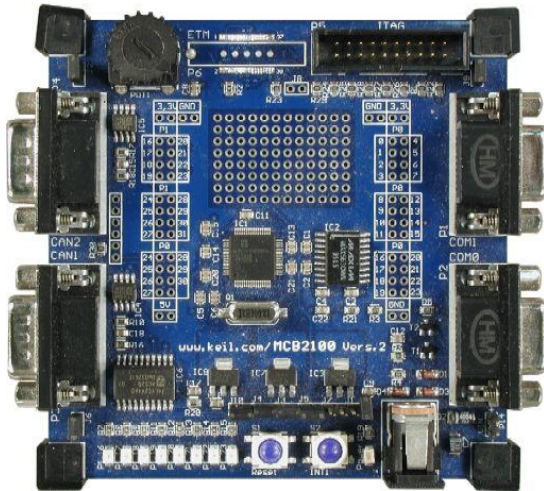


## MCB2100 Evaluation Board



The Keil MCB2100 Evaluation Board introduces you to the NXP (founded by Philips) LPC2129 family of ARM processor-based devices. The MCB2100 allows you to quickly create and test programs for this advanced architecture.

The Keil MCB2100 Evaluation Board connects to your PC using the serial port (for Flash download using FlashMagic) or the JTAG interface (for program debug using a Keil ULINK family USB-JTAG Adapter and the  $\mu$ Vision IDE and Debugger).

Two Serial and two CAN interfaces make this board a great starting point for your next ARM project.

### Components Included

The MCB2100 Evaluation Board includes the following:

- MCB2100 Evaluation Board,
- MDK-ARM Evaluation Tools.

### System Requirements

- PC with one available USB port,
- Windows 2000, XP and Vista,
- One CD-ROM drive,
- ULINK family USB-JTAG Adapter for high-performance Debug/Download (optional).

### Starter Kit

The MCB2100 is also available as a starter kit which includes the ULINK-ME USB-JTAG adapter.

Part numbers are:

- MCB2100 (Board Only )
- MCB2100UME (MCB2100 + ULINK-ME)

### Evaluation Software

The MCB2100 Evaluation Board and Starter Kit include MDK-ARM Evaluation Tools. These tools help you get started writing programs and testing the microcontroller and its capabilities. Sample applications which run on the MCB2100 are included.

## Introduction

The Keil MCB2100 Evaluation Board allows you to generate and test application programs for the NXP LPC2100 microcontroller family. With this hands-on process, you can determine hardware and software requirements for current and future product development.

The MCB2100 Evaluation Board ships with an LPC21xx device that is a superset of several other device variants of the NXP LPC2100 microcontroller series. The MCB2100 Board contains all hardware components required in a single-chip LPC2100 system.

## Features

The connectors on the MCB2100 evaluation board provide easy access to many of the on-chip peripherals.

- **Dual Serial Ports**  
Standard DB9 connectors are on the MCB2100 board for both of the LPC21xx's serial ports. Your application may use either or both of these ports.
- **Dual CAN Ports**  
Standard DB9 connectors are on the MCB2100 board for applications requiring CAN communications. Your application may use either or both of these ports, or they may be disabled with a configuration jumper.
- **Analog Voltage Control for ADC Input**  
An adjustable analog voltage source is on the MCB2100 board for testing the Analog to Digital output feature of the LPC21xx. A configuration jumper enables and disables this feature.
- **JTAG Download and Debug**  
A JTAG interface is on the MCB2100 board and, coupled with the ULINK USB-JTAG adapter, allows flash programming. The on-chip debug interface can perform real-time in-circuit emulation of the LPC21xx device. For fast PC communication, use your PC's USB port.

## Hardware Requirements

To use the MCB2100 Evaluation Kit, you need:

- The MCB2100 Evaluation Board.
- An IBM-compatible PC with one of the following:
  - An available USB port for ULINK USB-JTAG downloading and debugging.
  - Or
  - An available RS232 COM port for Flash In-System Programming (ISP) using a Serial Interface.
- A 6V - 9V DC, 150mA power supply.

To run the Keil debugger using JTAG emulation, you need:

- A ULINK USB-JTAG Adapter.
- A USB serial cable, no longer than 10ft/3m.

To program the MCB2100 using the Flash Magic utility, you need:

- A serial cable, 9-pin male to 9-pin female, no longer than 10ft/3m, wired one-to-one.

## Software Requirements

You must install the following required software to use the MCB2100 Evaluation Board:

Windows Operating System

The Keil  $\mu$ Vision tool chain runs in these Windows Operating Systems:

- Microsoft Windows NT 4.0
- Microsoft Windows 2000
- Microsoft Windows XP
- Microsoft Windows 2003
- Microsoft Windows Vista
- Microsoft Windows 7

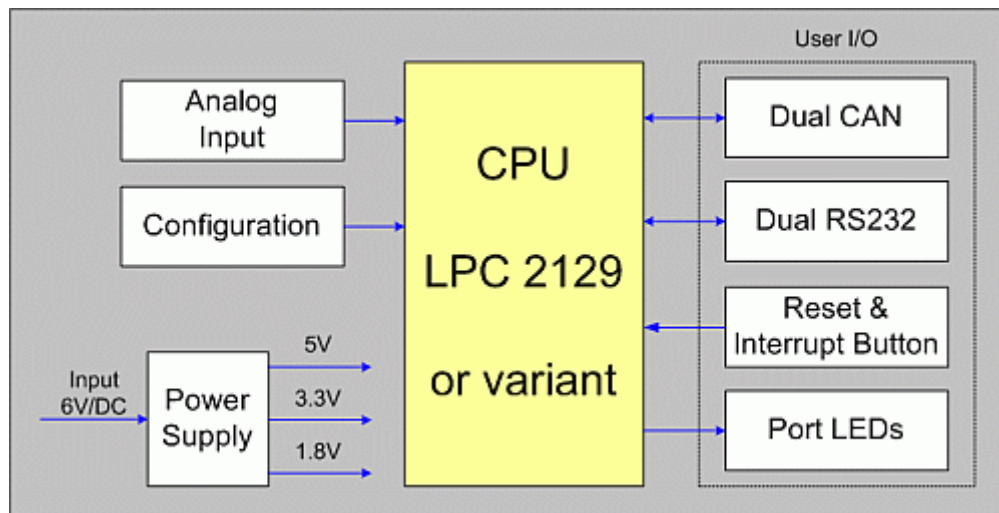
Tools and Examples

To compile, link and run applications on the MCB2100 Evaluation Board, you must install these Keil products:

- The Keil MDK-ARM Development Kit which includes the  $\mu$ Vision Debugger.
- Example programs written for the MCB2100. These programs are included in the Evaluation Toolkit.

## Block Diagram

The hardware block diagram displays the input, configuration, power system, and User I/O on the board. This visual presentation helps you to understand the MCB2100 board components.



## Technical Data

Parameter	Description
Supply Voltage	6 to 9 Volts DC
Supply Current	70mA typical, 150mA maximum
XTAL Frequency	12 MHz (Allows up to 60MHz CPU clock)
Microcontroller	NXP LPC21xx
Peripherals	2 $\times$ RS232 Interfaces, 1 $\times$ JTAG Interface, 2 $\times$ CAN Interfaces, 1 $\times$ ETM Interface (optional)
Board Size	100mm x 100mm (3.95" x 3.95").