**News Release**

No.: REN2503(A)

**Renesas Debuts Ultra-Low-Power RA4L1 MCUs with Capacitive Touch, Segment LCD and Robust Security**

*New Devices Are Ideal for Metering, IoT Sensing, Smart Locks and HMI Applications*

**Düsseldorf, February 19, 2025 ―** Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, today introduced the RA4L1 microcontroller (MCU) group, including 14 new devices with ultra-low power consumption, advanced security features and segment LCD support. Based on an 80-MHz Arm Cortex M33 processor with TrustZone support, the new MCUs deliver an unmatched combination of performance, features and power savings that enable designers to address a myriad of applications, including water meter, smart locks, IoT sensors and more.

The RA4L1 MCUs employ proprietary low-power technology that delivers 168 µA/MHz active mode @ 80 MHz and standby current of just 1.70 µA with all the SRAM retained. They also are available in very small packages including a 3.64 x 4.28 mm Wafer-Level Chip-Scale Package (WLCSP), addressing the needs of products such as portable printers, digital cameras and smart labels.

The [RA4L1 MCUs](https://www.renesas.com/products/microcontrollers-microprocessors/ra-cortex-m-mcus/ra4l1-80mhz-arm-cortex-m33-based-low-power-mcu-trustzone-segment-lcd-controller-and-advanced-security?utm_campaign=mcu_ra4l1-empr&utm_source=businesswire&utm_medium=pr&creative=link&utm_content=pp&type=feat) are 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 TrustZone support as well as reference software to build complex AI, motor control and cloud solutions. It allows customers to integrate their own legacy code and choice of RTOS with FSP, thus providing full flexibility in application development. The FSP eases migration of existing IP to and from either RA6 or RA2 Series devices.

“Renesas’ RA2L1 Group MCUs have seen remarkable market success since their launch in 2020, addressing a diverse range of low-power applications requiring capacitive touch. Built on the same low-power technology, the RA4L1 Group is our response to customers who require the unique combination of ultra-low power with better CPU performance, segment LCD support and advanced security,” said **Daryl Khoo, Vice President of Embedded Processing Marketing Division at Renesas**.

**Key Features of the RA4L1 MCUs**

* **Core**: 80 MHz Arm Cortex-M33 with TrustZone
* **Memory**: 256-512 KB Dual-Bank Flash, 64 KB SRAM, 8 KB Dataflash
* **Peripherals:** Segment LCD, Capacitive Touch, USB-FS, CAN FD, Low Power UART, SCI, SPI, QSPI, I2C, I3C, SSI, ADC, DAC, Comparator, Low Power Timer, Real-Time Clock
* **Packages**: 3.64 x 4.28 mm WLCSP72, 7 x 7 mm LQFP48, 10 x 10 mm LQFP64, 14 x 14 mm LQFP100, 5.5 x 5.5 mm BGA64, 7 x 7 mm BGA100
* **Security**: Unique ID, RSIP security engine supporting TRNG, AES, ECC, Hash
* **Wide Ambient Temperature Range**: Ta = -40º to +125º C for the QFN, QFP and CSP package options; Ta = -40º to +105º C for the BGA package option

**Availability**

The RA4L1 MCUs are available now, along with the FSP software. Renesas is also shipping an [RA4L1 Evaluation Board](https://www.renesas.com/en/products/microcontrollers-microprocessors/ra-cortex-m-mcus/ek-ra4l1-evaluation-kit-ra4l1-mcu-group) and an [RA4L1 Capacitive Touch Renesas Solution Starter Kit](https://www.renesas.com/en/products/microcontrollers-microprocessors/ra-cortex-m-mcus/rtk0eg0057s01001bj-capacitive-touch-evaluation-system-ra4l1) (RSSK). More information is available at [renesas.com/RA4L1](https://www.renesas.com/products/microcontrollers-microprocessors/ra-cortex-m-mcus/ra4l1-80mhz-arm-cortex-m33-based-low-power-mcu-trustzone-segment-lcd-controller-and-advanced-security?utm_campaign=mcu_ra4l1-empr&utm_source=businesswire&utm_medium=pr&creative=link&utm_content=pp&type=feat). Samples and kits can be ordered either on the Renesas website or through distributors.

**Renesas MCU Leadership**

A world leader in MCUs, Renesas ships more than 3.5 billion units per year, with approximately 50% of shipments serving the automotive industry, and the remainder supporting industrial and Internet of Things applications as well as data center and communications infrastructure. Renesas has the broadest portfolio of 8-, 16- and 32-bit devices, delivering unmatched quality and efficiency with exceptional performance. As a trusted supplier, Renesas has decades of experience designing smart, secure MCUs, backed by a dual-source production model, the industry’s most advanced MCU process technology and a vast network of more than 250 ecosystem partners. For more information about Renesas MCUs, visit [renesas.com/MCUs](https://www.renesas.com/products/microcontrollers-microprocessors?utm_campaign=mcu_ra4l1-empr&utm_source=businesswire&utm_medium=pr&creative=link&utm_content=pcp&type=feat).

**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/), [X](https://twitter.com/renesasglobal), [YouTube](https://www.youtube.com/user/RenesasPresents) and [Instagram](https://www.instagram.com/renesas_global/).

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