

# Xilinx Solutions for PCI Express® Made Easy



## PCI Express Design Challenges

- Scaling performance to meet changing requirements
- Building systems for smaller form factors and stringent power budgets, at lower costs
- Getting to market faster with proven interoperability and lowest risk

## Xilinx PCI Express Solutions

- Virtex-5 FPGAs with built-in hard-IP provide a scalable, low power, and fast time-to-market solution for multi-lane PCIe applications
- Optional Soft-IP for Virtex-series FPGAs
- Spartan-3 generation FPGAs plus external PHYs provide a low-cost solution for cost-sensitive applications

Xilinx helps you implement PCI Express® designs in the shortest possible time with easy-to-use 1-8 lane solutions to meet performance, power and cost targets.

### Future-proof your Application with Scalable Performance

With built-in features to support PCIe® in Virtex-5 LXT & SXT platforms, you can easily scale from 1-8 lanes and migrate from the Gen1 to Gen2 specification. Design for today and tomorrow with cross-platform pin compatibility.

### Reduce Power with Built-in Blocks for PCIe

65nm Virtex-5 FPGAs with built-in, power optimized RocketIO GTP transceivers and a built-in endpoint block for PCIe ensures lowest power consumption.

### Lower Cost for a Wide Range of Applications

Spartan-3 generation FPGAs with soft endpoint IP for PCIe and external PHY provides the lowest cost programmable PCIe solution for consumer applications. For systems requiring greater logic density and performance, Virtex-5 FPGAs with built-in transceivers and endpoint block for PCIe help you choose the smallest device for multi-lane applications.

### Reduce Risk with Proven Compliance & Protocol Characterization

Xilinx solutions for PCIe are certified at PCI-SIG workshops (see Integrator's List) and characterized across process, voltage, and temperature.

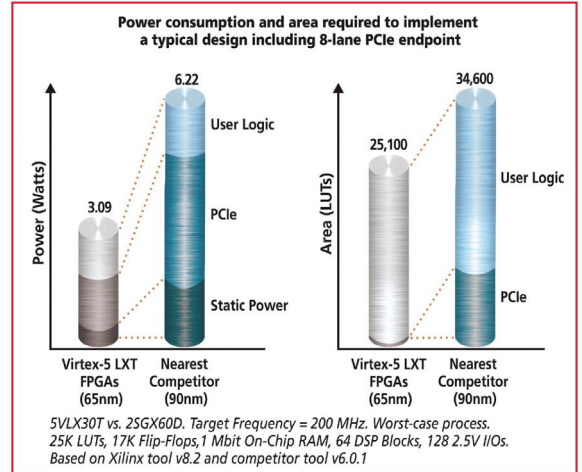
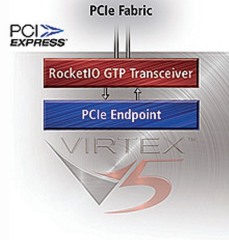
### Finish Faster with Easy-to-Use Development Kits

Xilinx development kits include hardware verified IP, tools, reference designs, and development boards to help you reduce design time by >50%.

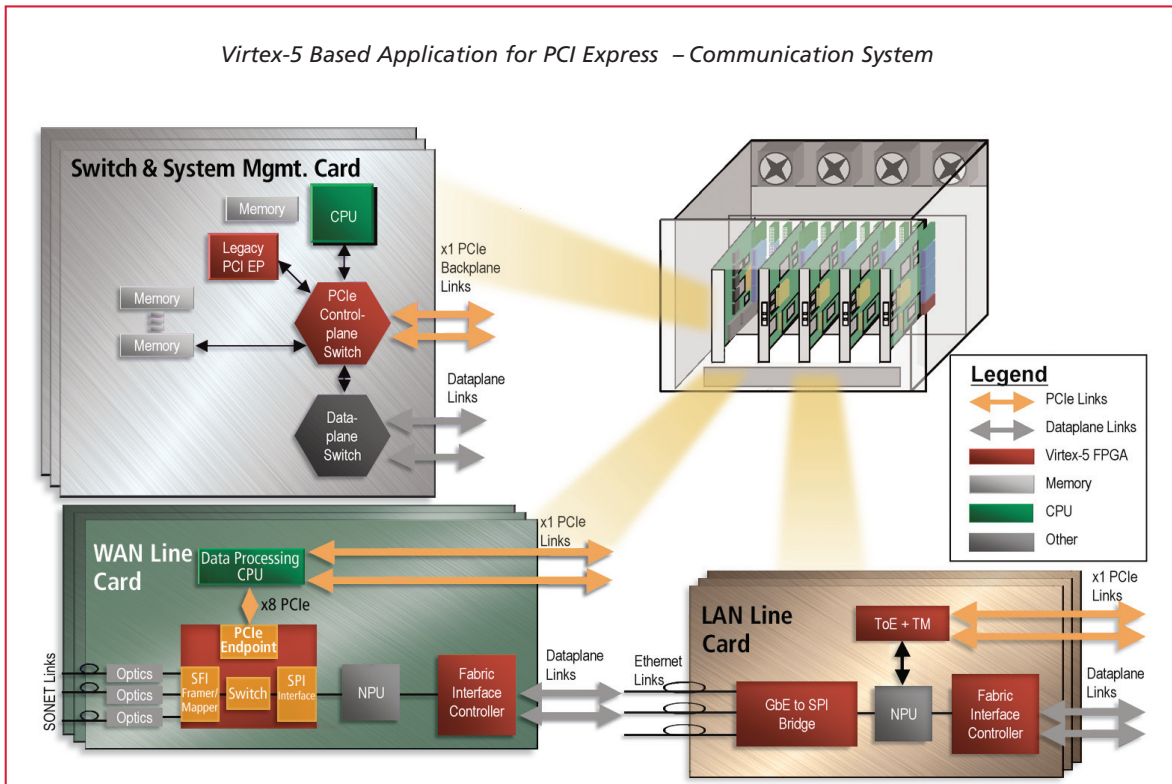
# High Performance Solutions for PCI Express – Virtex FPGAs

## Virtex-5 LXT/SXT

- Built-in solution: x1-x8 PCIe Endpoint block and transceivers
- Hardware verified to PCIe Base Specification v1.1
- MSI and INTx emulation and configurable BARs for memory or I/O
- 128 to 4,096 byte maximum payload size (MPS), 2 VCs
- IP delivered through CORE Generator using built-in PCIe blocks and transceivers
- Optional soft IP core enables multiple endpoints for redundancy



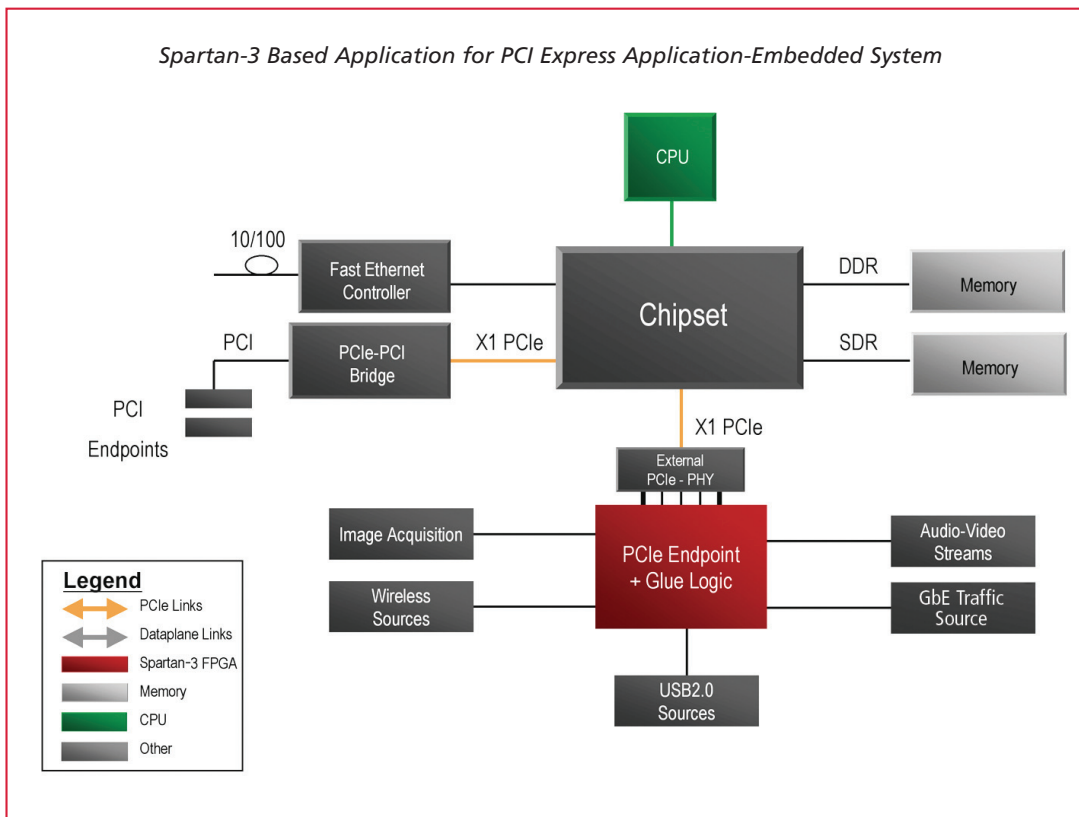
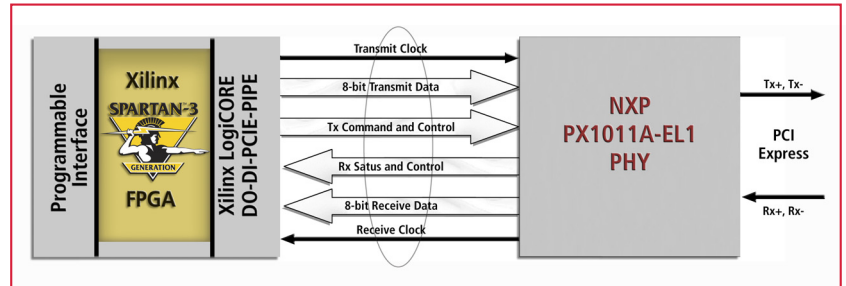
## Virtex-5 Based Application for PCI Express – Communication System



# Low Cost Solutions for PCI Express – Spartan FPGAs

## Spartan-3 Generation

- x1 PCIe Endpoint soft IP with external PHY
- Compliant to PCIe Base Specification v1.1
- MSI and INTx emulation and configurable BARs for memory or I/O
- 512 bytes maximum payload size (MPS), 1VC, power management
- Delivered through CORE Generator as configurable IP with PIPE interface



# PCI Express Development Kits

## Virtex-5 Edition



MSRP: \$2200

### Development Kits include:

- Development Board
- Download Cable
- Software (60 day eval)
- LogiCORE IP
- Reference Designs
- Drivers and GUI
- Quick start guide (Multi-Lingual)
- Tech Docs and Collateral

## Spartan-3 Edition



MSRP: \$349

### Learn more about Xilinx Solutions for PCI Express

- Demo-on-Demand
- Techonline webcast
- Sign up for a 2-day class
- Order a development kit
- Call your Xilinx sales representative for a demo
- Contact [platformsteam@xilinx.com](mailto:platformsteam@xilinx.com)

## TAKE THE NEXT STEP

Visit us online at [www.xilinx.com/pciexpress](http://www.xilinx.com/pciexpress)

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