Avalue's AIB-3588: The Future of Edge AI Computing with Rockchip RK3588's Advanced Capabilities

Avalue is expanding its ARM-based Edge AI computing portfolio with the launch of the AIB-3588 which is powered by Rockchip's flagship RK3588 processor.

NEW TAIPEI CITY, TAIWAN, March 14, 2025 /EINPresswire.com/ -- [Avalue](#) Technology (TAIEX: 3479-TW), a leading provider of industrial embedded computing solutions, is expanding its ARM-based Edge AI computing portfolio with the launch of the [AIB-3588](#). Designed for high-performance, energy-efficient, and scalable AI applications, the AIB-3588 is powered by Rockchip's flagship RK3588 processor. This new solution enhances Avalue's ARM-based Box PC product line, which also includes platforms featuring NVIDIA Jetson and Rockchip RK3588, catering to the growing demand for intelligent edge computing across industrial automation, smart retail, healthcare, transportation, and smart city applications.

Avalue's Commitment to ARM-Based Edge AI Computing

Avalue's ARM-based Box PC product lineup consists of two primary categories:

1. NVIDIA Jetson-Powered Edge AI Solutions

Avalue's NVIDIA Jetson-based platforms, including the AIB series, deliver high-performance AI inference and deep learning at the edge. These solutions are ideal for applications requiring advanced vision processing, real-time analytics, and seamless AI integration, making them a perfect fit for industrial automation, autonomous robotics, and medical imaging.

2. Rockchip RK3588-Powered Edge AI Systems

Avalue's Rockchip RK3588-based solutions provide an exceptional balance between computing performance and power efficiency, making them highly versatile for a wide range of industrial AI applications. With its compact form factor, extensive I/O options, and scalable architecture, the AIB-3588 exemplifies Avalue's commitment to delivering cutting-edge, reliable, and future-proof

embedded computing solutions.

AIB-3588: Industrial-Grade ARM Box PC Powered by Rockchip RK3588
Next-Generation Performance for Edge AI Computing
The AIB-3588 is a high-performance ARM-based industrial Box PC built to handle the demands of AI-driven applications, edge computing, and real-time industrial control. At its core, the Rockchip RK3588 processor features an advanced 8nm octa-core CPU architecture (quad-core Cortex-A76 + quad-core Cortex-A55), an ARM Mali-G610 MP4 GPU, and a 6 TOPS NPU (supporting INT4, INT8, INT16, and FP16 AI inference), enabling superior AI vision processing, predictive maintenance, and automation tasks.

8K Multimedia Processing & High-Speed I/O Connectivity
Equipped with dual-channel 8K@60fps H.265/H.264 video encoding/decoding, the AIB-3588 supports stunning multi-screen displays via HDMI® 2.1 and DisplayPort, delivering exceptional real-time video streaming and AI-powered analytics for smart surveillance, medical imaging, and interactive digital signage applications.

To support industrial applications, the AIB-3588 offers a rich set of I/O interfaces, including:
 USB 3.0 x4 / USB 2.0 x2 for high-speed data transfer
 HDMI® 2.1 & DisplayPort for ultra-high-definition multi-display output
 RS232/RS485/CAN/GPIO for industrial automation and device integration
 M.2 Key B/E slots for 5G/4G LTE, WiFi 6, and NVMe SSD expansion

Seamless Connectivity for Edge AI and IoT Deployments
With built-in Gigabit Ethernet and dual-band WiFi 6, the AIB-3588 ensures low-latency, high-bandwidth connectivity for real-time industrial monitoring and AI-driven IoT applications. Optional 5G/4G LTE modules provide enhanced wireless connectivity, making it an optimal choice for both indoor and outdoor edge AI computing environments.

Target Applications
The AIB-3588 is designed to power next-generation AI-enabled edge computing across various industrial sectors:
 Industrial Automation – Real-time machine monitoring, predictive maintenance, and AI-powered quality inspection
 Smart Retail – Interactive kiosks, AI-driven digital signage, and cashierless checkout systems
 Healthcare – Medical imaging processing, patient monitoring, and AI-assisted diagnostics
 Transportation – AI-enhanced vehicle telematics, fleet management, and in-vehicle infotainment
 Smart Cities – AI-powered surveillance, traffic management, and environmental monitoring

Avalue remains committed to advancing Edge AI computing through continuous R&D, enabling businesses to deploy high-performance, reliable, and scalable AI solutions. With the launch of AIB-3588, Avalue is empowering industries to harness the full potential of AI at the edge,

accelerating innovation and digital transformation.

For more information, visit Avalue Website, or contact us using our online contact form.

About Avalue Technology
Avalue Technology (TWSE:3479) is a global leader in industrial computing solutions. We provide reliable and customized products and services based on our strong background in the industrial control industry and successful market entry experience. Avalue Technology specializes in embedded and industrial computing solutions for smart healthcare, smart manufacturing, smart transportation, smart retail and IoT applications. The company has integrated the Sustainable Development Goals (SDGs) into its mission, vision, and values, transferring them into the essence of its business strategy. The company leverages intelligence and sustainability to create a blueprint for the future of digital innovation, driving long-term change in the smart industry ecosystem.

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