

CADENCE SPEEDBRIDGE ADAPTER FOR PCI-X

The Cadence® SpeedBridge® Adapter for PCI-X (32/64 bit) is a pre-validated in-circuit emulation interface that allows an emulated design in a Cadence Incisive® Palladium® system to interface with a host platform. Ideally suited for system-level testing and integration of PCI or PCI-X based device ASICs, it enables rapid deployment of high-performance in-circuit emulation. With the SpeedBridge Adapter for PCI-X, software applications and device drivers can be verified with actual software and hardware, dramatically improving verification productivity.

SPEEDBRIDGE ADAPTER FOR PCI-X

The PCI-X bus has gained popularity across embedded electronics industries. This demands that many designs such as multimedia, embedded controller, and network devices have a built-in PCI-X interface for compatibility, testability, and programmability. To address the verification and integration needs for these market segments, Cadence offers an off-the-shelf in-circuit emulation (ICE) solution for PCI or PCI-X buses.

The SpeedBridge Adapter for PCI-X contains 64-bit PCI-X interfaces. One runs at protocol speed and the other runs at an emulation speed. Each interface is capable of sending 32- or 64-bit transactions to the other side. The SpeedBridge Adapter for PCI-X interfaces with most existing PCI-capable hosts, without requiring modification. It connects directly to a Cadence emulation system through standard emulation cables.

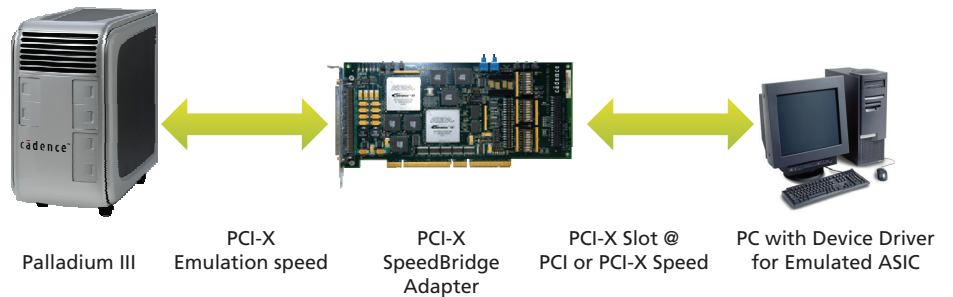


Figure 1: The Cadence SpeedBridge Adapter for PCI-X enables high-performance emulation system verification

BENEFITS

- Reduces system risk
 - Enables PCI or PCI-X device verification in SoC/system environment
 - Enables verification of software/drivers/interfaces
 - Enables collaboration among hardware/software engineers for efficient debugging with respective views
- Improves productivity
 - Offers a high-performance emulation solution for verifying PCI-X devices
 - Enables software development early in design cycle
 - Enables hardware/software co-verification
 - Requires no special firmware for the emulated PCI device
- Enables IP re-use
 - Delivers a pre-validated ICE interface known to work with Palladium systems from one project to another
 - Eliminates the need for users to develop complex bridge solutions for standard-based interface protocols
 - Enables rapid emulation deployment
 - Ready to be used for any PCI-X applications
- Enables advanced debugging
 - Leverages advanced Palladium debugging capabilities such as FullVision and InfiniTrace
 - Offers on-board DIP switches and LED indicators

FEATURES

- Supports emulation clock rates up to maximum emulation speed
 - Supports stopping of emulation clock
- Supports multiple modes and transactions
 - Connects an emulated design running to a PCI- or PCI-X-capable host at high speed
 - Adapter is transparent to software drivers; neither the host platform nor the emulated device detects its presence
 - Supports bus mastering on full-speed and emulation-speed buses
 - Supports a subset of the available PCI-X transaction types
- Supports configuration reads and writes
- I/O reads and writes
- Memory reads and writes
- Memory write and invalidate
- Memory read line; memory read multiple
- Dual address cycles
- Full burst and non-burst transaction (4k bytes internal data buffers for storing burst transactions)
- Split response/split completion transactions
- Offers enhanced debug capabilities through use of Incisive platform technology
 - Fully static implementation supports advanced emulation debug features of the Palladium system when debugging a design; for detailed information about this feature, email incisive_info@cadence.com

SPECIFICATIONS

- Compatibility
 - 33MHz PCI 2.3 and PCI-X 1.0
- Emulated device support/modes
 - 32/64-bit PCI
 - 32/64-bit PCI-X
- Emulation side
 - PCI-X at emulation speed
- Host side
 - PCI-X at full speed
- Modes
 - Bus master and/or slave at full speed and emulation speed buses
 - Target
- Transaction types
 - Burst or non-burst
 - PCI-X split response/split completions
- Power (typical)
 - 3.3V and 5V
- Status indicators
 - LED to indicate power, PCI mode, diagnostic/error display, and traffic activity

CADENCE SERVICES AND SUPPORT

- Cadence application engineers can answer your technical questions by telephone, email, or internet—they can also provide technical assistance and custom training
- SourceLink® online customer support gives you answers to your technical questions—24 hours a day, 7 days a week—including the latest in quarterly software rollups, product release information, technical documentation, software updates, and more
- Cadence-certified instructors teach more than 80 courses and bring their real-world experience into the classroom
- More than 25 Internet Learning Series (iLS) online courses allow you the flexibility of training at your own computer via the Internet

FOR MORE INFORMATION

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