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Microchip Releases Industry's First End-to-End Security Solution for IoT Devices Connected to Amazon Web Services' Cloud

Microchip's Pre-Configured ECC508 is the Simplest Way to Create Secure Mutually Authenticated IoT Connections with AWS

CHANDLER, Ariz., Aug. 11, 2016 /PRNewswire/ -- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, today announced the industry's first end-to-end security solution for Internet of Things (IoT) devices that connect to Amazon Web Services IoT (AWS IoT). Microchip and AWS collaborated to develop this integrated solution to help IoT devices quickly and easily comply with AWS's mutual authentication IoT security model. Using Microchip's new security solution will help companies implement these security best practices from evaluation through production. The solution adds a high level of security, simplifies the supply chain, and is now one of the fastest ways to connect to the AWS Cloud.

Currently, third party manufacturers of devices that connect to AWS IoT service must take specific actions to comply with the advanced security model. First, they must pre-register their security authority to AWS servers in order to establish a trust model. Second, for each IoT device they must generate unique cryptographic keys that are mathematically linked to the pre-registered security authority. Finally, the unique device keys must remain secret for the life of the device. In volume production, the generation and secure handling of these unique keys can be a daunting challenge in the chain of manufacturing especially where third parties with different trust and compliance levels are involved.

Microchip's end-to-end security solution handles this process during three production steps. First, the AT88CKECC kit will allow customers to meet the security standard of AWS's mutual authentication model and easily connect to the AWS IoT platform during the

evaluation and engineering phase. Second, the AWS-ECC508 device assists with meeting security standards during the prototyping and pre-production phase. Finally, devices will be customized for production stages to ensure information security in customer applications.

Customers simply solder the device on the board and connect it over I2C to the host microcontroller (MCU) which runs an AWS Software Development Kit (SDK) leveraging the ECC508 device for AWS IoT. Once this is complete, there is no need to load unique keys and certificates required for authentication during the manufacturing of the device as the AWS-ECC508 is pre-configured to be recognized by AWS without any intervention. All the information is contained in a small (3x2 mm), easy to deploy crypto companion device.

AWS and the ECC508 device naturally complement each other with comprehensive mutual authentication security capabilities. The device has strong resistance against environmental and physical tampering including countermeasures against expert intrusion attempts. In addition, the device features a high quality random number generator, the internal generation of secure unique keys and the ability to seamlessly accommodate various production flows in the most cost-effective manner. A typical IoT device consists of a small [8-bit] microcontroller, and is battery powered. It is typically constrained for resources like central processing unit (CPU) performance to provide low latency responsiveness, memory and code space for security protocols and for how much power they can consume in order to preserve battery life. The ECC508 device has a low-power processor-agnostic cryptographic acceleration for compatibility with the widest range of resource constrained IoT devices.

"We understand the often complex nature of implementing AWS mutual authentication in microcontrollers," said Nuri Dagdeviren, vice president and general manager of secure products at Atmel, a wholly-owned subsidiary of Microchip. "The customer would need to have some understanding of how to secure a software implementation, and this often creates a huge barrier. We have had a long standing relationship with AWS and are thrilled to have the opportunity to work with the world's largest cloud provider to build a solution that helps our customers easily and securely connect to the AWS Cloud."

"We have a strong relationship with Microchip and we are very excited to be able to offer a world-class solution to anyone who wishes to deploy secure and scalable IoT solutions on our cloud services," said Marco Argenti, vice president, Mobile and IoT, Amazon Web Services, Inc. "For all companies we work with, embracing security best practices are an essential step in achieving our mutual goal of offering customers the best and most secure IoT platform available. We believe this new solution will be one of the simplest and most cost-effective ways for our customers to comply with our security best practices."

For more information about Microchip's end-to-end security solution for AWS Cloud connected devices, visit: **www.atmel.com/tools/at88ckecc-aws-xstk.aspx**

Pricing and Availability

The AWS-ECC508 kit (part # AT88CKECC-AWS-XSTK) is available today at $249 each.

The AWS-ECC508 (part # ATECC508A-MAHAW-S and ATECC508A-SSHAW-T) is available in UDFN and SOIC packages and is available today for sampling and volume production starting at $0.60 each in 10,000 unit quantities.

For additional information, or to purchase the kit, visit **www.atmel.com/tools/at88ckecc-aws-xstk.aspx**. To purchase other products mentioned in this press release, contact one of Microchip's authorized distribution partners.

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Editorial Contact:
Sarah Broome
480-792-4386
Sarah.broome@microchip.com

Reader Inquiries:
1-888-624-7435
http://www.microchip.com

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