



CyberOptics to Deliver Technical Presentation About the Importance of 3D Inspection for Advanced Packaging at SEMICON Taiwan

Paper Titled '3D Inspection Is Becoming Essential in Advanced Packaging (AP)'

Minneapolis, Minnesota — November 29, 2021 — CyberOptics® Corporation (NASDAQ: CYBE), a leading global developer and manufacturer of high-precision 3D sensing technology solutions will share a technical presentation at the Heterogeneous Integration Global Summit organized by SEMICON Taiwan Dec 1-3rd. The company will also exhibit in WaferSense® and ReticleSense® sensors and feature the WX3000™ Metrology and Inspection system in booths I3128, L0310, J2434 and K2106 at TaiNEX 1, Taipei, Dec 28-30th.

Dr. Charlie Zhu, Director of Engineering at CyberOptics, will present '[3D Inspection Is Becoming Essential in Advanced Packaging](#)' in the AP technical track on December 2nd at 3:30pm local time.



Advanced Packaging continues to be among the most dynamic and rapidly evolving areas of semiconductor development and manufacturing. Most of these new processes take advantage of the third dimension, going vertical to continue packing more computing power into less space while circumventing the difficulties posed by further reductions in two-dimensional size.

As the processes and features they create have become smaller and more complex, manufacturers face an increasing need for high-precision inspection and measurement to detect defects and improve process control. As a result, the traditional 2D-based inspections can no longer satisfy the needs for quality control where 3D inspection is becoming essential. A growing number of applications in the AP process are requiring full 3D inspection instead of sampling and the trend is expected to continue. However, the traditional 3D inspection systems are either slow or inaccurate which means they are unable to meet the growing demand of AP.

This presentation will elaborate on the needs and challenges of 3D inspection in various AP applications such as Wafer-Level Packaging (WLP), System-in-Package (SiP) and Substrate Inspection, and how CyberOptics' disruptive Multi Reflection Suppression™(MRS™) sensor technology can improve yields, processes and quality.

At the show, the company will feature the WX3000™ Metrology and Inspection system powered by the 3 μm NanoResolution MRS sensor that provides sub-micrometer accuracy on features as small as 25μm. The system is specifically designed for wafer-level and advanced packaging applications. While retaining its ability to reject spurious multiple reflections, it adds the ability to capture and analyze specular reflections from shiny surfaces of solder balls, bumps and pillars, allowing highly accurate inspection and metrology of these critical packaging features. Fast, 100% 3D/2D inspection and metrology can be conducted with throughput greater than 25 wafers (300mm) per hour, 2-3X faster than alternative solutions.

For more information, visit www.cyberoptics.com.

About CyberOptics

CyberOptics Corporation (www.cyberoptics.com) is a leading global developer and manufacturer of high-precision 3D sensing technology solutions. CyberOptics' sensors are used for inspection and metrology in the SMT and semiconductor markets to significantly improve yields and productivity. By leveraging its leading-edge technologies, the Company has strategically established itself as a global leader in high precision 3D sensors, allowing CyberOptics to further increase its penetration of key vertical markets. Headquartered in Minneapolis, Minnesota, CyberOptics conducts worldwide operations through its facilities in North America, Asia and Europe.

Statements regarding the Company's anticipated performance are forward-looking and therefore involve risks and uncertainties, including but not limited to: a possible worldwide recession or depression resulting from the economic consequences of the COVID-19 pandemic; the negative effect on our revenue and operating results of the COVID-19 crisis on our customers and suppliers and the global supply chain; market conditions in the global SMT and semiconductor capital equipment industries; trade relations between the United States and China and other countries; the timing of orders and shipments of our products, particularly our 3D MRS SQ3000 Multi-Function systems and MX systems for memory module inspection; increasing price competition and price pressure on our product sales, particularly our SMT systems; the level of orders from our OEM customers; the availability of parts required to meet customer orders; unanticipated product development challenges; the effect of world events on our sales, the majority of which are from foreign customers; rapid changes in technology in the electronics and semiconductor markets; product introductions and pricing by our competitors; the success of our 3D technology initiatives; the market acceptance of our SQ3000 Multi-Function systems and products for semiconductor inspection and metrology; costly and time consuming litigation with third parties related to intellectual property infringement; the negative impact on our customers and suppliers due to past and future terrorist threats and attacks and any acts of war; the impact of the MX3000 orders on our consolidated gross margin percentage in any future period; risks related to cancellation or renegotiation of orders we have received; and other factors set forth in the Company's filings with the Securities and Exchange Commission.

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