

WiseChip Semiconductor Inc. Unveils Cutting-Edge OLED Solutions for Near-Eye Applications

New WiseChip OLED series for AR and night vision offers 300-10,000 nits brightness and high transparency, setting a new standard for near-eye display tech.

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Semiconductor Inc., a leading innovator in display technology, is proud to announce the launch of its latest series of OLED solutions designed for near-eye applications, including augmented reality (AR) systems, night vision goggles, and handheld ranging devices. With a focus

on delivering exceptional brightness, transparency, and durability, these advanced display panels are poised to revolutionize the industry and drive new opportunities for worldwide businesses.

The new four-series OLED lineup—featuring Medium Transmittance, High Transmittance, Reflective, and Micro Matrix displays—offers tailored solutions for a variety of cutting-edge applications. These products are engineered to meet the demanding requirements of AR systems and other near-eye technologies. With brightness levels ranging from 300 nits to an impressive 10,000 nits and transparency exceeding 92% in select models, WiseChip's displays ensure optimal performance even in challenging outdoor environments.

Unmatched Performance for Near-Eye Applications

For AR and other near-eye applications, WiseChip's segment-type PMOLED technology stands out with its ability to deliver exceptional brightness—up to 10,000 nits for segment-type displays—while maintaining longevity through innovative OLED materials, structural design, and advanced encapsulation techniques. This high brightness is critical for overcoming transmission losses in complex optical systems and ensuring visibility in bright sunlight, a common challenge in outdoor AR use cases. Unlike traditional OLEDs, where high brightness can reduce lifespan, WiseChip's ongoing improvements provide a distinct advantage, making these panels both



WiseChip's latest OLED lineup for AR delivers brightness and durability, driving innovation in near-eye applications worldwide.

potent and reliable.

The Medium Transmittance series, with transparency above 60% and brightness between 1,000-3,000 nits, offers a seamless [transparent OLED](#) display in two colors (red and green), ideal for night vision goggles and other integrated systems. Meanwhile, the High Transmittance series, boasting over 92% transparency and brightness exceeding 3,000 nits, provides a flawless solution for AR imaging with spot sizes as small as 35µm. The Reflective and Micro Matrix series further enhance versatility, with brightness levels suited for dot-matrix (100-250 nits) and high-resolution displays (up to 160x96 pixels), respectively.

Innovative Design for Superior Quality

WiseChip's PMOLED technology leverages simpler display circuitry, enabling greater flexibility in panel layout. By integrating diverse elements—such as high-transparency regions, reflective arrays, pointers, dots, and medium-transparency icons—each with optimized structural and process designs, the company ensures exceptional display quality. Advanced optical application solutions minimize stray light during production, delivering crisp, clear visuals that enhance user experiences in AR and other near-eye devices.

A Legacy of Excellence

WiseChip's commitment to innovation has earned the company multiple accolades, including the Taiwan Excellence Award 2024 for its Flawless Image-Embedded Transparent OLED Module and the Embedded Award 2023 for its Direct Viewing [Miniature Near-Eye Display](#) Module. These recognitions underscore WiseChip's leadership in providing energy-saving, lightweight, and cost-effective display solutions designed for wide-ranging temperatures and excellent wide temperature performance.

Driving Future Growth

As outlined in its 2025 Technology Roadmap, WiseChip continues to push boundaries with goals to further enhance transparency, reduce optical impurities, and structure for improved performance. These advancements position WiseChip as a trusted partner for companies seeking to integrate state-of-the-art displays into their products.

“We are excited to bring these innovative OLED solutions to market,” said a spokesperson from WiseChip Semiconductor Inc. “Our goal is to empower businesses with the tools they need to create next-generation AR and near-eye applications, ultimately driving more orders and fostering long-term partnerships.”

For more information or to explore collaboration opportunities, please contact WiseChip at MKT@wisechip.com.tw or visit www.wisechip.com.tw. Join us at our headquarters in Science Park, Chu-Nan, Taiwan, and discover how WiseChip is advancing the future of display technology.

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