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# STMicroelectronics' new STM32 microprocessors balance performance, power, and cost for advanced connected devices

*STM32MP13 MPUs tackle applications that challenge traditional embedded microcontrollers, combining extra performance, security-rich architecture, and energy efficiency in new cost-conscious, single-core devices*

**Geneva, Switzerland, March 7, 2023 – STMicroelectronics (NYSE: STM)**, a global semiconductor leader serving customers across the spectrum of electronics applications, is enabling the next generation of smart devices for secure, safe, and sustainable living with its latest STM32 microprocessors (MPUs).

Energy savings, lower operating costs, improved safety and enhanced user experience are the main trends observed in Smart Buildings, Factory automation and smart cities. The latest applications such as industrial automation, communication gateways, payment terminals, appliances, and control panels serving these trends are demanding processors with high software-execution capability, low power consumption, strengthened security, and advanced feature integration.

ST is meeting these expectations with new MPUs that build on the microcontroller (MCU) knowhow and extensive development ecosystem of its STM32 family and is now extending this product family with the new [STM32MP13 MPUs](#), now in mass production. They are the most affordable STM32 MPUs yet and further expand the choices available to product developers. The new microprocessors also support the latest security features for protecting connected assets.

"*Our STM32MP13 single-core MPUs deliver a perfect balance of power consumption, price, and increased capability for applications that demand performance above that of typical high-end embedded microcontrollers*," said Ricardo De Sa Earp, Executive Vice-President General-Purpose Microcontrollers Sub-Group, STMicroelectronics. "*With their state-of-the-art security features, these devices accelerate end-product certification according to today's leading standards including SESIP Level 3 and Payment Card Industry (PCI) PTS/POI 6.0 specifications.*"

As a lead customer for ST's STM32 MPUs, [HID](#) is incorporating the STM32MP13 into a new critical design for one of its key access control products. "*Key advantages we recognize in this new offering include its performance, power and efficiency, its ability to enable all possible powerful cybersecurity attributes and functions such as its crypto engine and secure boot, and its ability to meet some of our demanding peripheral requirements*," explained Damon Dageenakis, PACS Director for Access Control Devices at HID.

The new MPUs have a 1GHz Arm® Cortex®-A7 application-processing core, combined with integrated peripherals and power-saving innovations proven in STM32 MCUs. The STM32MP13 ensures a high level of security for connected assets using cryptographic acceleration with SCA

robustness/protection, tamper resistance, secure storage, and Arm TrustZone® technology with Trusted Firmware (TF-A and OP-TEE) secure processing environments. Peripheral features include a pair of Gigabit Ethernet ports that ease integration in industrial equipment like programmable logic controllers (PLCs).

Development tools and software are common between the STM32MP13 and STM32MP15. They include the fully mainlined OpenSTLinux Distribution with Linux board support package (BSP), drivers, secure bootchain supported by secure manufacturing, and popular application frameworks. Helping accelerate time to market and save development costs, OpenSTLinux Distribution ensures seamless software migration and scalability. It can even be extended with Linux real time capabilities, thanks to the new X-LINUX-RT expansion package, available for all STM32MP13 and STM32MP15 devices.

**Further technical information**
In addition to bridging the embedded MCU and application-processor worlds, the STM32MP13 MPUs are built around a comprehensive set of tools, leveraging the strong MCU ecosystem. The STM32MP13 is well suited to use with the Qt graphics framework for fast and responsive development of sophisticated user interfaces. Users can take advantage of powerful tools, optimized libraries, and easy porting of code from STM32 MCU projects, which result from extensive cooperation between ST and Qt as an ST Authorized Partner.

"*The new SMT32MP13 strengthens Qt's support for cost-efficient MPUs, especially in industrial and security-related use cases. By using Qt's cross-platform development and testing tools and deploying the applications on ST's MCUs and MPUs, development teams can significantly improve their productivity*", said Marko Kaasila, Senior Vice President, Product Management at Qt Group. "*The approach is exceptionally scalable, as Qt allows teams to create consistent user experiences across devices, from MCUs to MPUs, with the same codebase.*"

While gaining the extra processing performance of an MPU, combined with the flexible power management, real-time OS (RTOS) support, and integrated security features and peripherals typically provided by embedded MCUs, STM32MP13 users also benefit from advantages such as a large selection of package options that help optimize cost and flexibility, and allow low-cost PCB designs down to four layers without costly laser vias. ST further eases designers' workload by providing PCB layout examples.

Also available, STPMIC1 dedicated power-management ICs (PMIC) for STM32 MPUs help developers optimize power consumption to achieve superior energy ratings and maximize the runtime of battery-powered applications. Compared to bringing up a custom solution with discrete components, the ST PMICs also save bill-of-materials costs, engineering effort, and PCB footprint.

The STM32MP13 MPUs include the STM32MP131, STM32MP133, and STM32MP135. They are in full production, priced from $3.16 for orders of 10,000 pieces. Other pricing options are available. Samples and Boards are available through your preferred distributor.

For further information please go to https://www.st.com/stm32mp1.

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**About STMicroelectronics**

At ST, we are more than 50,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 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 connectivity. ST is committed to becoming carbon neutral by 2027. Further information can be found at www.st.com.

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