus supports robust and fast measurement sequences.



rAIM® provides improved device to target correlation and better process robustness for improved OPO.





Multi-signal measurement mode provides robustness to process variation via affluent and accurate overlay target asymmetry information.



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Rev 1.4_05-16-2025