**News Release**

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**Renesas Electronics’ 32-bit RX65N Microcontrollers with Advanced Security and Graphics Achieves Amazon FreeRTOS Qualification**

*Amazon FreeRTOS on Amazon Web Services-Qualified RX65N MCUs Simplifies Secure Internet of Things Device-to-Cloud Connectivity*

Düsseldorf, January 8, 2019 – Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, today announced the qualification of their [RX65N Group of microcontrollers](https://www.renesas.com/eu/en/products/microcontrollers-microprocessors/rx/rx600/rx65n-651.html) (MCU) with Amazon FreeRTOS, running on Amazon Web Services (AWS). The Renesas RX65N MCU lineup with Amazon FreeRTOS makes it easy for embedded designers to create a more secure end-to-end Internet of Things (IoT) cloud solution for sensor-based endpoint devices. An RX65N-based design enables sensor data transmission over Wi-Fi or Ethernet and allows users to monitor and control smart meters as well as building and industrial automation systems using a PC dashboard.

Developers can jumpstart their designs with the RX65N Renesas Starter Kit that includes a RX65N MCU with 2MB code flash memory, an LCD display module, on-chip debugging emulator, and e2 studio integrated development environment. The kit lets designers edit and debug the sample software qualified to run Amazon FreeRTOS on the RX65N MCU. Using Amazon FreeRTOS, developers can more securely deploy an RX65N MCU-based endpoint device without having to worry about the complexity of scaling across millions of devices. Once connected to the cloud, IoT endpoint device applications can take advantage of all of the cloud’s capabilities or continue processing data locally with AWS IoT Greengrass.

The RX65N MCUs feature dual bank flash, designed to improve security and facilitate easy program updating via the network. Compared to other IoT devices, industrial applications are designed for long-term operation, which involves unique and sometimes challenging requirements, such as firmware updates in the field. Having dual bank flash integrated on the RX65N MCUs enables both BGO (Back Ground Operation) and the SWAP function, making it easier for system and network control manufacturers to execute in-the-field firmware updates more securely and reliably.

The RX65N MCUs also include Trusted Secure IP as part of their built-in hardware security engine. The Trusted Secure IP driver uses strong encryption key management with hardware accelerators--AES, 3DES, SHA, RSA, and True Random Number Generator (TRNG)--as well as a protected boot code flash area to more securely boot customers’ IoT devices.

“We are pleased to support Renesas Electronics, who shares our vision for rapidly growing the IoT development community,” said Reto Kramer, General Manager, IoT Device Services, Amazon Web Services, Inc. “Amazon FreeRTOS, together with industry-leading microcontrollers and tools, like those from Renesas Electronics, makes it easier for customers to more securely connect their microcontroller based devices to the cloud and focus on their innovative solutions.”

“Our customers developing new IoT designs require a solution that provides easy implementation while enforcing security to protect the assets under the device-to-cloud connectivity,” said Daryl Khoo, Vice President, Product Marketing, IoT Platform Business Division, Renesas Electronics Corporation. “Our relationship with AWS not only simplifies their path to realize IoT solutions but also facilitates outstanding performance of RX65N MCUs fully qualified with Amazon FreeRTOS. Coupled with Renesas software and development tools, we aim to deliver unmatched security, reliability and connectivity.”

**Availability**

The [RX65N MCUs](https://www.renesas.com/eu/en/products/microcontrollers-microprocessors/rx/rx600/rx65n-651.html) are available now through Renesas Electronics’ worldwide distributors, and the [RX65N Renesas Starter Kit](https://www.renesas.com/eu/en/products/software-tools/boards-and-kits/renesas-starter-kits/renesas-starter-kitplus-for-rx65n-2mb.html#orders) is available for purchase through the [AWS Partner Device Catalog](https://devices.amazonaws.com/detail/a3G0L00000AAOkeUAH/Renesas-Starter-Kit+-for-RX65N-2MB).

To get started with Amazon FreeRTOS using the RX65N Renesas Starter Kit, please visit <https://docs.aws.amazon.com/freertos/latest/userguide/getting_started_renesas.html>.

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](https://www.jpx.co.jp/english/)) delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live—securely and safely. One of the [global](https://www.renesas.com/en-hq/about/company/profile/global.html) leaders in microcontrollers, analog, power, SoC products and integrated platforms, Renesas provides the expertise, quality, and comprehensive solutions for a broad range of Automotive, Industrial, Home Electronics, Office Automation and Information Communication Technology applications to help shape a limitless future. Learn more at [renesas.com](https://www.renesas.com).

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