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STMicroelectronics STM32 System-on-Chip
Accelerates Creation of Smart Devices with LoRa® IoT Connections

- ❖ *Integrates STM32 microcontroller IP and enhanced Semtech radio on one chip*
- ❖ *Ready to connect to LoRa® and other low-power Wide-Area Networks worldwide*
- ❖ *Supported by ST's rolling 10-year longevity commitment for industrial products*

Geneva, January 7, 2020 – Powering the search for sustainability through smart infrastructure and logistics, smart industry and smart living, STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has revealed the world's first [LoRa®](#) system-on-chip (SoC) for connecting smart devices to the Internet of Things (IoT) using long-distance wireless connections.

The [STM32WLE5 SoC](#) SoC lets product developers create devices such as remote environmental sensors, meters, trackers, and process controllers that help efficiently manage energy and resources

The SoC combines ST's proven skills in ultra-low-power STM32 microcontroller design with a LoRa-compliant radio in one single-die and easy-to-use device. With multiple ST patents pending, namely for radio Power Management Architecture, the STM32WLE5 will ensure unique performance. ST's LoRaWAN software for wireless network communications has passed all regional certifications for use worldwide.

"*Our new wireless STM32 SoC extends the existing STM32W Wireless and simplifies new-product development while saving bill-of-materials costs and maximizing system reliability and energy efficiency,*" said Ricardo De Sa Earp, Microcontroller Division General Manager, STMicroelectronics. "*In addition, by leveraging the STM32 MCU architecture, we let developers easily introduce wireless connectivity in existing embedded designs by porting to the STM32WLE5.*"

STM32WLE5 users are supported by ST's rolling [10-year longevity commitment for industrial products](#).

The STM32WLE5 is available in a 5mm x 5mm UFBGA73 package. It is fully integrated into the market-proven STM32 ecosystem, including STM32Cube software support, as well as a LoRaWAN stack certified for all regions and available in source-code format. Please contact your nearest ST sales office for availability to OEM customers, pricing options, and sample requests.

Please visit www.st.com/stm32wl for more information.

You can also read our blogpost at https://blog.st.com/stm32wl

Further technical information:

The integrated radio based on Semtech SX126x IP is engineered with dual high-power and low-power transmitter modes that cover the entire global sub-1GHz unlicensed frequency range from 150MHz to 960MHz, ensuring compatibility with LoRa networks in all territories. Hence, OEMs can use STM32WLE5 for all world markets, ensuring technical compatibility, and aiding operational efficiency and customer support. Sensitivity down to -148 dBm, and two embedded power amplifiers with up to 15dBm and up to 22dBm maximum transmit power available in the same package, maximize RF range.

In addition to the embedded LoRa modulation, the STM32WLE5 is also capable of (G)FSK, (G)MSK, and BPSK modulation thus allowing various alternative protocols including proprietary protocols. Moreover, high RF performance with low power consumption ensures reliable wireless connectivity and extends the runtime of battery-powered devices.

The microcontroller leverages ST's [STM32L4](STM32L4) architecture, which features the Arm® Cortex®-M4 core with DSP extensions and brings ultra-low-power technologies including dynamic voltage scaling and ST's adaptive real-time ART Accelerator™ for zero-wait execution from Flash.

Generous 64Kbyte, 128Kbyte, and 256Kbyte Flash options let developers choose the optimal code and data storage density for the entire platform including application and radio.

Users also benefit from the built-in cyber-security features of STM32L4 microcontrollers, including hardware public key accelerator (PKA), True Random Number Generator (TRNG), sector protection against read/write operation (PCROP), and support for state-of-the-art cryptographic algorithms including RSA.

About STMicroelectronics

ST is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. ST's products are found everywhere today, and together with our customers, we are enabling smarter driving and smarter factories, cities and homes, along with the next generation of mobile and Internet of Things devices.

By getting more from technology to get more from life, ST stands for life.augmented.

In 2018, the Company's net revenues were $9.66 billion, serving more than 100,000 customers worldwide. Further information can be found at www.st.com

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