LPC2478 Micro-Blox

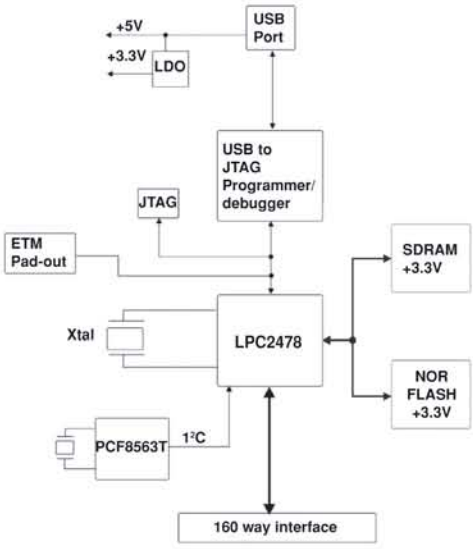
Easy and Comprehensive ARM7 Evaluation

The LPC2478 Micro-Blox is a flexible evaluation platform for rapid assessment and prototyping. It features the LPC2478 ARM7TDMI-S microcontroller from NXP Semiconductor, allowing quick and easy evaluation of the full range of capabilities and features of the LPC2400 family of microcontrollers.

The LPC2478 microcontroller features: An ARM7TDMI-S core capable of operating up to 72MHz; up to 512KB on-chip Flash; up to 98KB on-chip SRAM; 10/100 Ethernet MAC; USB2.0 Full-speed interface (OTG and USB2.0 device); 2 CAN channels; an external memory interface for asynchronous static memory (ROM, RAM, Flash) and Single Data Rate SDRAM; a colour LCD controller for STN and TFT displays supporting up to 8-bit RGB resolution and up to 1024x768 pixels (XGA).

This Micro-Blox board may be used as a stand-alone board or as part of a system using Future Electronics' LongBow base-board which enhances the I/O capability and communication interfaces available to the user. The Micro-Blox connection interface allows board-to-ribbon (for connection to a user's circuit board) or board-to-board connection to the LongBow base-board.

LPC2478 Micro-Blox connected to LongBow Base-board



Block Diagram of LPC2478 Micro-Blox

LPC2478 Micro-Blox Features

- **LPC2478 ARM7 microcontroller (BGA package, 208 locations)**
- **LDO to provide +3.3V locally from the +5V USB supply**
- **Debugging and programming interface using on-board IC with USB 2.0 interface**
- **20 pin JTAG Header**
- **Pad out provision for an Embedded Trace Module connector**
- **16M x 16bit 3.3V SDRAM**
- **8M x 16bit 3.3V NOR Flash**
- **External crystal timing circuit using 12MHz and 32.768KHz crystals**
- **PCF8563TIC external Real Time Clock circuit**
- **160 pin Micro-Blox interface supporting: 3 x UART; USB 2.0 (HOST); USB OTG; SPI; I²C; 8 x ADC; 6 x PWM; 8 x timer/capture; RTC alarm; I²S; DAC, 6x GPIO; MII interface; SD/MMC card interface; LCD interface (8-bit RGB data lines)**

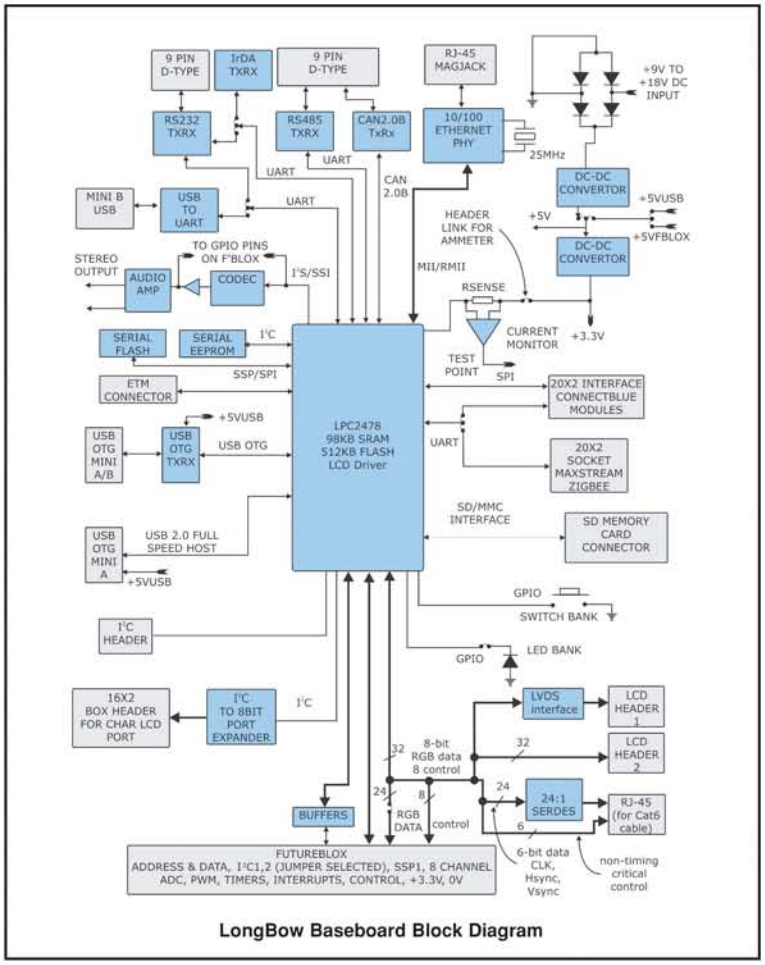
Tools Provided

The LPC2478 Micro-Blox supports device evaluation and application development within a known working environment. The board is preconfigured for development within a µClinux OS environment with µClinux OS loaded into Flash memory. Demonstration code is available, operating under µClinux, which demonstrates operation of a NL2432HC22-41K QVGA display. (This demonstration operates when the LPC2478 is connected to the LongBow base-board). The LPC2478 also comes equipped with evaluation toolset for ARM microcontrollers from IAR.

Micrium µ/OS-II and µ/TCP-IP are provided in source code for FREE evaluation. A Micrium license will be required for the use of µ/OS-II and µ/TCP-IPIP in commercial applications for educational use or for peaceful research. (If you plan on using µ/OS-II and µ/TCP-IP in a commercial product you need to contact Micrium to license its use).

Added functionality in combination with LongBow base-board

For added capability enabling full system evaluation, the LPC2478 Micro-Blox may be used with the LongBow base-board. The combined LongBow and Micro-Blox package allows a wide range of peripheral functionality supported on one board solution supporting the following additional features:



LongBow Baseboard Block Diagram

- **160 pin interface supporting Micro-Blox daughter boards**
- **RS-232; IrDA; RS-485 & CAN2.0B**
- **Current monitoring via ammeter or current monitor IC. (ZXCT1010E5TA from Zetex)**
- **USB2.0 Host and OTG ports**
- **Status LEDs and power LEDs**
- **20x2 interface for Bluetooth & WiLAN modules**
- **20x2 header supporting ZigBee wireless modules**
- **SD memory card interface**
- **16 pin header interface supporting 16x2 alphanumeric LCD**
- **Small buzzer for tone audio feedback**
- **Ethernet port supporting 10/100BASE-T/TX with precision time stamping for IEEE1588 applications (DP83640TVV from National Semiconductor)**
- **160 position Future-Blox Rev 2.3 board-to-board interface**
- **Audio Codec and Class D audio amp (UDA1344 and SA58670BS-G from NXP)**
- **Serdes support for LCD connection using National Semiconductor DS90UR124IVS serialiser**
- **LCD Touchscreen control (LM8300 from National Semiconductor)**
- **Direct interface to the selection of NEC TFT LCDs shown below**

Part Number	Size
NL2432HC22-41K	3.5" QVGA with integrated touchscreen
NL8060BC21-03	8.4" SVGA
NL6448BC33-63D/C	10.1" VGA
NL8060BC31-41D	12.1" SVGA
NL10276BC24-13	12.1" XGA

Ordering Information

Part Number: LPC2478 Micro-Blox.
Register for your free board through
www.my-boardclub.com

Making the Difference