NEWS RELEASE

Ambiq Democratizes Edge AI with the Apollo330 Plus Series SoCs

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AUSTIN, TX, March 4, 2025 – Ambiq®, a leading provider of ultra-low-power semiconductor solutions that address the significant power consumption challenges of conventional and AI compute at the edge, unveils the Apollo330 Plus System-on-Chip (SoC) series. The series consists of the base Apollo330 Plus, the Apollo330B Plus, and the Apollo330M Plus, each offering a rich set of peripherals and connectivity options for healthcare, smart homes and buildings, industrial edge applications, and more to drive always-on and real-time AI at the edge.

Key Features:

- Up to 250 MHz Arm® Cortex®-M55 application processor with turboSPOT® and Arm® Helium™ technology
- 48/96 MHz Arm Cortex-M4F network processor and multi-protocol radio (in wireless product options)
- Over 16x faster performance and lower latency, and 30x better AI energy efficiency than similar solutions based on previous generation Cortex-M processors
- Ultra-low power digital microphone PDM for truly always-on voice
- Multiple package and connectivity options such as Bluetooth® Low Energy, Matter, and Thread for diverse edge devices

The Apollo330 Plus series is purpose-built to enable always-on and real-time AI inferencing on devices. Built on Ambiq's proprietary sub-threshold power optimized technology (SPOT®) platform, it achieves unprecedented 16x faster performance and up to 30x better AI energy efficiency compared to similar solutions based on previous generation Cortex-M processors, so manufacturers can deliver innovative features while extending device lifetimes,

offering multi-protocol connectivity across diverse endpoints, and enhancing user experiences.

The Apollo330 Plus architecture fully leverages the Arm Cortex-M55 processor with Arm Helium technology for AI acceleration, processing up to 8 MACs per cycle. The Apollo330 Plus series includes 2MB of on-chip system RAM, 2MB of embedded non-volatile memory, a large 32kB I-cache and 32kB D-cache on a wide bus, and a multi-protocol radio for developers to create high-performing and power-efficient products.

“While today’s smart devices rely heavily on power-hungry cloud computing, the Apollo330 Plus series creates a brand-new opportunity by enabling true edge AI processing,” says Fumihide Esaka, CEO of Ambiq. “This empowers manufacturers to create longer-lasting, more responsive, intelligent devices for homes, offices, and factories.”

“With a growing number of new and compelling edge AI applications emerging across markets including industrial and smart home, enabling ultra-low-power AI processing directly at the edge will be transformative,” said Laurence Bryant, VP segment marketing, IoT Line of Business at Arm. “With this new solution, built on Arm, Ambiq is paving the way for smarter, more efficient devices that can deliver real-time intelligence across a wide range of use cases.”

The Apollo330 Plus series offers three variants:

The Apollo330 Plus base model without wireless connectivity offers a rich set of peripherals for wearables, medical/healthcare, and smart home, empowering developers to create sophisticated sensor-based applications easily.

The Apollo330B Plus extends upon the Apollo330 Plus with Bluetooth® Low Energy (BLE) support for a wide selection of connected peripherals and audio applications.

The Apollo330M Plus further adds multi-protocol radio support for IEEE 802.15.4, Thread, and Matter, enabling low-power interoperability mesh networking between next-gen smart home, smart meter, and industrial edge devices.

Its streamlined multi-core architecture comprises a powerful application processor and a dedicated network co-processor for uncompromised radio performance. The design simplifies development while delivering

uncompromised multi-protocol radio performance with robust signal strength up to +14dBm signal strength and enhanced radio sensitivity.

Innovative secureSPOT® 3.0 features based on Arm TrustZone® technology further enhance Apollo330 Plus Series SoCs, ensuring the integrity and confidentiality of data transmitted and processed by connected devices. With hardware-based security mechanisms, such as secure boot and secure firmware updates, these SoCs provide robust protection against unauthorized access and malicious attacks, enabling secure deployment in various applications.

As the newest addition to Ambiq's portfolio, the Apollo330 Plus SoC series sets a new standard for ultra-low-power AI processing at the edge. With more connectivity, security, a wider set of peripheral interfaces, and multiple package options, these SoCs provide developers with the tools they need to implement sophisticated, energy-efficient AI solutions in edge devices.

Check out the **Apollo330 Plus SoC Series**, and visit Ambiq at Embedded World 2025 by **booking a meeting with their team**.

About 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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