



NEWS RELEASE

Ambiq and PUFsecurity Join Forces on Energy-Efficient, Security-Enhanced SoC with PUF-based Root of Trust

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Austin, April 9th, 2024 – Ambiq, a globally recognized leader in ultra-low power semiconductors, and PUFsecurity, a subsidiary of eMemory dedicated to innovating PUF-based security IP solutions, announced a successful collaboration on Ambiq’s latest Apollo510 integrated with PUFsecurity’s PUF-based Root of Trust IP, PUFrt. The Apollo510, the next-generation Apollo SoC, pairs vector acceleration with unmatched power efficiency and security to enable most AI inferencing on-device without a dedicated NPU.

Built on Ambiq’s sub-threshold power optimization technology (SPOT®) platform, the Apollo510 SoC provides exceptional energy consumption and compute performance for advanced AI applications on edge devices. It leverages PUFrt’s integrated architecture of PUF, Anti-fuse OTP, TRNG, and controller to enhance the robustness and integrity of the boot and runtime chip configuration critical to Apollo510’s security and low-power operation.

In conjunction with TrustZone technology, the Apollo510 utilizes PUFrt’s unique identity per chip to authenticate Secure Boot, protect the application IP, and provide a foundational Hardware Root of Trust and secure One Time Programmable key storage with anti-tamper countermeasures to ensure a higher level of security protection on device.

“PUFsecurity’s PUFrt technology has helped Ambiq further strengthen the integrity of our products and overall security solutions,” said Dan Cermak, VP of Architecture and Product Planning at Ambiq. “With the rapid adoption of AI applications in smart homes, industrial IoT, digital health, and smart buildings and cities, this integration is a perfect fit for Ambiq’s customers who want to scale their products faster in a trusted execution environment.”



“Nowadays, people use various wearable devices that require robust security measures to safeguard personal data. The increased number of Internet of Things (IoT) applications will further drive demand for wearables,” said the Chairman and President of PUFsecurity, Dr. Charles Hsu. “Our partnership with Ambiq has brought innovative solutions that contribute to power-saving and secure intelligent devices. We believe that through strong and continuous collaboration, we can together fortify chip-level safety with PUF-based solutions that offer efficient power consumption and fast response time for the market.”

The Apollo510 SoC is currently sampling with customers, with general availability in Q4 this year. Meet Ambiq at the Embedded World, Hall 3, Booth 301, April 9 – 11, 2024, for more information. At the same time, PUFsecurity will be at Hall 4, Booth 626, to present PUF-based security solutions.

Ambiq

Ambiq’s mission is to develop the lowest-power semiconductor solutions to enable intelligent devices everywhere and drive a more energy-efficient, sustainable, and data-driven world. Ambiq has helped leading manufacturers worldwide create products that last weeks on a single charge (rather than days) while delivering a maximum feature set in compact industrial designs. Ambiq’s goal is to take Artificial Intelligence (AI) where it has never gone before in mobile and portable devices, using Ambiq’s advanced ultra-low power system on chip (SoC) solutions. Ambiq has shipped more than 230 million units. For more information, visit www.ambiq.com.

About PUFsecurity

PUFsecurity is a subsidiary of eMemory and is dedicated to innovating PUF-based security solutions. By leveraging our technical acumen and achievements, including core IPs such as NeoPUF and OTP from eMemory, PUFsecurity brings PUF-based security to the market. The latest solutions include Secure OTP, Hardware Root-of-Trust Module (PUFrt), Secure Crypto Coprocessor (PUFcc), and Flash Protection Series. PUFsecurity can quickly offer PUF-based security IP solutions with superior performance and cost-efficiency in a wide range of technology platforms with eMemory’s technology support. For more information, please visit: <http://www.pufsecurity.com>

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