



Volume 2:

World's first PCI Express demonstration a success



PCI Express demonstration held at the WinHEC

On May 5 (U.S. time), NEC Electronics America successfully demonstrated the PCI Express™ system, the next-generation bus standard advocated by Intel Corporation, at the Windows® Hardware Engineering Conference (WinHEC) in New Orleans. The PCI Express endpoint controller jointly developed by NEC Electronics America and NEC Electronics demonstrated file transfer and video playback functions, and showed that PCI Express is proven in NEC Electronics technology.

Since the PCI bus standard now widely employed in PCs, servers, and other applications is no longer sufficient for data throughput in sectors such as high-end storage devices and gigabit-class network communication devices, there has been growing demand for a new standard capable of higher performance. PCI Express, created in response to this demand, is a full-duplex serial interface technology that makes it possible to realize a transmission rate of 2.5 Gbits/lane. This technology also makes it possible to enhance performance and reduce the size of PCs, servers and network products, and it also can be used to expand bandwidth up to 32 lanes.

NEC Electronics America, in collaboration with the 1st Custom LSI Division of NEC Electronics Corporation, has promoted the development of technology compliant with this standard, and first demonstrated the 4-lane PCI Express PHY chip and 4-lane endpoint controller (implemented in an FPGA) at Intel Developer Forum Fall in September 2002.

At the WinHEC demonstration, file transfers and video playback operations were successfully performed with the user logic memory function implemented in the FPGA behind the jointly developed PCI Express end point controller, proving software compatibility between PCI Express technology and the now widely popular PCI interface technology.

In addition, it was confirmed at WinHEC that the chips designed by NEC Electronics and Intel Corporation under the same PCI Express specifications can be connected at the application level. It was thus shown that our PCI Express ASIC core in this test chip can be used in practical application-level implementations. Those in the industry and, in particular, people involved in developing the specifications of PCI Express gave a big round of applause after the successful demonstration.

Using our cell-based IC, we plan to offer a PCI Express Development Board mounted with the test chip used in this demonstration to customers who develop products compliant with the PCI Express chip. We will also provide solutions that enable our customers to save time and money during the development process.

* Windows is a registered trademark of Microsoft Corporation in the U.S. and other countries.

* PCI Express is a trademark of the Peripheral Component Interchange Special Interest Group (PCI-SIG).

- [NEC Electronics press release](#)

- [Intel website \(PCI Express Home\)](#)
- [PCI-SIG website](#)

[◀ INDEX](#) [← BACK](#)

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