**News Release**

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**Renesas to Bolster Low-Power WAN Product Line with**

**NB-IoT-Capable Wireless Module**

*RYZ024A Module Provides Cat-M1and NB-IoT Network Support, the Industry’s Lowest Power Mode Operation, and Seamless Connectivity for Battery-Powered IoT Applications*

**MUNICH, Germany and TOKYO, Japan, November 16, 2022 ―** Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, is expanding its low-power WAN product line as part of its strategy to deliver connectivity devices used for smart cities, smart homes, medical devices and industrial applications. The new RYZ024A supports Cat-M1 and NB-IoT (Narrowband Internet of Things) internet connectivity without the need for a gateway and consumes just 1µA (microamp) while in power savings mode, significantly less than competing products. The RYZ024A supports extended discontinuous reception (eDRX) and has an extended voltage range from 2.2V to 5.5V which makes it ideal for battery-powered applications. Renesas announced the details of the new product at electronica, Munich, Germany, November 15-18, 2022.

Similar to its predecessor, the RYZ014A module, the RYZ024A offers seamless Cat-M1 wireless connection capability, but the new module adds the option to integrate NB-IoT. While Cat-M1 and NB-IoT are both Low Power Wide Area Network (LPWAN) technologies, NB-IoT uses only a portion of the available spectrum, making it more power efficient and therefore extending the operational life of battery-powered systems. NB-IoT also offers excellent coverage depth, including underground and in enclosed spaces. The module provides two power amplifier output levels: 20dBm (decibel-milliwatts) and 23dBm, ensuring coverage at the cellular network’s edge as well as deep indoor environments.

The RYZ024A is being developed in collaboration with Sequans, a leader in cellular IoT technology, and will be fully tested and certified to work with all major radio frequency regulatory specifications defined by organizations such as the Global Certification Forum (GFC) and the PCS Type Certification Review Board (PTCRB). The certification ensures compliance with complex RF regulatory and carrier-specific requirements so that engineers can immediately start building IoT systems for leading carriers in North America, Asia Pacific and Europe.

“Cellular LTE-M and NB-IoT categories are now the de-facto wireless standards for connecting low-power IoT devices with global network coverage,” said **Georges Karam, CEO of Sequans**. “Renesas’ second-generation wireless module based on our Monarch 2 platform offers a certified hardware and software combination with all of the advanced features needed to accelerate the implementation of wireless IoT systems around the world.”

Renesas will provide all the tools and software that engineers need to design IoT-ready, power sensitive systems based on the RYZ024A, including an evaluation kit, a software stack and RF certifications. Compared to conventional chipset-based designs, designing in the RYZ024A module will reduce the PCB size by 60 percent and cut development time by up to 90 percent, since the product offers full hardware and software support to integrate the RA or RX family of MCUs.

“Renesas has been aggressively expanding its connectivity portfolio with strategic partnerships and acquisitions for the past five years,” said **Roger Wendelken, Senior Vice President in Renesas’ IoT and Infrastructure Business Unit**. “The RYZ024A is a great example of our expansive connectivity solution offerings that complement our broad range of embedded microcontrollers and microprocessors to deliver performance, scalability and exceptional reliability.”

**RYZ024A Winning Combinations**

Renesas has developed the ["Solar Powered Location Tracker"](https://www.renesas.com/application/industrial/factory-automation/tracking/solar-powered-location-tracker) solution, which is a modular asset tracking solution with flexible wireless options that efficiently transmit data. The solution is controlled by a central MCU (RA2L1) that balances low-power requirements, interfaces, performance, and flexibility. Along with complimentary Renesas products such as power ICs and communication modules for Wi-Fi (DA16600MOD), and Cat-M1 and NB-IoT module (RYZ024A), this solution provides connectivity options and an optimized power supply system that has been tested to accelerate development of tracker platforms. This solution is part of Renesas’ Winning Combinations, which optimally combine mutually compatible Renesas devices that work together seamlessly to reduce user design risk and shorten time to market. Renesas offers more than 300 other Winning Combinations with a wide range of products from its portfolio. More information is available at: <http://www.renesas.com/win>.

**Availability**The RYZ024A module is available today with Cat-M1 firmware and will be software upgradeable to support dual mode (Cat-M1 and NB-IoT) next year. Renesas plans to offer a Pmod expansion kit to easily connect to Renesas MCUs. The kit will come with the fully-certified RYZ024A module, LTE antenna, SIM card and quick start guide including a software upgrade. More information on the new module and supporting software and kits is available at <http://www.renesas.com/ryz024a>.

**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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