



SECURE CONNECTIONS  
FOR A SMARTER WORLD

# LPC800 SERIES MCUs

LPC800 series MCUs offer a range of low-power, space efficient, low-pin-count options.

## TARGET APPLICATIONS

- Communications interface for wireless protocols
- Human machine interface (HMI)
- IoT end nodes
- Sensor gateways

## OVERVIEW

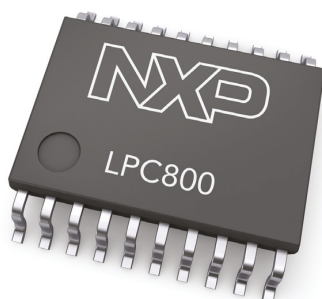
LPC800 series MCUs are extremely power-efficient and provide a straightforward development experience.

Based on an ultra-low-power Arm® Cortex®-M0+ core, LPC800 MCUs are fully compatible with the Cortex-M architecture and instruction set. The LPC800 series of MCUs efficiently handles 32-bit data, requiring less code, memory and 30% less dynamic power outperforming 8- and 16-bit MCUs.

## DIFFERENTIATED FEATURES

Within the LPC800 series is the LPC84x MCU family, offering significant mixed signal integration, along with 256-bit of user configurable memory (FAIM) for device configuration

at start-up. The latest LPC86x, we offer the new I3C interface which can achieve 12Mbps communication, and the embedded flexible timer module would help developers implement a light motor control application easily.



## COMPREHENSIVE ENABLEMENT SOLUTIONS

### Software Development

LPC800 series MCUs are supported by our free example code bundle, MCUXpresso software development kit as well as LPCOpen Driver Code.

The primary platform for LPC800 software development is our example code bundle, a basic, complete working example code for each peripheral, giving 8- and 16-bit MCU users a fast transition to the 32-bit LPC800 series.

The LPCOpen Driver Code is an Application Programming Interface (API) base for users who have less concern about overall code size. LPCOpen provides ease of use for the LPC81x/82x/83x families without diving into details of each peripheral registers, making it an easy transition from LPC8xx to LPC1xxx MCUs.

The Software Development Kit (SDK) are designed to simplify and accelerate application development on LPC80x/LPC84x/86x families. It's a collection of comprehensive software enablement that includes system startup, peripheral drivers, middleware, and real-time operating system (RTOS) kernels. The SDK also includes getting started and API documentation along with usage examples and demo applications.

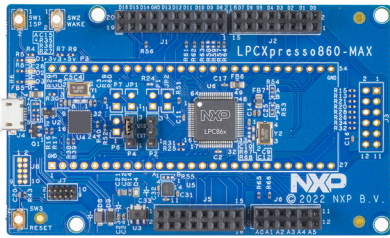
## Integrated Development Environments (IDEs)

- MCUXpresso software development kit (SDK)
- Integrated development environments (IDE)
  - MCUXpresso IDE
  - IAR Embedded Workbench®
  - Arm Keil® MDK

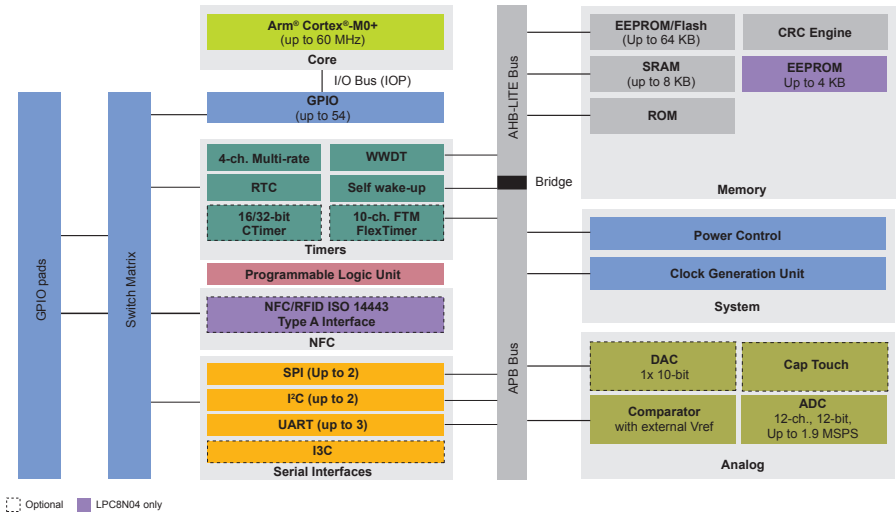
## Hardware Development

- LPCXpresso and LPCXpresso-MAX development boards

## LPC86X DEVELOPMENT BOARD



## LPC800 SERIES BLOCK DIAGRAM



## LPC800 SERIES MCU FAMILIES

Family	Core	Memory	Differentiated Features	Package Options
LPC8N04 MCU	8 MHz Cortex-M0+ core	32 KB Flash 8 KB SRAM 4 KB EEPROM	Up to 12 GPIO NFC/RFID ISO 14443 type A interface Temperature sensor with $\pm 1.5$ °C accuracy -40 °C to +85 °C	HVQFN24
LPC81x MCU Family	30 MHz Cortex-M0+ core	Up to 16 KB Flash Up to 4 KB SRAM	Up to 18 GPIO SCTimer/PWM Comparator -40 °C to 105 °C	TSSOP16 TSSOP20 SO20 XSON16
LPC82x MCU Family	30 MHz Cortex-M0+ core	Up to 32 KB Flash Up to 8 KB SRAM	Up to 29 GPIO SCTimer/PWM 12-bit ADC, Comparator -40 °C to +105 °C	TSSOP20 HVQFN33
LPC83x MCU Family	30 MHz Cortex-M0+ core	Up to 32 KB Flash Up to 4 KB SRAM	Up to 29 GPIO SCTimer/PWM 12-bit ADC -40 °C to +85 °C	TSSOP20 HVQFN33
LPC84x MCU Family	30 MHz Cortex-M0+ core	Up to 64 KB Flash Up to 16 KB SRAM	Up to 54 GPIO SCTimer/PWM Fast Initialization Memory (FAIM) 12-bit ADC, Dual 10-bit DAC, Comparator 9 Button Mutual Capacitive Touch -40 °C to +105 °C	HVQFN33 HVQFN48 LQFP48 LQFP64
LPC86x MCU Family	60 MHz Cortex-M0+ core	64 KB Flash 8 KB SRAM	Up to 54 GPIO I3C FlexTimer 12-bit ADC, Comparator -40 °C to +105 °C	HVQFN33 HVQFN48 LQFP64

[www.nxp.com/LPC800](http://www.nxp.com/LPC800)

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