

MCX W71x Secure and Ultra-Low-Power MCUs for Matter, Thread, Zigbee and Bluetooth LE

MCX-W71X

Active

Last Updated: Feb 6, 2025

The MCX W71x family features a 96 MHz Arm® Cortex®-M33 core coupled with a multiprotocol radio subsystem supporting Matter, Thread, Zigbee and Bluetooth LE. The independent radio subsystem, with a dedicated core and memory, offloads the main CPU, preserving it for the primary application and allowing firmware updates to support future wireless standards. The MCX W71x also offers advanced security with an integrated EdgeLock® Secure Enclave Core Profile and will be supported by NXP's EdgeLock 2GO cloud services for credential sharing.

The MCX W71x family supports industrial and IoT devices as a single chip solution or by acting as a coprocessor in a hosted architecture. NXP delivers a complete software solution to allow the MCX W71x to operate seamlessly as a network or radio coprocessor with NXP's broad portfolio of MCX MCUs, i.MX RT crossover MCUs and i.MX applications processors.

Building on NXP's strong history of providing industrial edge solutions, the MCX W series offers a wide operating temperature range from -40°C to 125°C and peripherals for industrial applications, including an optional CAN interface and will be part of NXP's 15-year Product Longevity program to support long-term industrial use.

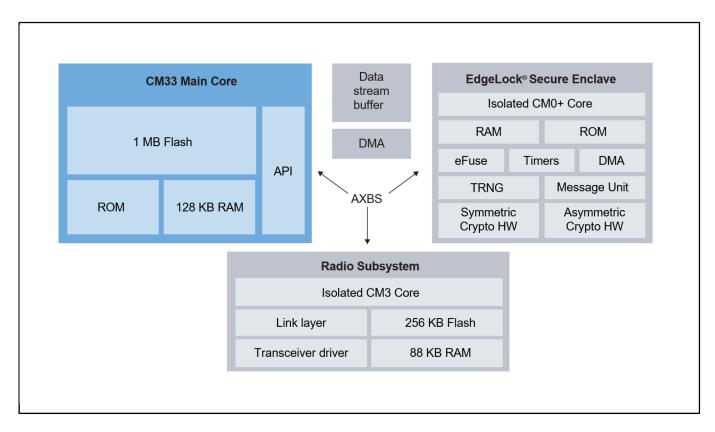
The MCX W series is supported by the MCUXpresso Developer Experience to optimize, ease and help accelerate embedded system development.

Developers can get started quickly by using one of the example projects included in the MCUXpresso SDK.

MCX W71x Block Diagram

| System | | CORE Platform | | | Radio Subsystem | |
|--------------------|------|---------------------------------|--------------------|--------------------|-------------------------------|--|
| AXBS | | Arm® Cortex®-M33 | | | Bluetooth [®] LE 5.3 | |
| 16-ch. DMA | | Up to 96 MHz | | Generic FSK | | |
| MSCM-S | FPU | DSP | MPU | 2 | 56 Flash | |
| MSCM-NS | TZ-N | 1 SysTick | K NVIC | 88 | KB RAM | |
| Watchdogs | | 8 kB Code Cache | | | IEEE® 802.15.4 | |
| TRGMUX | | | | | Dual PAN | |
| WUU | | Clock 192M FRO 6M FRO | | | Connectivity | |
| Power Mgmt | | 32K FRO | 32K OSC | Connectivity | | |
| DC-DC | | | | LPI2C x2, LPSPI x2 | | |
| LDO-CORE | | 26/32 RF OSC | | | CAN-FD | |
| | _ | Timers | | | I3C | |
| LDO-System | 1 | .PTMR x2 | TSTMR | FlexIO | | |
| Smart Power Switch | | LPIT | RTC | | | |
| Memory | | PTPM x2 | SFA | | Analog 16-bit SAR ADC | |
| 1 MB Flash | | | | | | |
| 128 kB RAM | | HMI | | | CMP x2 | |
| Secure Boot ROM | GP | | | | VREF | |
| | | EdgeLock [®] Secure En | clave Core Profile | | | |
| AES | SHA | ECC/RSA | eFuse | TRDC | Key Mgmt. | |
| TRNG | MU | PRINCE | 4 Tamper | CRC | 32 byte Regfile | |

MCX W71x Architecture Block Diagram



View additional information for MCX W71x Secure and Ultra-Low-Power MCUs for Matter, Thread, Zigbee and Bluetooth LE.

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