**News Release**

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**Renesas Will Demonstrate the First Working Silicon Based on the Recently Debuted Arm Cortex-M85 Processor**

*Microcontroller Leader to Showcase Performance, High Integration and Security Advances at Embedded World 2022 Exhibition and Conference*

**Düsseldorf, May 24, 2022 ―** Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, today announced that it will present the first live demonstration of a microcontroller (MCU) based on the recently announced Arm® Cortex®-M85 processor. The demonstration will take place in the Renesas booth - Hall 1, Stand 234 (1-234) at the Embedded World 2022 Exhibition and Conference in Nuremburg Germany from June 21-23.

Renesas introduced the RA (Renesas Advanced) Family of Arm Cortex-M based MCUs in October of 2019, entering the general-purpose Arm-Cortex-M market with a robust and feature rich family of flash-based MCUs. In roughly 30 months, Renesas has quickly taken a leadership position, introducing 17 MCU groups encompassing well over 200 individual parts. In addition, Renesas has developed a robust ecosystem of partners providing customers with comprehensive solutions for IoT, AI/ML, industrial automation, medical, building automation, home appliance and multiple other applications.

“As a lead partner with Arm, we are proud to be the first to demonstrate an MCU based on the high-performance Cortex-M85 processor, a clear example of the momentum that we have built in the Arm ecosystem,” said **Roger Wendelken, Senior Vice President in Renesas’ IoT and Infrastructure Business Unit**. “The RA family has enjoyed tremendous success in a very short time, demonstrating the core strengths that make Renesas an MCU powerhouse, including design expertise, legendary quality, and close collaboration with customers and partners in all markets and all geographies.”

“To continue to scale and grow, the next generation of IoT solutions demand ever-improving levels of performance, security and simplified development, and we have delivered this with the new Arm Cortex-M85,” said **Dipti Vachani, senior vice president and general manager, Automotive and IoT Line of Business at Arm**. “This demonstration of the first silicon based on our most secure and highest performance Cortex-M processor will showcase the new and exciting applications it will enable and further cements our ongoing close collaboration with Renesas.”

The Arm Cortex-M85 processor features Helium technology, Arm’s M-Profile Vector Extension that enables advanced DSP/ML capabilities and helps accelerate compute intensive applications such as endpoint AI. Delivering over 6 CoreMark/MHz, Cortex-M85 enables demanding IoT use cases that require the highest compute performance and DSP or ML capability, realized on a single, simple-to-program, Cortex-M processor. Cortex-M hallmarks such as deterministic operation, short interrupt response time, and state-of-the-art low-power support are uncompromised on Cortex-M85.

Renesas is developing a new series of RA MCUs based on the Cortex-M85 processor, planned for release in 2023. These new RA family MCUs will provide breakthrough performance and fully deterministic, low latency, real-time operation for demanding application needs across numerous markets. The new RA devices will bridge the gap between MCUs and MPUs, enabling complex and compute-intensive applications with the lower power consumption and ease of use of an MCU. This will help customers preserve their investment in software development and reduce costs of migration to an MPU based system. As with other RA MCUs, the new devices will offer best-in-class peripherals, memory and low power consumption.

The new Cortex-M85 core based on Armv8-M architecture supports Arm TrustZone® technology for protection of secure assets. Combined with TrustZone, Renesas’ integrated cryptographic engine, immutable storage, key management, and tamper protection against DPA/SPA side-channel attacks will provide a comprehensive and fully integrated secure element functionality. The Armv8-M architecture also brings Pointer Authentication/Branch Target Identification (PAC/BTI) security extension, a new architectural feature that provides enhanced mitigation from software attack threats and helps achieve *PSA Certified* *Level 2* certification.

The new RA MCUs based on the Cortex-M85 core will be supported by Renesas’ Flexible Software Package (FSP). The FSP enables faster application development by providing all the infrastructure software needed, including multiple RTOS, BSP, peripheral drivers, middleware, connectivity, networking and security stacks as well as reference software to build complex AI, motor control and graphics solutions. It allows customers to integrate their own legacy code and choice of RTOS with FSP, thus providing full flexibility in application development. Using the FSP will ease migration of existing designs to the new RA devices.

**More Information**

The demonstration of the new silicon will take place in the Renesas booth - Hall 1, Stand 234 (1-234) at Embedded World. Requests to meet with Renesas at Embedded World can be emailed to [events-eu@lm.renesas.com](mailto:events-eu@lm.renesas.com). More information on Renesas’ RA MCUs is available at [www.renesas.com/ra](file:///C:\Users\dparkman\Documents\Press%20Releases\www.renesas.com\ra).

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](http://www.jpx.co.jp/english/)) empowers a safer, smarter and more sustainable future where technology helps make our lives easier. A leading [global](https://www.renesas.com/about/company/profile/global.html) provider of microcontrollers, Renesas combines our expertise in embedded processing, analog, power and connectivity to deliver complete semiconductor solutions. These Winning Combinations accelerate time to market for automotive, industrial, infrastructure and IoT applications, enabling billions of connected, intelligent devices that enhance the way people work and live. Learn more at [renesas.com](http://www.renesas.com/). Follow us on [LinkedIn](https://www.linkedin.com/company/renesas/), [Facebook](https://www.facebook.com/RenesasElectronics/), [Twitter](https://twitter.com/renesasglobal), [YouTube](https://www.youtube.com/user/RenesasPresents) and [Instagram](https://www.instagram.com/renesas_global/)

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