**News Release**

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**Renesas Debuts Its Lowest Power Consumption, Dual-core Bluetooth Low Energy SoC with Integrated Flash**

*New DA14592 SoC and DA14592MOD Module Support Broad Range of Applications, including Crowd-sourced Locationing; Delivering Lowest eBoM*

**Düsseldorf, January 18, 2024 ―**Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, today introduced the DA14592 Bluetooth® Low Energy (LE) System-on-Chip (SoC) representing Renesas’ lowest power consumption and smallest, multi-core (Cortex-M33, Cortex-M0+), Bluetooth LE device. By carefully balancing tradeoffs between on-chip memory (RAM/ROM/Flash) and SoC die size (for cost), the DA14592 is very well suited to a broad range of applications including connected medical, asset tracking, human interface devices, metering, PoS readers and ‘crowd-sourced location’ (CSL) tracking.

Continuing Renesas’ Bluetooth LE SoC leadership in lowest radio power consumption, the DA14592 utilizes a new low-power mode to offer world-class, 2.3mA radio transmit current at 0dBm and 1.2mA radio receive current. Additionally, it supports an ultra-low hibernation current of only 90nA, extending shelf-life for end-products shipped with ‘battery connected’, and ultra-low active current at 34µA/MHz for products requiring significant application processing.

From a solution cost perspective, the DA14592 typically only requires 6 external components, offering a best-in-class engineering bill of materials (eBOM). Operating from only a system clock and its highly accurate on-chip RCX, this device removes the need for a sleep mode crystal in the majority of applications. Its reduced eBOM, coupled with the DA14592’s small package (offered in WLCSP: 3.32mm x 2.48mm and FCQFN: 5.1mm x 4.3mm) also presents designers with an attractively small solution footprint. The DA14592 also includes a high-precision, sigma-delta ADC, up to 32 GPIOs and unlike other SoCs in its class, it offers a QSPI supporting external memory (Flash or RAM) expansion for applications requiring extra memory.

Renesas has integrated all external components required to implement a Bluetooth LE solution into the DA14592MOD module. It offers customers the fastest time-to-market and reduced overall project cost. Emphasis has been placed in the design of this module to ensure maximum design flexibility by comprehensively routing the DA14592’s functions to the outside of the module and using castellated pins for easy/low-cost module attachment during development.

One key application Renesas is showcasing with the DA14592 and DA14592MOD is ‘Crowd-Sourced’ Locationing, a market projected to reach over US$29B in North America alone by 2031[[1]](#footnote-2) based on Apple’s AirTag sales alone. Google recently announced plans to offer a Find My Device crowd-sourced locationing network as well. Renesas is committed to providing best-in-class reference designs with industry-leading power, eBOM and solution footprint for both mobile operating systems as soon as Google’s Find My Device network becomes available. These reference designs will not only accelerate tag designs but will also enable manufacturers of products that may be lost or stolen to easily attach the DA14592 to their existing product to render their product globally locatable utilizing billions of smartphones, thereby differentiating their products and enhancing end-customer value. Using the DA14592MOD will also remove the need for worldwide regulatory certifications, reducing development costs and further accelerating time-to-market. Customers interested in adding this functionality into their products can email Renesas at CSLinfo@dm.renesas.com.

“The DA14592 and DA14592MOD extend our leadership in Bluetooth LE SoCs with our trademark low power consumption and best-in-class eBOMs,” said **Davin Lee, Sr. Vice President and General Manager of the Analog and Connectivity Product Group for Renesas**. “In addition, we have listened to our customers and continue to expand our product support by offering reference designs for applications such as crowd-sourced locationing, helping our customers to more easily differentiate their products, delivering premium value while maintaining lowest costs.”

**Winning Combinations**

Renesas has combined the new DA14592 with numerous compatible devices from its portfolio to offer a wide array of Winning Combinations, including [Instrument Panel for Light Electric Vehicles](https://www.renesas.com/us/en/application/automotive/connected-infotainment/instrument-panel-light-electric-vehicles). 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 400 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 [www.renesas.com/win](http://www.renesas.com/win).

**Availability**

The DA14592 is in mass production today with the DA14592MOD targeted for world-wide regulatory certifications in 2Q24. For information about Renesas’ comprehensive development kits and support, including its widely adopted, low-cost, no-licensing fees product line tester, contact Renesas or visit: [renesas.com/DA14592](https://www.renesas.com/us/en/products/wireless-connectivity/bluetooth-low-energy/da14592-smartbond-multi-core-bluetooth-le-52-soc-embedded-flash?utm_campaign=f-up-conn_ble_da14592-epsg-cabd-swtd-null&utm_source=null&utm_medium=pr&utm_content=pp).

**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. The 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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1. Source: IMIR® Market Research Pvt Ltd. [↑](#footnote-ref-2)