

## 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.

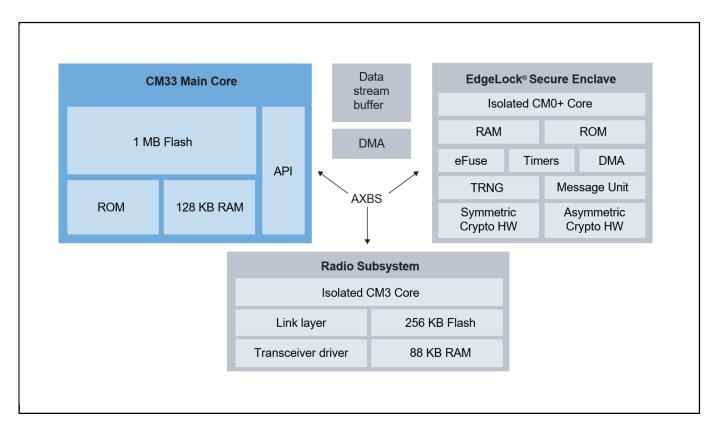
The MCX W series is supported by the MCUXpresso Developer Experience to optimize, ease and help accelerate embedded system development.

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 <sup>®</sup> 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 <sup>®</sup> 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.

## www.nxp.com

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2025 NXP B.V.