

## PEX 8111 Key Features

- ◆ Small Package Size
  - 10x10mm<sup>2</sup> Fine-Pitch BGA
  - 13x13mm<sup>2</sup> Std-Pitch BGA
- ◆ Low Power (400mW)
- ◆ Single (x1) PCI Express Lane
- ◆ 32-bit/66 MHz PCI Interface
- ◆ Supports Both Forward- and Reverse-Mode PCI Express to PCI Bridging

## Other Features

- ◆ Large 8KB Internal FIFO
- ◆ 128 byte maximum PCI Express payload size
- ◆ 3.3V I/O and 5V tolerant PCI
- ◆ PCI Express Flow Control Buffering
- ◆ Eight (8) outstanding PCI Express Transactions
- ◆ Completely integrated PCI Express PHY
- ◆ External EEPROM configuration option
- ◆ Four (4) GPIO pins for maximum design flexibility
- ◆ JTAG
- ◆ External arbiter or internal programmable arbitration for up to four bus masters
- ◆ Option to provide PCI clock
- ◆ Supports PCI and Virtual Interrupts (MSI)
- ◆ Lead-free packaging also available

## Application:

### ***PCI Express USB 2.0 Host Card Adapter***

## PLX Product:

### ***PEX 8111 – x1 PCIe-to-PCI Bridge***

## Key Benefit:

### ***Continued use of Legacy Devices in new PCI Express Architectures***

## Legacy PCI native USB 2.0 Host Card Adapter

Universal Serial Bus (USB) is a widely accepted standard that can be found on all PCs and notebooks shipping today. However, the number of USB devices allowed to connect to a computer is dependent on the number of physical ports the integrated USB host controller can accommodate. A USB 2.0 Host Card Adapter is used to expand USB connectivity, but this PCI native legacy device is obsolete in the new PCIe-based PCs now shipping. This is a problem for PCIe systems looking to expand the number of available USB ports. There is a need for a USB 2.0 Host Card Adapter based upon the PCIe architecture.



## A PCI to PCIe Bridge solves the problem

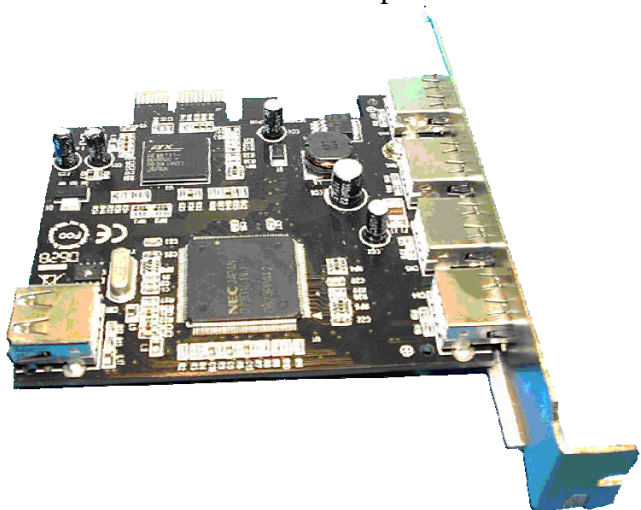


The simple addition of the ExpressLane™ PEX 8111 will quickly solve this problem. This will allow continued usage of PCI-based legacy devices, without the need to redesign the silicon to support PCIe in the now ubiquitous PCIe PCs and notebooks.

The PEX 8111 supports up to a 66MHz, 32-bit PCI bus and converts it to a single x1 lane of PCI Express in Forward Mode. The PEX 8111 was built for opportunities that exist for USB 2.0 Host Card Adapter boards. The PEX 8111 makes it easy to convert any PCI solution into a PCIe solution, thereby giving manufacturers the flexibility to supply PCIe-based solutions for the next-generation computers.

The addition of the PEX 8111 requires only one (1) square centimeter of additional board real estate to convert the PCI interface to a single x1 lane PCIe. In addition, the bridge only draws 400 milliwatts of additional power. The small footprint, low power consumption and low cost of the PEX 8111 make it an ideal fit for this application.

PCIe USB 2.0 Host Card Adapter:



Now that the PEX 8111 easily transforms existing USB2.0 Host Card Adapters into a PCIe solution, legacy PCI devices can still be used. Therefore, customers can continue to use PCI cards based on their specific requirements (LAN, audio, graphics, etc.) or even custom cards with no plans of transitioning into the PCIe protocol. A simple PCIe USB 2.0 Host Card Adapter with the ExpressLane PEX 8111 is the solution!

## Shipping NOW!

The PEX 8111 is in production today and samples are in stock at PLX. There are two packages available in both lead-free ROHS compliant versions as well as the traditional leaded packages:

Part Number	Description
PEX8111-BB66BC	Standard BGA Package
PEX8111-BB66FBC	Fine-pitch BGA Package
PEX8111-BB66BC F	Standard BGA Package, Lead-Free
PEX8111-BB66FBC F	Fine-pitch BGA Package, Lead-Free

## Key Advantage of using PLX

PLX is the industry's leading supplier of PCI Express Bridges and Switches. The company is focused on the design and support of silicon in all PCI Express systems. Below is a table showcasing the PCIe bridges that are available today.

PCIe Bridges	Lanes	Description
<a href="#">PEX 8111</a>	x1	PCI-to-PCIe
<a href="#">PEX 8112</a>	x1	PCI-to-PCIe
<a href="#">PEX 8114</a>	x4	PCI-X-to-PCIe
<a href="#">PEX 8311</a>	x1	Local bus to PCIe

PLX also offers a [PCI Bus to USB 2.0 Bridge chip](#) that converts PCI native devices into a USB solution.

## Design Tools & Documentation:

On the PLX Website:

<http://www.plxtech.com/8111>

- ◆ Data Book, Product Brief, IBIS Models, HSPICE Models, BSDL Files

### Contact Information

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