

FPGA Development Kit

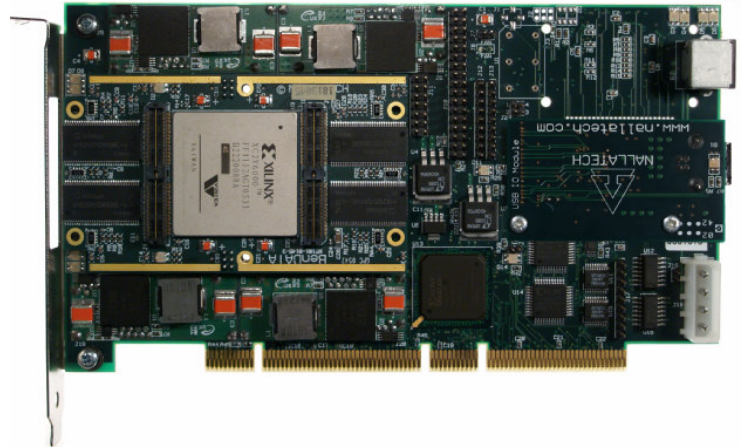
Xilinx Virtex-II FPGA and DDR SDRAM



This high performance FPGA development platform provides users with a professional, easy to use and low risk solution ideal for FPGA application development.

A Xilinx™ Virtex™-II FPGA is available exclusively for user applications, while four independent banks of DDR SDRAM memory provide users with 3.2GBytes/s of memory bandwidth.

The card interfaces to host computers via PCI or USB, and is supplied with software and drivers supporting both Windows® and Linux® operating systems. Documentation, example designs and VHDL source code is supplied in addition to technical support and a hardware warranty.



Xilinx Virtex-II FPGA and 1GB of DDR SDRAM



Key features

- » PCI form factor with USB support
- » Onboard Xilinx Virtex-II FPGAs. Up to:
 - 52k logic cells
 - 120 embedded multipliers
 - 2,160 kbits of BRAM
- » Four independent banks of DDR SDRAM memory
- » Multiple off-card digital I/O headers
- » Onboard programmable clock sources
- » Windows and Linux Operating System support

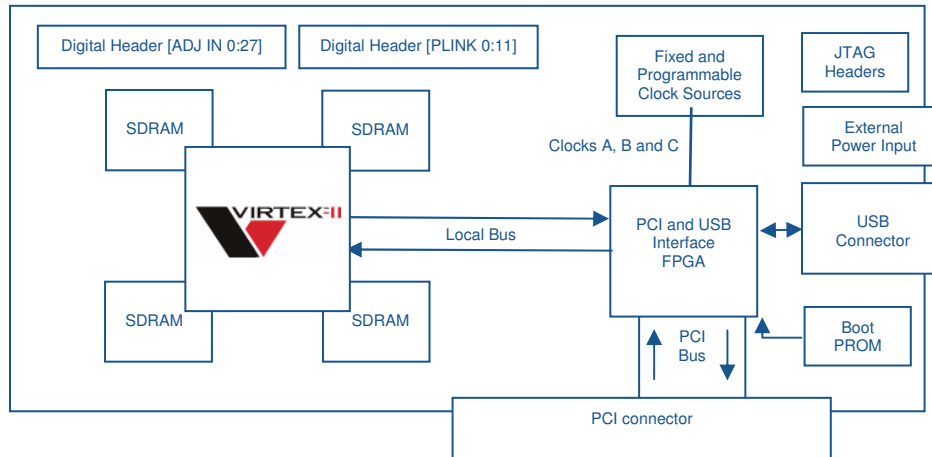
Benefits

- » PCI and USB
 - Industry standard host computer interfaces
- » 1GB of DDR SDRAM memory
 - Four banks of independently selectable DDR memory allow large amounts of real-time data to be stored quickly in a local environment independent of the PCI bus
- » Support for multiple FPGA design flows
 - Easy application development, enhanced functionality

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Functional diagram



Full specification

Form factor	External interfaces (Digital I/O)	Electrical	Cooling
» Half-length PCI	» ADJ IN [0:27] - 3.3V interface - Single-ended, bi-directional LVTTTL	» On-card power derived from +3.3V and PCI slot	» Fitted with active cooling (chip fans).
Host interface	» PLINK [0:11] - 3.3V interface - Single-ended, bi-directional LVTTTL	» Maximum power dissipation of up to 25W via PCI slot	» Passive heatsink option available on request - require forced-air cooling
Host interface performance	Clocking	» FPGA power dissipation - application dependent	Environmental
» Theoretical maximum performance 132 Mbytes/s	» Two programmable clock domains and a fixed oscillator clock	» Optional power header for applications that require more than the power available via the PCI bus	» Cooling: Air convection
» Actual performance up to 80 MBytes/s (sustained) - performance is host computer chipset and operating system dependant	Software	Quality	» Operating temperature: 0 °C to 50 °C
FPGA processing	» Nallatech API for Windows 32-bit, Linux 32-bit and 64-bit.	» Manufactured and delivered to meet IPC610-Class 3 standard.	» Storage temperature: -20 °C to 80 °C
» Choice of Xilinx Virtex-II FGAs: 2V3000-4 2V3000-5 2V6000-4 2V8000-4	» Runtime FPGA programming, hardware control, and application communication.	» Designed and Supplied to ISO9001:2000 certification	» Relative humidity: 45 to 95% (non-condensing)
FPGA programming	Application development software	Ordering and deliverables	Ordering
» Embedded JTAG programming through API software functions	» Compatible with Nallatech optional DIMETalk software	Deliverables	» Product order codes: 2V3000-4 : NT-BDD-3-4 2V3000-5 : NT-BDD-3-5 2V6000-4 : NT-BDD-6-4 2V8000-4 : NT-BDD-8-4
SDRAM memory	» Supports multiple design flows including VHDL, Verilog®, and Xilinx System Generator®	» API software and documentation CD	
» 1 GB DDR SDRAM	» Compatible with all major synthesis design flows and Xilinx ISE	» 30 days product maintenance (technical support, support lounge access)	
» Four independent 250 MB banks		Additional options	
» 32-bit data bus per bank		» DIMETalk software	
» Max clock frequency: 100MHz DDR		» FUSE Toolbox for MATLAB®	
» Max bandwidth per bank: 0.8 GB/s			
» Total module bandwidth: 3.2GB/s			
» DDR SDRAM controller IP core included			

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