Version 1.3 2007

PEX 8548 RDK

ExpressLane™ PEX 8548 Rapid Development Kit

Features

- **PEX 8548 RDK Hardware Module**
  - Module with on-board PEX 8548 PCI Express switch
  - Configurable in up to 6 downstream PCI Express Ports
    - Two x16
    - One x16 and two x8
    - One x16, one x8, and two x4
    - Four x8
    - Three x8 and two x4
    - Two x8 and four x4
  - Plugs into a standard PCI Express slot
  - On-board RefClk fan-out buffer, Hot Plug controller, EEPROM, JTAG, and I^2C Interface

- **Complete Design Documents**
  - Schematics & Symbol
  - Layout source with Gerber files
  - Hardware Reference Manual
  - Software User's Manual
  - Quick Start Design Guide
  - Schematic Design Checklist
  - Bill of Materials

- **PEX 8548 Software**
  - GUI debug utility
  - PEX API & drivers with complete source code
  - EEPROM images for common configurations
  - Sample applications & code
  - Command Line applications

- **Software Environment**
  - Windows 2000, Windows 2003, Windows XP, and Windows Vista
  - Linux v2.4 & v2.6

PLX TECHNOLOGY
THE I/O INTERCONNECT SOLUTION

Multi-purpose Software and Hardware Development Kit

The *ExpressLane* PEX 8548 Rapid Development Kit (RDK) contains powerful tools that allow PEX 8548 users to rapidly develop their hardware and software for easy and timely delivery of their products to market.

The PEX 8548 RDK includes software and hardware components providing everything that a user may need to get started with the device design in their system. In fact, software and hardware components of the RDK allow users to start their development as soon as they receive it.

The hardware provides instant access to the silicon and documentation enables users to utilize hardware reference design schematics, bill of materials, OrCAD symbols and Gerber files to start their hardware design right away.

The software component contains a set of files and Graphical User Interface (GUI) that would allow customers to start evaluating the silicon or writing their configuration code as soon as they power up the system.

Software Architecture Overview

The Software Development Kit (SDK) package supports all PLX *ExpressLane* PCI Express bridges and switches. It is composed of three layers; User Applications, PEX API, and Device Drivers (shown in Figure 1). The SDK benefits the design community by providing a uniform user interface and driver implementation.

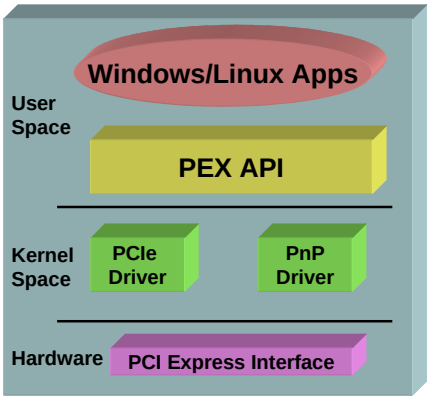

Figure 1. Software Architecture

Software Features

The SDK contains software for various host environments where the PEX 8548 is accessed through its PCI Express ports, typically through a device driver. This package includes the following features:

- PCI/PCIe Device APIs and device drivers compatible with Windows 2000, Windows 2003, Windows XP, and Windows Vista
- User-friendly Graphical User Interface (GUI) and applications
- PCI/PCIe Device API and device drivers compatible with Linux
- Easy download and install (www.plxtech.com/sdk)

Device Drivers

The PEX SDK contains two types of Windows device drivers. The first type is a Windows PCIe service driver for Transparent Mode of operation. The other category of device drivers is a standard driver for Non-Transparent bridging applications.

PCI Express API Library

The PEX SDK includes a PEX API for applications that require communication with multiple Device API libraries. The PEX API provides a set of functions that allow the user to access any PEX 8000 series device type.

Graphical User Interface (GUI)

The GUI utility allows the user to download/upload configurations, load EEPROM images, build code, and use other utilities provided by the SDK.

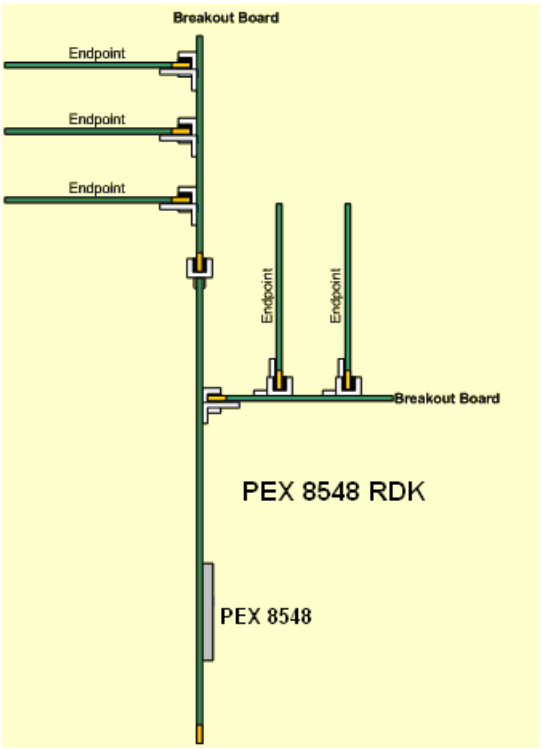

Figure 2. PEX 8548 RDK Side-view w/ Breakout Boards

Hardware Module

The hardware module includes the PEX 8548 with two x16 downstream ports (female connectors). These two slots can be used to plug in x16 endpoints (such as graphics cards). Alternatively, the 2 Breakout Boards can be used to break these x16 slots out into smaller slots. One Breakout Board will split the x16 slot into two x8 slots. The other Breakout Board will split the x16 slot into one x8 and 2 x4 slots (see Figure 2).

The PEX 8548 RDK board can be installed as an add-in card in a motherboard, tester module or any other system that supports standard PCI Express connectors. It can also be utilized as an independent PCI Express switching module with its own (external) power supply configured as a bench-top board accommodating other PCI Express modules as riser cards.

The PEX 8548 RDK hardware module can be used to develop, test and validate your software independent of the SDK provided by the PLX. Additionally, it can be used as an evaluation vehicle for the PEX 8548 features and benefits.

The hardware module provides the following additional features:

- Onboard RefClk fan-out buffer
- Hot Plug controller for one of the PCI Express ports
- Serial EEPROM, JTAG, and I^2C interfaces to configure/monitor the registers
- LEDs to show status of all 9 ports
- DIP switches to control port configuration and Hot Plug
- Manual PERST# capability

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Product Ordering Information

Part Number	Description
PEX 8548-AA RDK	PEX 8548 Rapid Development Kit w/ x16 Edge Connector
PEX 8548S-AA RDK	PEX 8548S Rapid Development Kit w/ x16 Edge Connector
Breakout Board-88	Breakout Board w/ x16 Edge Connector for additional fan-out to two slots (x8, x8)
Breakout Board-844	Breakout Board w/ x16 Edge Connector for additional fan-out to three slots (x8, x4, x4)

Please visit the PLX Web site at http://www.plxtech.com or contact PLX sales at 408-774-9060 for sampling.