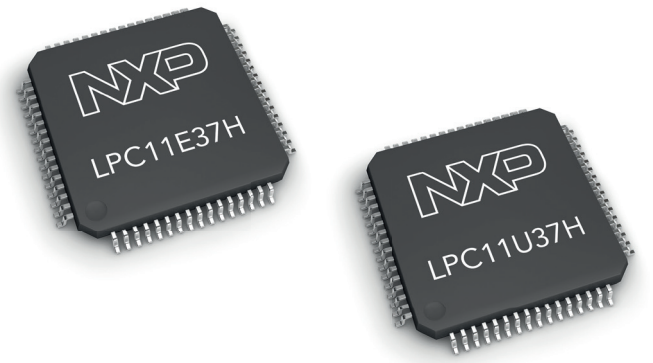

NXP 32-bit Cortex-M0 MCU with I/O handler LPC11x37H

Change your application without changing your MCU

By letting you adapt the MCU configuration and functionality to fit your application – at any time during the design cycle – our exclusive software-driven I/O handler gives you ultimate design flexibility.

KEY FEATURES

- Low-power, 50-MHz ARM Cortex-M0 cores with software-driven I/O handler block
- 128 kB Flash, 10 kB SRAM, 4 kB EEPROM with EEPROM ROM drivers
- Full-Speed USB device controller with integrated PHY and USB ROM drivers (LPC11U37H)
- 54 GPIO housed in an LQFP64 package (10 x 10 x 1.4 mm)
- Free, ready-to-use libraries for faster design-in

KEY BENEFITS

- Implement simple serial interfaces and tasks more quickly and efficiently
- Use the I²C, UART, or I²S interfaces to add connectivity, or to implement last-minute changes
- Boost performance and efficiency by adding DMA, CRC calculation, or ADC threshold detection
- Three quick steps: download, install, run

TARGET APPLICATIONS

- Consumer peripherals
- Medical
- Industrial control
- Handheld scanners
- USB audio devices
- Building control
- Data loggers
- Smart sensors

Design changes may be inevitable, but now they don't have to slow you down. NXP's new software-driven I/O handler block lets you change your design whenever you need to.

Available on the Cortex-M0 LPC11E37H and LPC11U37H microcontrollers, the I/O handler (IOH) adds a level of functionality not found on other ARM cores, and provides a more power- and performance-efficient implementation for simple interfaces and tasks.

ADD INTERFACES

Not sure what communication interfaces you'll need at the beginning of your project? Choose an LPC11x37H now and then use the IOH to add an I²C, UART, or I²S interface once you know exactly what you'll need.

ADD FEATURES

Need to accommodate last-minute design changes? Use the IOH to add a serial I/O interface and support additional features.

ADD EFFICIENCY

Need more performance or power efficiency from your application? Use the IOH to add DMA or ADC threshold conversion functionality to augment the CPU. When data transfers start to overload your CPU with interrupts, you can use the IOH DMA functionality to free up more cycles for your application. Or, you can offload the CPU and reduce power consumption with IOH ADC threshold conversion functionality. The ADC threshold only interrupts or wakes the CPU when the threshold is met, so the CPU can save power by remaining in sleep mode longer.

EXPAND YOUR PRODUCT LINE

Planning to introduce more than one product? The IOH lets you choose from multiple serial communication protocols to add or change future platforms – without a new MCU. In building automation, for example, the entry-level version of a design for building access could use a keypad as the user interface, while a later, more advanced version of the design could use the IOH to add a codec that supports voice communications. Same microcontroller, more functionality.

SAVE TIME

The software-driven IOH block is easy to use and adapts to your application's changing needs. The block is supported by ready-to-use libraries that make quick work of adding interfaces, I/O, ADCs, and DMA functions.

Using the IOH block is easy – just download the free library file for the function you need, install the software onto the IOH hardware block, and run the application.

WITH OR WITHOUT USB

The LPC11E37H and LPC11U37H are low-power MCUs with a 50-MHz ARM Cortex-M0 core, 128 kB of Flash, 10 kB of SRAM, and 4 kB of EEPROM with EEPROM ROM drivers. The LPC11U37H is the same as the LPC11E37H, but adds a Full-Speed USB device controller with integrated PHY and USB ROM drivers.

For faster development, both devices are available with libraries for popular toolchains, including Keil MDK, IAR EWARM, and the NXP LPCXpresso IDE v6, a cross-platform C/C++ development suite that supports all of NXP's LPC microcontrollers. The LPC11U37H is also available with a demo board that provides plug-in support for evaluating I^2S, UART, and I^2C libraries.

Selection guide

Feature	LPC11E37H	LPC11U37H
CPU speed	50 MHz	50 MHz
Flash	128 kB	128 kB
SRAM	10 kB	10 kB
EEPROM & EEPROM ROM drivers	4 kB	4 kB
Full-Speed USB device controller with integrated PHY and USB ROM drivers	No	Yes
GPIO	54	54
Package	LQFP64 (10 x 10 x 1.4 mm)	LQFP64 (10 x 10 x 1.4 mm)

www.lpcware.com

www.nxp.com/lpcxpresso/home

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