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Ball Wave Inc.

Ball Wave Receives Certification from Taiwan's Leading Semiconductor Manufacturer for Revolutionary PPB-rated, Real-time, In-situ, Trace Moisture Analyzer

Ball Wave Inc., a pioneer in advanced chemical sensing technology, today announced that its FT-450WT online trace moisture analyzer has received full certification from Taiwan's most advanced semiconductor manufacturer following rigorous validation testing. This milestone validates Ball Wave's proprietary ball SAW sensor technology and establishes the company as a strategic supplier in the critical semiconductor manufacturing equipment sector. The certification comes at a pivotal time as semiconductor manufacturers worldwide face increasing pressure to improve yield rates and reduce contamination in advanced node production. Ball Wave's technology addresses a critical pain point in fab operations, where even parts-per-billion levels of moisture can compromise chip quality and manufacturing efficiency. The successful certification demonstrates the analyzer's reliability in the most demanding production environments and opens significant commercial opportunities for specialty gas manufacturers who are the key players plagued with trace moisture contamination.

Ball Wave President Shingo Akao stated, "This certification validates our core technology platform and demonstrates our ability to meet the stringent requirements of the world's most sophisticated semiconductor fabs to help them avoid unplanned shutdowns due to trace moisture contamination. Ball Wave's patented ball SAW sensor represents a fundamental breakthrough in trace moisture detection, offering speed and precision unmatched by legacy technologies. With proven performance in production environments and a robust IP portfolio, we are well-positioned to capture significant market share in the rapidly growing semiconductor manufacturing equipment sector, which is projected to exceed \$156 billion by 2027¹."

Business Impact: For advanced semiconductor fabs operating at 3nm and below, moisture contamination can cost \$5-10 million per incident² in scrapped wafers and production delays. Industry data shows that facilities with inadequate moisture monitoring experience maintenance ratios below 1.0, where unplanned repairs consume over 50% of total downtime. Ball Wave's real-time detection capability enables preventive action before contamination reaches critical levels, helping customers avoid these costly failures and maintain the operational stability (M-ratio >4.0) essential for profitable advanced node production. This value proposition has resonated strongly with leading fabs, creating a clear path to rapid customer adoption.

About the FT-450WT and Ball Wave's Technology Platform: The FalconTrace ultra-trace moisture meter uses a proprietary ball SAW sensor to quantitatively measure the trace amounts of water molecules contained in industrial gases and natural gases. Its extremely fast response time allows for real-time monitoring of changes in moisture content, and it is also capable of measuring both moisture content and background gas composition. It can accurately measure moisture



concentrations in gases down to the 1 ppbv (parts per billion) level, representing 10-100x improvement over competing technologies. The FT-450WT is a high-end model that maintains its fast response time while prioritizing integration into equipment, and the separation of the sensor unit and main body allows for greater layout flexibility in fab retrofits and new tool installations.

Ball Wave's technology platform extends beyond moisture analysis to a broader range of chemical sensing applications, creating multiple revenue streams and cross-selling opportunities within semiconductor fabs and adjacent industries, including pharmaceuticals, aerospace, and industrial gases.



Market Opportunity and Strategic Position: Ball Wave has established relationships with leading semiconductor manufacturers in Taiwan, with active discussions underway in South Korea, Japan, and the United States

- The company's technology addresses a growing market as advanced node production (5nm and below) requires increasingly stringent contamination control
- Ball Wave holds key patents in ball SAW sensor technology with additional applications pending in major semiconductor manufacturing regions
- The company's university origins provide access to cutting-edge MEMS research and ongoing innovation pipeline

About Ball Wave Inc.: Ball Wave Inc. is a technology company specializing in advanced chemical sensing solutions for critical industrial applications. Founded as a spin-out from Tohoku University, a global center of excellence in MEMS technology, Ball Wave leverages proprietary ball SAW sensor technology to deliver breakthrough performance in trace contamination detection. The company serves semiconductor manufacturers, industrial gas suppliers, and other industries requiring ultra-precise gas analysis. Ball Wave is headquartered in Sendai, Japan.

For inquiries regarding this matter, please contact:

Ball Wave Inc., Corporate Strategy Division, Yusuke Tsukahara



tsukahara@ballwave.jp

Telephone: +81-3-5979-2357

<https://www.ballwave.jp/>

1. <https://www.semi.org/en/semi-press-release/global-semiconductor-equipment-sales-projected-to-reach-a-record-of-156-billion-dollars-in-2027-semi-reports>
2. <https://www.mckinsey.com/industries/semiconductors/our-insights/need-to-boost-semiconductor-fab-efficiency-look-to-maintenance>