



# Power-Efficient Microcontrollers (MCUs) with Advanced Peripherals Based on Arm<sup>®</sup> Cortex<sup>®</sup>-M4 Core

## LPC540XX

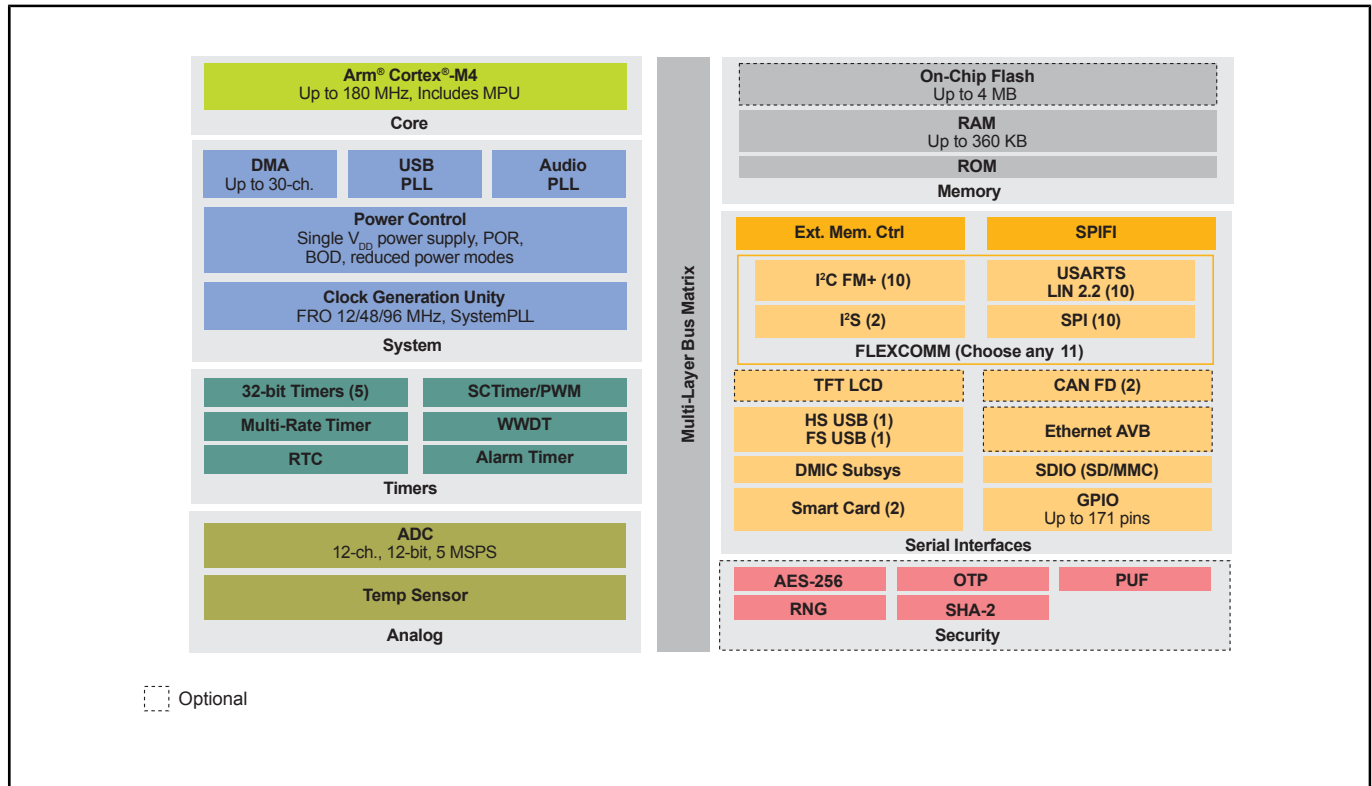
Last Updated: Aug 25, 2023

Offering flashless design and security integration, the LPC540xx family of MCUs combines a 180 MHz Arm<sup>®</sup> Cortex<sup>®</sup>-M4 core with a power-efficient and unique architecture, advanced HMI and flexible communication peripherals for real-time performance in the next-generation IoT. Featuring flexibility with a quad SPI flash interface, CAN, graphic LCD and up to 11 channels for FlexComm, the LPC540xx family provides the ability to adapt as requirements change. Compatibility within the LPC54000 series enables the LPC540xx MCU family to provide a seamless migration path for increasing processing power and adding the flexibility of additionally advanced peripherals.

For added security, the new LPC54S0xx MCU devices in this family provide Physical Unclonable Function (PUF) root key using dedicated SRAM for silicon fingerprint making it possible to generate, store, and reconstruct keys. In addition, the LPC54S0xx devices feature an on-chip hardware AES engine to protect the image content and accelerate processing for data integrity and proof of origin. Data can be encrypted or decrypted by the AES engine using the encrypted key stored in the OTP, SRAM PUF-based or a software supplied key.

This device is fully supported by NXP's [MCUXpresso Software and Tools](#), a comprehensive and cohesive set of free software development tools for Kinetis, LPC and i.MX RT microcontrollers. MCUXpresso SDK also includes project files for Keil MDK and IAR EWARM.

# LPC540xx MCU Block Diagram



View additional information for [Power-Efficient Microcontrollers \(MCUs\) with Advanced Peripherals Based on Arm® Cortex®-M4 Core](#).

**Note:** The information on this document is subject to change without notice.

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