



PowerPC and MicroBlaze Development Kit Virtex-4 FX12 Edition Accelerate Your Embedded Development

Creating a new, real-time embedded system can be quite a challenge today, especially if you are designing your own custom hardware, software and firmware. A completely integrated development environment of hardware, design tools, IP and working reference designs can rapidly accelerate your embedded development.

Xilinx provides powerful Platform FPGA devices with a variety of flexible embedded system capabilities to handle any real-time application. By supplying a spectrum of processing solutions including high-performance hard PowerPC cores, co-processor acceleration options and flexible soft MicroBlaze processor cores, Xilinx can ensure that you have all the programmable elements to build exactly the system you require.

With pre-verified reference designs and a powerful evaluation board integrating a broad set of system options, you can kick-start the design process and focus on adding value to your designs. Intelligent "Platform Aware" tools ease the design process and complete the Xilinx embedded development kit, helping you get to market faster and satisfy your product requirements.



Build Faster and More Flexible Embedded Processing Systems

Programmable platforms and innovative tools allow you to craft an embedded design with the perfect combination of feature set, performance, area, and cost. Choose the most effective processor core for your application, customize your IP, optimize the performance and validate your software on a development board before you even have your own custom hardware back from the shop!

Programmable Platform FPGAs are Versatile SOCs. Programmable, reprogrammable and field-upgradable platforms mean that your product gets to market quicker and has a longer life. System features immersed in the chip allow you to build a wide variety of applications with off-the-shelf devices. Embedded capabilities include hard and soft processor options, processing IP, on-board memory, and even DSP capability.

Complete Spectrum of Processing Options. The Xilinx Virtex-4 FX12 and the ML403 evaluation platform support both the high performance PowerPC hard and flexible MicroBlaze soft processing cores. Choose the appropriate processing core for your application and feel confident knowing that the IP and tools are a unified environment.

Optimize Your Design. Broad features of the ML403 development board empower you to optimize performance via a high bandwidth Auxiliary Processor Unit (APU) controller to execute custom instructions, integrated Ethernet MACs, multiple memory, audio, video and other interfaces.

Intelligent Tools and Reference Designs Accelerate Development. Easy to use design wizards and automatic generators will reduce user errors and streamline the development process, even generating software drivers, sample test code and BSPs (Board Support Packages). Integrated HW/SW debuggers enable finding and fixing bugs faster and more efficiently.

The PowerPC and MicroBlaze Development Kit Virtex-4 FX12 Edition includes the following:

- Virtex-4 ML403 Development Board
- Platform Studio embedded tool suite
- ISE FPGA design software
- Pre-Verified Reference Designs
- All documentation, JTAG Probe, Power Supply, Cables and FLASH Device

ML403 Evaluation Platform (Development Board):

- Xilinx Devices – XC4VFX12-FF668-10C, XC95144XL, XCCACE, XCF32P
- Memory – 64 MB DDR SDRAM, 1 MB ZBT SRAM, 512 MB Compact Flash, 8MB Linear Flash, and 4kb IIC EEPROM
- Clocks – 100 MHz Oscillator and 2 Clock Sockets
- Display – 16 x 2 Character LCD
- Connectors and Interfaces – 4 SMA Connectors, 2 PS/2 Connectors, 2 Audio, RS-232 Serial Port, 3 USB Ports, PC4 JTAG, DB15 VGA, RJ-45 Ethernet, and GPIO

Development Tools and IP

(for both PowerPC and MicroBlaze core design):

- Embedded Development Kit with Platform Studio embedded tool suite
 - Graphical tools for developing/debugging embedded platforms
 - GNU compiler, debugger & utilities
 - Platform Studio SDK – Software Development Kit, Eclipse-based IDE for powerful embedded software development and debug
 - MicroBlaze soft processor license
 - IP library of processor peripheral cores and other evaluation cores
 - XMD – Xilinx Microprocessor Debug engine for run time target control
- ISE FPGA design tool suite
 - Timing driven FPGA hardware implementation tools
 - Design entry, synthesis and verification capabilities
 - Data2MEM – application for loading on-chip memory



ML403 Development Board

Embedded Design Services – XDS

Xilinx Design Services (XDS) experience in system, logic and embedded software design complements your own resources to optimize your budget, schedule and performance requirements. Go to www.xilinx.com/xds for further information on how XDS can help you solve your schedule and design challenges.

Embedded Systems Training and Development Courses

Learn how to effectively develop, debug and simulate an embedded system using the newest advancements in Platform Studio technology. A variety of courses available. Go to www.support.xilinx.com/support/education-home.htm to learn more.

Take the Next Step

For more information on all Xilinx Embedded Processing Solutions, please start your visit at: www.xilinx.com/processor

Ordering Info:

Part number: DO-ML403-EDK-ISE



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