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KLA Launches Revolutionary X-Ray Metrology System

New Axion® T2000 Extends Advanced Metrology Portfolio That Addresses Vertical Scaling Challenges in Memory Chip Manufacturing

MILPITAS, Calif., Dec. 6, 2022 /PRNewswire/ -- Today, [KLA Corporation](#) (NASDAQ: KLAC) announced the launch of the revolutionary **Axion® T2000** X-ray metrology system for advanced memory chip manufacturers. Fabrication of 3D NAND and DRAM chips involves precise formation of extremely tall structures with deep, narrow holes and trenches, and other intricate architectural shapes – all requiring control at the nanoscale level. The Axion T2000 features patented technologies that power its ability to measure high aspect ratio device features with an unprecedented combination of resolution, accuracy, precision and speed. By discovering the small shape anomalies that can impact memory chip performance, the Axion T2000 helps ensure successful production of the memory chips used in applications such as 5G, artificial intelligence (AI), data centers and edge computing.



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"Our new Axion T2000 X-ray metrology system is a game changer for inline process control during fabrication of advanced 3D NAND and DRAM devices," said Ahmad Khan, president of the Semiconductor Process Control business unit at KLA. "Using transmissive X-ray technology, the Axion T2000 quickly generates a complete 3D visualization of high aspect ratio structures on the order of 100:1 or greater. From the top to the very bottom of these

extreme vertical features, Axion data facilitates tight control of critical parameters, such as width, shape and tilt. Moreover, by measuring inline, the Axion reduces the cycle time required to solve critical yield and reliability issues during high volume production of memory chips."

The Axion T2000 is a CD-SAXS (critical-dimension small angle X-ray scattering) system, leveraging industry-unique X-ray technologies to produce high-resolution measurements of critical dimensions and 3D shapes of memory device features. A high flux source provides X-rays that transmit through the entire vertical memory structure, regardless of how tall it is today or will be in the future, enabling measurement of complex device shapes. A stage with industry-leading dynamic range helps to obtain diffraction images at multiple angles to render rich 3D geometrical information. Novel AcuShape® algorithms facilitate measurement of many critical device parameters and extraction of subtle variations that can affect final memory chip functionality. With these innovations, the Axion T2000 non-destructively produces the dimensional metrology data needed to help memory manufacturers optimize, monitor and control key process steps inline.

With multiple systems in operation at leading memory manufacturers, the Axion T2000 joins KLA's family of advanced metrology systems in providing precise measurement of complex parameters for 3D NAND and DRAM manufacturers. Covering the full range of metrology applications from early R&D to volume production, KLA's [comprehensive metrology portfolio](#) produces information that drives faster ramp, improved device quality, and higher production yield. To maintain high performance and productivity, the Axion T2000 is backed by [KLA's global comprehensive service network](#). To learn more about the new Axion T2000 X-ray metrology system, please visit the [KLA Advance](#) newsroom.

About KLA:

KLA Corporation develops industry-leading equipment and services that enable innovation throughout the electronics industry. We provide advanced process control and process-enabling solutions for manufacturing wafers and reticles, integrated circuits, packaging, printed circuit boards and flat panel displays. In close collaboration with leading customers across the globe, our expert teams of physicists, engineers, data scientists and problem-solvers design solutions that move the world forward. Investors and others should note that KLA announces material financial information including SEC filings, press releases, public earnings calls and conference webcasts using an investor relations website (ir.kla.com). Additional information may be found at kla.com (KLAC-P).

Forward Looking Statements:

Statements in this press release other than historical facts, such as statements regarding the expected performance of the Axion T2000 system, are forward-looking statements, and are subject to the Safe Harbor provisions created by the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current information and expectations and involve risks and uncertainties. Actual results may differ materially from those projected in such statements due to various factors, including delays in the adoption of new technologies (whether due to cost or performance issues or otherwise), the introduction of competing products by other companies or unanticipated technology challenges or limitations that affect the implementation, performance or use of KLA's products, and other

risk factors included in KLA's annual report on Form 10-K for the year ended June 30, 2022 and other filings by KLA with the Securities and Exchange Commission (including, without limitation, the risk factors described therein). KLA assumes no obligation to, and do not currently intend to, update these forward-looking statements.

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