



Nuvoton Technology launches brand new M261/M262 series microcontroller with Low Power and Security for IoT applications

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HSINCHU, TAIWAN, December 5, 2019 /EINPresswire.com/ -- Nuvoton Technology Corporation launches a brand new low-power IoT microcontroller [M261/M262/M263](#) series designed for IoT applications. It is based on Arm® Cortex®-M23 secure core for Armv8-M architecture, running up to 64MHz with 512KB Flash in dual bank mode supporting Over-The-Air (OTA) Firmware update and 96KB SRAM.

Nuvoton provides a rich product portfolio for new generation IoT applications.

The new M261/M262/M263 series adopts advanced low power and security technology with high-performance connectivity interfaces. The power consumption in the normal run is down to 45µA/MHz in DC-DC mode and it implements a secure boot function and hardware crypto acceleration to achieve the security of IoT device. M261/262/263 series satisfies the IoT applications in both low power and high-security requirements. For IoT connectivity and sensor, it integrates SDHC 2.0, USB 2.0 FS OTG, CAN Bus 2.0B high-performance communication interface, and a 3.76 MSPS ADC for sensing data from sensor devices to fulfill a variety of application scenarios. Those features make it a great choice for smart home and IoT node device product design.

The NuMicro® M261/M262/M263 series is based on Arm® Cortex®-M23 core and the code is downward compatible with Nuvoton Arm® Cortex®-M0 microcontrollers. The low supply voltage ranges from 1.8V to 3.6V and operating temperature ranges from -40° to 105°.

Low power and security are two major requirements for the Internet of Things applications. In terms of low-power consumption, NuMicro® M261/M262/M263 series provides multiple power modes for different operating scenarios, integrating RTC with independent VBAT to support low power mode. The power consumption in normal run mode is 97µA/MHz (LDO mode) and 45µA/MHz (DC-DC mode). Standby power-down current is down to 2.8µA and deep power-down current is less than 2µA. The low-power, low supply voltage, and fast wake-up (9µs from fast-wakeup power-down mode) features make the series suitable for battery-powered IoT applications.

The security functions of NuMicro® M261/M262/M263 series include secure boot function to ensure a device boots using only trusted software through a series of digital signature authentication processes. The M261/M262/M263 series integrates complete hardware crypto engines such as AES 256/192/128, DES/3-DES, SHA, ECC, and True Random Number Generator. Furthermore, it provides 4-region programable eExecute-Only-Memory to secure critical program codes and up to six tamper detection pins against outer physical attack, which significantly improves the product security.

The NuMicro® M261/M262/M263 series is equipped with plenty of peripherals such as Timers, Watchdog Timers, RTC, PDMA, External Bus Interface (EBI), LPUART, Universal Serial Control

Interface, Qual SPI, SPI/I²S, I2C, Smart Card Interface (ISO-7816-3), GPIOs, and up to 24 channels of PWM. Those peripherals make it highly suitable for connecting comprehensive external modules. It integrates one set of Secure Digital Host Controllers (SDHC) compliant with SD Memory Card Specification Version 2.0, achieving a transfer rate of 200Mbps at 3.3V and 50MHz operations. For high-performance analog front-end circuit blocks, it integrates up to a 16-channel 12-bit 3.76 MSPS SAR ADC, two 12-bit 1MSPS voltage type DAC, two rail-to-rail analog comparators, temperature sensor, low voltage reset, and brown-out detector to enhance product performance and reduce both external components and form factor.

NuMicro[®] M261/ M262/ M263 series consists of three series

- NuMicro[®] M261 series - suitable for IoT node devices and wireless communication modules applications
- NuMicro[®] M262 USB 2.0 FS OTG series - integrating 1 set of USB 2.0 FS OTG interface (crystal-less design), suitable for connecting USB host/device for data transfer
- NuMicro[®] M263 USB/CAN series - integrating 1 set of CAN Bus 2.0B and 1 set of USB 2.0 FS OTG interface (crystal-less design), suitable for industrial and automotive applications requiring CAN Bus for data communication

The NuMicro[®] M261/M262/M263 series provides 9 product part numbers. The package types include QFN33, LQFP64, and LQFP128. Pin compatibility in the same package makes optimizing product features and performance easy.

Based on the M261/M262/M263 series, [NuMaker-IoT-M263](#) is a new platform focusing on IoT products design, it integrates a 9-axis sensor, environmental sensor, and popular wireless communication modules including Bluetooth module, Wi-Fi module, and LoRa module. A 2G/3G/4G-LTE/NB-IoT module with GPS function is available for purchase. With the IoT software package provided by Nuvoton, connecting the cloud of Arm Pelion, Amazon AWS, and Ali-Cloud is quick and easy. The NuMaker-IoT-M263 is for sale at [Nuvoton eStore Direct](#).

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