

BenBLUE-V4

Dual Virtex-4 and memory DIME-II module

Product Brief

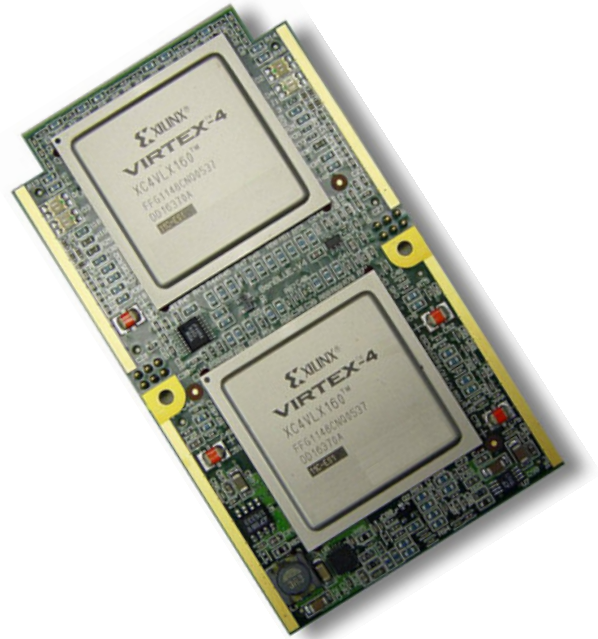
Overview

The BenBLUE-V4 delivers high processing density for the most extreme processing applications.

The BenBLUE-V4 combines two Xilinx® Virtex™ 4 LX FPGAs, and 64 MB of DDR-II SRAM in eight independent banks. This creates an effective processing and memory expansion for Nallatech PCI-X, PCI, PCI-104 and VME64-VXS COTS computing systems.

The high-bandwidth DDR-II SRAM gives developers the full processing capability of the onboard Virtex-4 FPGAs to create leading application performance.

The BenBLUE-V4 is designed for easy, low risk system integration or in-field deployment.



Dual Virtex-4 FPGA and SRAM memory module



Key features

- » DIME-II expansion module
- » Dual onboard Xilinx Virtex-4 User FPGAs
- » 64 MB DDR-II SRAM – 8 independent banks
- » 12.8 GB/s total SRAM memory bandwidth
- » Includes DDR-II SRAM FPGA IP Core
- » FUSE system software compatible
- » Compatible Nallatech motherboards available for PCI-X, PCI, PCI-104, PCI-104 and VME64-VXS

Benefits

- » Extremely high-bandwidth DDR-II SRAM
Achieve maximum application performance
- » Supported in FUSE and DIMetalk software
Easy application development, enhanced functionality
- » Compatible with multiple FPGA design flows
Easy application development, enhanced functionality
- » Ready to use solution for demanding applications
Shortens development times and reduces risk

BenBLUE-V4

Dual Virtex-4 and memory DIME-II module

Technical specification

User FPGA

- » Dual Xilinx Virtex-4 FPGA
- » Standard option: XC4VLX 160-11

FPGA key features

Logic cells	LX160
	152,06
	4
XtremeDSP slices	96
kb block RAM	5,184

Figures shown are for one device. Double for module capability.

Full FPGA specification from www.xilinx.com

FPGA programming

- » Embedded JTAG programming through FUSE software functions

DDR-II SRAM memory

- » 64 MB DDR-II SRAM
- » DDR-II SRAM controller IP core included
- » Eight independent 8 MB banks – 4 per FPGA
- » 32-bit data bus per bank
- » Max. data rate: 400 Mbits/s
- » Max. bandwidth per bank: 1.6 GB/s
- » Max. bandwidth (per module): 12.8 GB/s

I/O

- » Up to 385 motherboard-module user I/O lines – motherboard dependant
- » Tri-color user status LEDs

Clocking

- » Three programmable clock domains driven from DIME-II motherboard
- » Dedicated 200 MHz oscillator for SRAM

Electrical

- » Power consumption is application dependant.

Application development software

- » Supported in Nallatech DIMEtalk software for FPGA communications network design and implementation
- » Supports multiple design flows including VHDL, Verilog®, System Generator®
- » Compatible with all major synthesis design flows
- » Compatible with Xilinx ISE Implementation software

Software

- » Fully compatible with Nallatech FUSE software for runtime FPGA programming, hardware control and communication

Quality

- » Manufactured to IPC610 Class III (standard options)
- » Designed and supplied to ISO9001:2000 certification

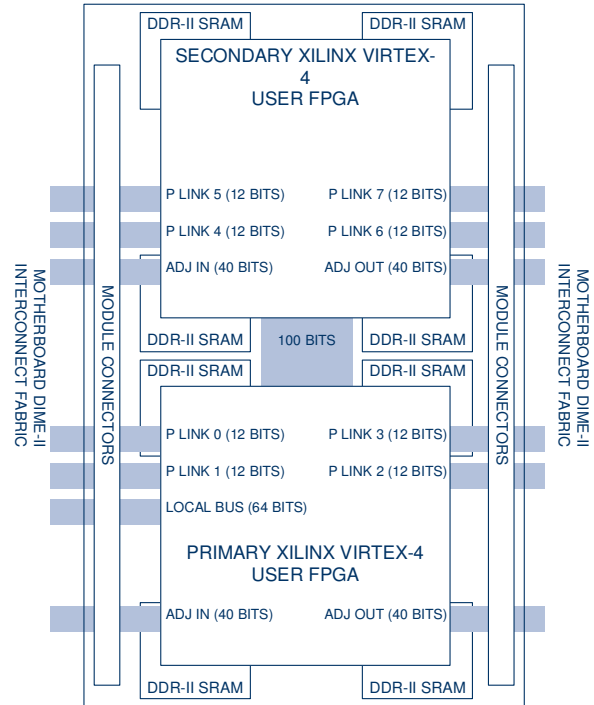
Cooling

- » FPGA active cooling fan or passive heatsink provided for user FPGA (specify when ordering)
- » Passive heatsink requires adequate forced-air cooling

Environmental

- » Cooling: Air convection
- » Operating temperature: 0°C to 50°C
- » Storage temperature: -20°C to 80°C
- » Relative humidity: 10 to 95% (non-condensing)

Functional diagram



All DIME-II buses are bi-directional. Where a bus name implies a direction in/out, this is just a conceptual name and the bus can be used in either direction. Single-ended LVTTT and Differential LVDS signalling are supported.

Ordering and deliverables

Deliverables

- » BenBLUE-V4 module
- » Software documentation CD
- » DDR-II SRAM FPGA IP Core
- » 30 days product maintenance (technical support, support lounge access)

Ordering

- » Contact Nallatech for lead-time and pricing information.
- » Refer to the DIME-II *Product Ordering Guide* for product order codes

Additional options

- » DIMEtalk software
- » FUSE Toolbox for MATLAB®

Contact us today for more information:

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