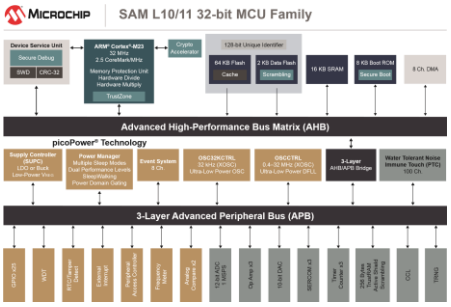
Industry's First & Lowest Power 32-bit MCU to Feature Robust, Chip-level Security & Arm TrustZone Technology for Secured IoT Endpoints

Industry's first Arm® Cortex®-M23, SAM L10 & L11 MCU series, with best-in-class low power consumption and water-tolerant, noise-immune capacitive touch

With the booming growth of Internet of Things (IoT) endpoints, security is sometimes an afterthought for many designers, increasing the risk of exposing intellectual property (IP) and sensitive information. To address the growing need for security, the new SAM L10 and SAM L11 MCU families are now available from Microchip Technology Inc.

The new MCU families are based on the Arm® Cortex®-M23 core, with the SAM L11 featuring Arm TrustZone® for Armv8-M, a programmable environment that provides hardware isolation between certified libraries, IP and application code. Microchip enables robust security by including chip-level tamper resistance, secure boot and secure key storage that, when combined with TrustZone technology, protects customer applications from both remote and physical attacks.



SAM L11 Only

Best-in-Class Low Power Consumption

Both MCU families offer the industry's lowest power consumption, as well as have capacitive touch capability with best-in-class water tolerance and noise immunity. When benchmarked for power consumption the SAM L10 received a ULPMark™ score of 405, which is over 200 percent better performance than nearest competitor certified by EEMBC®, the Embedded Microprocessor Benchmark Consortium. Microchip uses proprietary picoPower® technology to provide industry-leading low power consumption in active and all sleep modes.

MCU Security Solutions for Authentication and Integrity

In addition to TrustZone technology, the SAM L11 security features include an on-board cryptographic module supporting Advanced Encryption Standard (AES), Galois Counter Mode (GCM) and Secure Hash Algorithm (SHA). The secure boot and secure key storage with tamper detection capabilities establish a hardware root of trust. It also offers secure bootloader for secure firmware upgrades. Microchip has partnered with Trustonic, a member of Microchip's Security Design Partner Program, to offer a comprehensive security solution framework that simplifies implementation of security and enables customers to introduce end products faster. Microchip has also partnered with Secure Thingz and Data I/O Corporation to offer secure provisioning services for SAM L11 customers that have a proven security framework.

Water-Tolerant, Noise-Immune Capacitive Touch

Both MCU families offer Microchip's latest generation Peripheral Touch Controller (PTC) for capacitive touch capabilities. It features Driven Shield Plus that provides superior water tolerance and Parallel Acquisition that makes it 4x faster than the previous generation of PTC. Designers can easily add touch interfaces that provide an impressively smooth and efficient user experience in the presence of moisture and noise while maintaining low power consumption. The touch interface makes the devices ideal for a myriad of automotive, appliance, medical and consumer Human Machine Interface (HMI) applications.

For Hardware Development, Prototyping and Debugging

The SAM L10 and SAM L11 Xplained Pro Evaluation Kits are available to kick-start development. All SAM L10/L11 MCUs are supported by the Atmel Studio 7 Integrated Development Environment (IDE), IAR Embedded Workbench, Arm Keil® MDK as well as Atmel START, a free online tool to configure peripherals and software that accelerates development. START also supports TrustZone technology to configure and deploy secure applications. A power debugger and data analyzer tool is available to monitor and analyze power consumption in real-time and fine tune the consumption numbers on the fly to meet application needs. Microchip's QTouch® Modular Library, 2D Touch Surface Library and QTouch Configurator are also available to simplify touch development. Additionally, these kits are supported by various demonstration examples which cover IoT, security, LoRaWAN, low power and capacitive touch applications.