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## STMicroelectronics Accelerates Wireless Product Development with Market-Leading STM32 Microcontrollers

- *STM32Cube ecosystem extended to support STM32WB wireless MCUs*
- *New STM32CubeWB firmware, upgrades to programmer and RF test tool*
- *Enhanced wireless power estimator for calculating battery runtime*

**Geneva, September 16, 2021 – STMicroelectronics (NYSE: STM)**, a global semiconductor leader serving customers across the spectrum of electronics applications, is easing the design of competitively priced and power-efficient wireless equipment for applications like smart buildings, smart industry, and smart infrastructure by introducing new development tools and software for [STM32WB wireless microcontrollers \(MCUs\)](#).

ST's highly integrated STM32WB contains a 2.4GHz radio and [Arm® Cortex®-M4](#) and [Cortex-M0+ MCU](#) on the same chip, which eliminates numerous RF-circuit design challenges that can add time and uncertainty to a project. Just a small number of external components are needed, such as an antenna chosen for the application, to complete the hardware design. The MCU includes numerous peripherals, including a 12-bit analog-digital converter (ADC), digital interfaces, and a crystal-less USB 2.0 Full Speed interface in selected models. Protocols supported are Bluetooth® LE 5.2, Zigbee®, OpenThread and proprietary protocols, including combinations of such protocols with concurrent modes.

As a member of the STM32 family, the market-leading Arm Cortex-M MCUs, the STM32WB benefits from the extensive and market-proven STM32Cube ecosystem that provides a rich selection of development tools and software.

*“The STM32Cube ecosystem is already widely used and is also broadly supported by third-party developer resources that help accelerate project completion,”* said Hakim Jaafar, STM32 Wireless Marketing Director, STMicroelectronics. *“Our latest wireless enhancements extend the STM32 family’s capabilities to handle new demands and use cases, further enhancing the most complete and robust solution on the market.”*

### Further technical information: new ecosystem features for wireless design

Strengthening support for wireless design, the STM32WB ecosystem provides all the necessary embedded software bricks and tools to get users started easily with their applications. The [STM32CubeWB MCU package](#) is loaded with many examples and brings a full set of peripheral drivers (HAL and LL), all the necessary radio stacks including Bluetooth 5.2, Zigbee 3.0, OpenThread v1.1 and 802.15.4 MAC for proprietary protocols, as well as example implementations of several concurrency models (static and/or dynamic) for these stacks. Software tools like [STM32CubeMX](#) and [STM32CubeIDE](#) offer direct support of the radio stacks in their GUI for easy access and configuration. Users can easily select and configure profiles and clusters for popular standards and benefit from ready-to-use examples.

In addition, extra controls for the power estimation tool contained in the STM32CubeMX configurator help calculate the RF-subsystem contribution to overall power consumption budget. Users can setup various scenarios for an accurate assessment of battery runtime. Even more new features include enhancement of the STM32Cube programmer for optimized programming of the STM32WB's dual-core architecture, which ensures real-time application performance by utilizing a Cortex-M0+ processor to control the radio alongside the main Cortex-M4 core.

With the [STM32CubeMonitor-RF evaluation tool](#), the ecosystem supports the development process through to setting up the radio efficiently in the customer's environment and testing its performance. Supporting Bluetooth® LE and generic 802.15.4 radio technologies, STM32CubeMonitor-RF performs transmission/reception tests and RF measurements and assists writing test scripts and testing protocol and command sequences. The latest version introduces a sniffer capability for 802.15.4 protocols to ease development of products for mesh networks.

All tools and radio protocol stacks within the STM32CubeWB wireless ecosystem are appropriately certified and provided free of charge, along with documentation detailing the accompanying Bluetooth 5.2 and 802.15.4 certification items, enabling customers to secure applicable radio-product approvals quickly and cost-effectively.

The STM32WB wireless microcontrollers ecosystem also contains a set of evaluation boards for STM32WB wireless microcontrollers to help jump-start wireless product development.

The [P-NUCLEO-WB55 pack](#) with Nucleo-64 board and USB dongle, [NUCLEO-WB55RG](#) and [NUCLEO-WB15CC Nucleo-64 boards](#), and [STM32WB5MM-DK Discovery kit](#) offer various options to get started immediately targeting a wide range of wireless applications.

With the same series, various applications can share the same underlying implementation, leveraging the investment of product development and certification.

STM32WB products can address a broad spectrum of possibilities with the flexibility to target markets from high-end device types to cost-sensitive products. Prices for [STM32WB MCUs](#) start at \$0.85 in high volume. For further information please visit [www.st.com/stm32wb](http://www.st.com/stm32wb).

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## **About STMicroelectronics**

At ST, we are 46,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An independent device manufacturer, we work with more than 100,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and 5G technology. Further information can be found at [www.st.com](http://www.st.com).

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