



NEWS RELEASE

Ambiq heartKIT Wins the Artificial Intelligence Award at Embedded World 2025

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AUSTIN, TX, March 12, 2025 – Ambiq®, a technology leader in ultra-low-power semiconductor solutions for edge AI, has been honored with the 2025 Embedded World Award in the Artificial Intelligence category for the groundbreaking heartKIT™ AI Development Kit (ADK).

heartKIT, an open-source vital signs reference AI model, enables developers to easily create personalized, real-time heart-monitoring applications that operate efficiently on battery-powered devices. As part of Ambiq’s neuralSPOT ModelZoo library of AI models, heartKIT delivers a comprehensive set of datasets and optimized model architectures for critical cardiac monitoring functions, including heart rate variability analysis, oxygen saturation detection, and arrhythmia identification – all on resource-strained devices without connecting to the cloud.

The latest version of heartKIT harnesses the exceptional power and performance capabilities of Ambiq’s Apollo510 MCU, which itself earned the top honor as the **winner of the Hardware award at Embedded World 2024**. This powerful combination delivers remarkable efficiency gains, reducing heartKIT’s CPU usage by 10x while extending the battery life of ECG monitoring devices by 3x compared to implementations on the previous generation Apollo4 Plus MCU. These significant improvements enable truly continuous, long-term cardiac monitoring in compact wearable devices.

“This recognition from Embedded World validates our commitment to making AI accessible at the edge,” says Fumihide Esaka, CEO of Ambiq. “heartKIT represents the convergence of AI innovation and ultra-low-power technology that can fundamentally transform digital health. By enabling always-on, intelligent cardiac monitoring in everyday devices, we’re creating solutions that can literally save lives while establishing new standards for energy



efficiency in edge AI.”

heartKIT demo comparison between the Apollo4 Plus and Apollo510 MCU.

The Embedded Awards, which are hosted at the annual Embedded World tradeshow and conference, recognize the latest achievements and innovations shaping the future of embedded technology. Each year, hundreds of companies compete for 9 award categories, selected as the most innovative by the Embedded World panel of judges. This year, Ambiq competed and won the Artificial Intelligence award category—a highly sought-after award category in the embedded industry.

To learn more about heartKIT, developers can access and download the code from [the Ambiq GitHub page](#).

About embedded World

The Embedded World Exhibition & Conference provides a global platform and a place to meet for the entire embedded community, including leading experts, key players, and industry associations. It offers unprecedented insight into the World of embedded systems, from components and modules to operating systems, hardware and software design, M2M communication, services, and various issues related to complex system design. Its expertise and sharp focus on technologies, processes and future-oriented products make it unparalleled in international comparisons – and THE must-attend event for developers, system architects, product managers and technical management.

Ambiq

Our mission is to enable intelligence (artificial intelligence (AI) and beyond) everywhere by delivering the lowest power semiconductor solutions. We enable our customers to deliver artificial intelligence compute at the edge where power consumption challenges are the most profound. Our technology innovations, built on the patented and proprietary sub-threshold power optimized technology (SPOT), fundamentally deliver a multi-fold improvement in power consumption over traditional semiconductor designs. We’ve powered over 260 million devices today. For more information, visit www.ambiq.com.

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