MCX MCUs for the next era of industrial and IoT Edge computing

The MCX MCU portfolio offers several Arm® Cortex®-M based series with developer-focused software to simplify system design.

The MCX portfolio offers a comprehensive selection of general-purpose to IIoT and application-specific Arm Cortex-M based microcontrollers offering expanded scalability with breakthrough product capabilities and a simplified system design supported by the MCUXpresso developer experience.

- Ultimate scalability up to 4 MB Flash and 1 MB SRAM
- Extra flexibility with a comprehensive peripheral offering
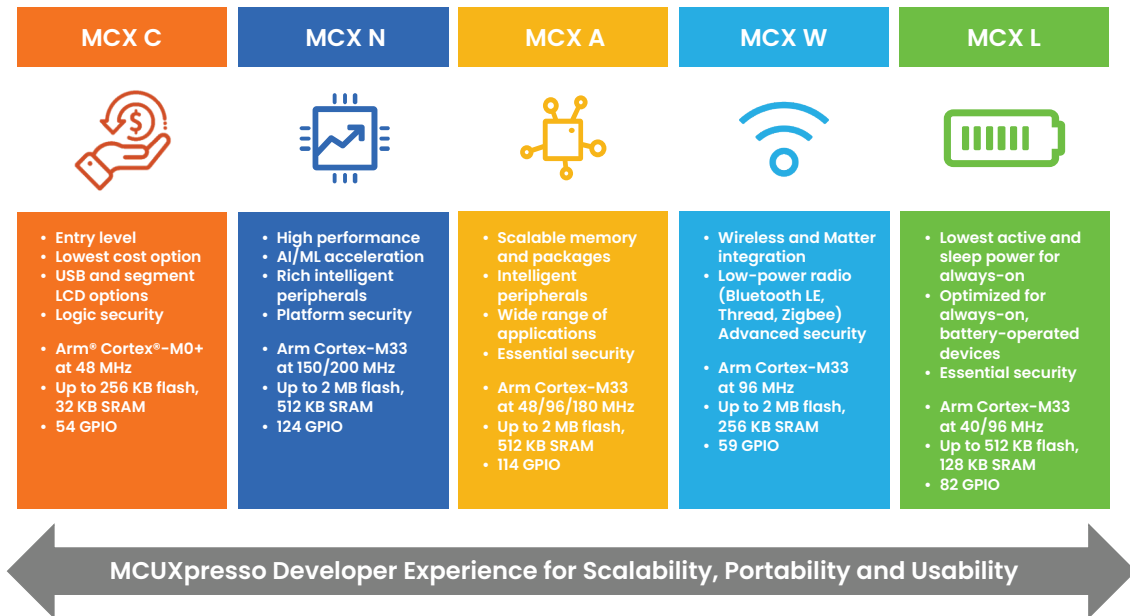- Extensive on-chip security options

Target applications

- Industrial IoT
- Smart home
- Smart building
- Industrial automation
- Consumer electronics
- Wireless devices
- TinyML
- Battery operated devices
- Voice-enabled IoT devices
- General embedded

The MCX MCU portfolio

Combining product architecture enhancements and strategic integration enables you to accelerate product development using various MCX application domains across the scalable platform. Application domains can support key features that take your end application even closer to the edge with thoughtful integration for use cases such as wireless connectivity, motor control and machine learning.

For quick prototyping platforms, we offer both low-cost, compact and scalable FRDM development boards and full-featured EVKs. Developers have easy access to additional tools like our Expansion board hub for add-on boards and the Application code hub for software examples through the MCUXpresso Developer Experience.

MCX C	MCX N	MCX A	MCX W	MCX L
• Entry level • Lowest cost option • USB and segment LCD options • Logic security • Arm® Cortex®-M0+ at 48 MHz • Up to 256 KB flash, 32 KB SRAM • 54 GPIO	• High performance • AI/ML acceleration • Rich intelligent peripherals • Platform security • Arm Cortex-M33 at 150/200 MHz • Up to 2 MB flash, 512 KB SRAM • 124 GPIO	• Scalable memory and packages • Intelligent peripherals • Wide range of applications • Essential security • Arm Cortex-M33 at 48/96/180 MHz • Up to 2 MB flash, 512 KB SRAM • 114 GPIO	• Wireless and Matter integration • Low-power radio (Bluetooth LE, Thread, Zigbee) Advanced security • Arm Cortex-M33 at 96 MHz • Up to 2 MB flash, 256 KB SRAM • 59 GPIO	• Lowest active and sleep power for always-on • Optimized for always-on, battery-operated devices • Essential security • Arm Cortex-M33 at 40/96 MHz • Up to 512 KB flash, 128 KB SRAM • 82 GPIO

MCUXpresso Developer Experience for Scalability, Portability and Usability

Designed with you in mind

Wireless

Add wireless connectivity to your next design with the MCX W Series offering a unified range of pin-compatible multiprotocol wireless MCUs for Matter, Thread, Bluetooth Low Energy and Zigbee.

Machine learning

Implement advanced AI/ML with the MCX N Series that features an integrated eIQ® Neutron Neural Processing Unit. Compared to CPU cores alone, the eIQ Neutron NPU delivers up to 42x faster ML inference performance.

Motor control and analog

Spin your motor using key features of the MCX portfolio to support a wide range of motor control applications, with capabilities such as driving multiple ACM and PMSM with FOC. Reduce system BOM cost by leveraging on-chip features such as high-performance ADCs, comparators, DACs and instrumentation-class op amps.

Developer Experience

The MCX portfolio is supported by the MCUXpresso Developer Experience to optimize, ease and help accelerate embedded system development. The MCUXpresso suite includes tools for simple device configuration and secure programming. Developers can choose from multiple IDEs including MCUXpresso for VS Code, MCUXpresso IDE, IAR, or Keil.

www.nxp.com/MCX