The LPC1300 series includes USB based LPC134x and low power LPC1300L microcontrollers. The LPC1340 includes on-chip USB drivers for mass storage class (MSC) and human interface device (HID). This greatly simplifies USB implementations since the USB drivers are incorporated in ROM, and saves around 5-6 Kbytes of user code. The LPC1300L includes power profiles in ROM and offers low active power consumption at approximately 170 uA/MHz.

**Key features**
- ARM Cortex-M3 processor
- 72 MHz operation
- Nested Vectored Interrupt Controller for fast deterministic interrupts
- Wakeup Interrupt Controller allows automatic wake from an priority interrupt
- Three reduced-power modes: Sleep, Deep-sleep, and Deep power-down
- Memories
  - Up to 32 KB Flash memory
  - Up to 8 KB SRAM
- Serial peripherals
  - USB 2.0 full-speed device controller with on-chip PHY
  - UART with fractional baud rate generation, internal FIFO, and RS-485 support
  - 1-2 SSP/SPI controller with FIFO and multi-protocol capabilities
  - I²C-bus interface supporting full I²C-bus specification and Fast-mode plus with a data rate of 1 Mbit/s, multiple address recognition, and monitor mode
- Analog peripherals:
  - 10-bit analog-to-digital converter (ADC) with eight channels and conversion rates up to 400 K samples per second
- Other peripherals:
  - Up to 42 General Purpose I/O (GPIO) pins with configurable pull-up/down resistors and a new, configurable open-drain operating mode
  - Four general-purpose counter/timers, with a total of four capture inputs and 13 match outputs
  - Programmable Watchdog timer (WDT) with lock-out feature
  - System tick timer
  - Each peripheral has its own clock divider for power savings

**Applications**
- White goods
- e-Metering
- Consumer peripherals
- Remote sensors
- 16/32-bit applications
Built around a Cortex-M3 Rev2 processor core, the LPC1300 is equipped with up to 32 KB of Flash and up to 8 KB of SRAM, uses a single 3.3 V power supply (for operation between 2.0 and 3.6 V), and is available in LQFP48 or HVQFN33 packages.

The LPC1300 series is pin-to-pin compatible with the LPC1100 series, NXP’s new family of Cortex-M0 MCUs, so it gives designers a straightforward migration path to the even lower-power features of the Cortex-M0 architecture.

Also, in keeping with NXP’s existing line of more than 50 USB-equipped ARM MCUs, the LPC134x offers support for USB full-speed operation. HID and mass storage USB driver software is included in a dedicated on-chip ROM, maximizing the amount of Flash memory available for user code.

**Tools**

The LPC1300 series is supported by LPCXpresso, an easy-to-use, comprehensive development tool platform for under US$30. It’s also supported by development tools from IAR, Keil, Hitex, Code Red, and many others. For the most current listing, please visit www.nxp.com/microcontrollers.

**LPCXpresso supports all Cortex-M devices**

LPC1300L (LPC131x/01) include the following enhancements:
- Power profiles enable lower power consumption in Active and Sleep modes
- Four levels for BOD forced reset
- Second SSP controller
- Windowed Watchdog Timer (WWDT)
- Internal pull-up resistors pull up pins to full \( V_{DD} \) level
- Programmable pseudo open-drain mode for GPIO pins

**LPC1300 block diagram**

**LPC1300 selection guide**

<table>
<thead>
<tr>
<th>Type number</th>
<th>Flash</th>
<th>Total SRAM</th>
<th>USB</th>
<th>UART RS-485</th>
<th>I2C/Fast+</th>
<th>SSP/SPI</th>
<th>ADC channels</th>
<th>Packages</th>
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<tbody>
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<td>LPC1343</td>
<td>32 KB</td>
<td>8 KB</td>
<td>Device</td>
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<td>1</td>
<td>8</td>
<td>LQFP48, HVQFN33</td>
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<td>4 KB</td>
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<td>HVQFN33</td>
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<td>8</td>
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