PRODUCT BRIEF

XMC5000 Industrial Microcontrollers

Low-power MCUs with advanced peripherals addressing industrial applications

The XMC5000 MCUs feature an Arm® Cortex®-M4F at 160 MHz, a memory spectrum up to 2 MB flash, up to 256 KB SRAM, and an Arm® Cortex®-M0+ dedicated to cryptography. It supports input supply from 2.7V to 5.5V, low power modes, and scalable packages from 64 to 144 pins. It also ensures robustness in harsh environments, offering advanced security and safety features.

The XMC5000 family of microcontrollers includes three series tailored to specific needs:

- **XMC5100**: 80 MHz Cortex-M4, ideal for cost-sensitive applications like motor control, HVAC, and lighting. Features up to 4-ch CAN FD, 512KB Flash, 64KB SRAM, and packaging from 64-pin to 100-pin LQFP
- **XMC5200**: 160 MHz Cortex-M4 for mid-range applications needing more I/Os. Offers 6-ch CAN-FD, 1MB Flash, and 128KB SRAM
- **XMC5300**: High-end 160 MHz Cortex-M4 for complex systems like gateways. Features 8-ch CAN-FD, 2MB Flash, and 256KB SRAM

The XMC5000 is versatile and scalable, allowing seamless migration between the XMC5000 family and to the higher-end XMC7000, as application demands evolve. This ensures the investment is protected and future-proofed.

The XMC5000 family is designed to support a wide spectrum of applications, delivering performance, reliability, and scalability for both industrial and home environments, like home appliances, powertools, HVAC systems, and motor control, with its high-resolution timers, advanced ADCs, and performance.

This solution offers ease-of-use for developers with ModusToolbox™, a modern, extensible development ecosystem supporting a wide range of Infineon microcontroller devices. Provided as a collection of development tools, libraries, and embedded runtime assets, with code examples and support. ModusToolbox™ Software is architected to deliver a flexible and comprehensive development experience.

For more information visit XMC5000 Industrial Microcontroller

Key features

- Dual Arm® Cortex®
- Up to 160MHz Cortex-M4 and 100MHz M0+
- Up to 2MB Flash, 256KB RAM
- Up to 122 Programmable I/Os
- 3x SAR ADC, up to 57 Channels
- Up to 8x CAN-FD, 8x SCB (serial communication blocks)
- 5 Low Power Modes
- -40°C to 125°C ambient temperature
- 2.7 to 5V power supply range
- QFP package: 64-144 pins
- SIL-2 / Class-B support

Key benefits

- Cost-optimized and robust with its 40nm platform
- Scalable solution
  - 3 series and 7 different package-memory combinations
  - Scalable to XMC7000
  - ModusToolbox™ Support
- Advanced security options
- Power savings for energy-critical applications



Target applications

- Home Appliances
- Powertools
- HVAC Systems
- Motor Control

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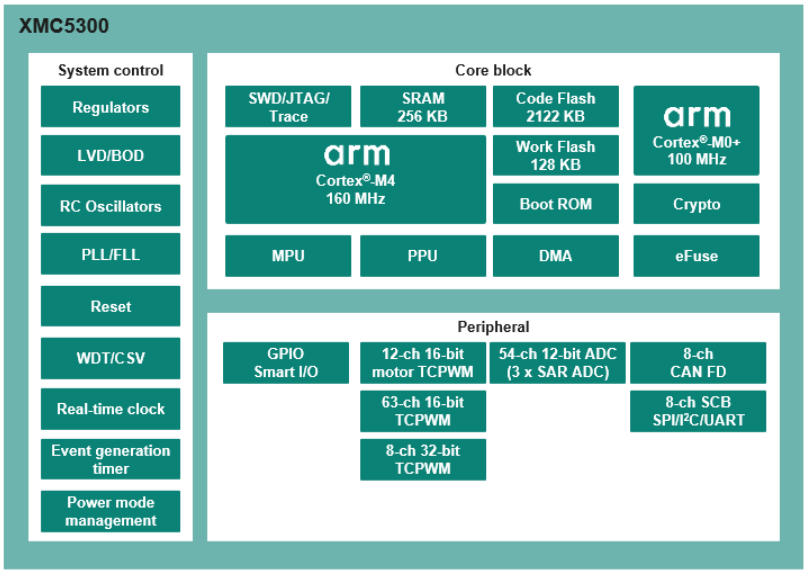
Block diagram



Part numbers and kits

OPN	Package	Frequency	Flash [KB]	SRAM [KB]	CAN FD	SCB Blocks	Temp (Ta)
XMC5100F64K576AAXQLA1	LQFP-64	80 MHz	576	64	3	6	-40 to 125 °C
XMC5100F100K576AAXQLA1	LQFP-100	80 MHz	576	64	4	6	-40 to 125 °C
XMC5200F100K1088AAXQLA1	LQFP-100	160 MHz	1088	128	6	8	-40 to 125 °C
XMC5200F144K1088AAXQLA1	LQFP-144	160 MHz	1088	128	6	8	-40 to 125 °C
XMC5200F64K1088AAXQLA1	LQFP-64	160 MHz	1088	128	5	7	-40 to 125 °C
XMC5300F100K2112AAXQLA1	LQFP-100	160 MHz	2112	256	8	8	-40 to 125 °C
XMC5300F144K2112AAXQLA1	LQFP-144	160 MHz	2112	256	8	7	-40 to 125 °C

Part Number	Kit	Description
KIT_XMC52_EVK	XMC5000 Evaluation Kit	Cost-optimized featuring an XMC5200 device, Arduino-compatible form factor enabling rapid prototyping and hardware expansion

Published by
Infineon Technologies AG
Am Campeon 1-15, 85579 Neubiberg
Germany

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Public

Version: V1.0_EN
Date: 12/2025

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