

Renesas Samples Its First 22-nm Microcontroller

Wireless Microcontroller Integrating Bluetooth® 5.3 Low Energy Employs Most Advanced Process Node Available for MCUs

April 11, 2023



Now Sampling 22 nm MCU, Most Advanced Process Node Available

TOKYO, Japan — Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, today announced that it has produced its first microcontroller (MCU) based on advanced 22-nm process technology. By employing state-of-the-art process technology, Renesas can provide customers with superior performance at lower power consumption driven by reduced core voltages. The advanced process technology also offers the ability to integrate a rich feature set including functions such as RF. Additionally, the advanced process node uses a smaller die area for the same functionality, resulting in smaller chips with higher integration of peripherals and memory.

The first chip produced on the new 22-nm process is an extension to Renesas' popular RA family of 32-bit Arm® Cortex®-M microcontrollers. This new wireless MCU delivers Bluetooth® 5.3 Low Energy (LE) with the integration of a software-defined radio (SDR). It offers a future-proof solution for customers building products targeting a long lifetime. Whether during development or after deployment, the devices can be upgraded either with new application software or new Bluetooth capabilities to assure compliance to the latest specification versions.

End product manufacturers can leverage the full feature set of previous Bluetooth LE specification releases. Whether designing devices for direction-finding applications utilizing the Bluetooth 5.1 Angle of Arrival (AoA) / Angle of Departure (AoD) features, or adding low power stereo audio transmission to products by employing Bluetooth 5.2 isochronous channels, developers now only need one device to support all of these features.

“Renesas’ MCU leadership is based on a wide array of products and manufacturing process technologies,” **said Roger Wendelken, Senior Vice President in Renesas’ IoT and Infrastructure Business Unit.** “We are pleased to announce the first 22-nm product development in the RA MCU family which will pave the way for next generation devices that will help customers to future proof their design while ensuring long term availability. We are committed to providing the best performance, ease-of-use, and the latest features on the market. This advancement is only the beginning.”

Winning Combinations

Renesas will combine the new 22-nm MCUs with numerous compatible devices from its portfolio to offer a wide array of Winning Combinations. These Winning Combinations are technically vetted system architectures from mutually compatible devices that work together seamlessly to bring an optimized, low-risk design for faster time to market. Renesas offers more than 300 Winning Combinations with a wide range of products from the Renesas portfolio to enable customers to speed up the design process and bring their products to market more quickly. They can be found at [renesas.com/win](https://www.renesas.com/win).

Availability

Renesas is sampling the new device to select customers now, with full market launch expected in 4Q 2023. Customers who wish to sample the new device can contact their local Renesas sales office. More information about the Bluetooth 5.3 LE Specification is available in a Renesas blog post found here <https://www.renesas.com/blogs/what-s-new-bluetooth-53-low-energy>.

Renesas MCU Leadership

Renesas is the industry’s #1 supplier of MCUs, shipping 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 200 ecosystem partners. For more information about Renesas MCUs, visit [renesas.com/MCUs](https://www.renesas.com/MCUs).

About Renesas Electronics Corporation

Renesas Electronics Corporation ([TSE: 6723](https://www.renesas.com)) empowers a safer, smarter and more sustainable future where technology helps make our lives easier. A leading global 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](https://www.renesas.com). Follow us on [LinkedIn](#), [Facebook](#), [Twitter](#), [YouTube](#), and [Instagram](#).

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