**PLDA and Samtec Demonstrate PCIe 4.0 Communication over Twinax Cables Allowing Full 16GT/s PCIe 4.0 Bandwidth at Minimal Manufacturing Cost**

*The joint demonstration combines PLDA’s PCIe 4.0 IP solutions and Samtec interconnect to deliver PCIe 4.0 speed without the use of retimers or updated motherboard using MEGTRON 6 technologies, significantly reducing cost*

**San Jose, California – November 20, 2018** – PLDA, the industry leader in PCI Express® controller IP solutions and Samtec, a privately held $800MM global manufacturer of a broad line of electronic interconnect solutions, today announced a demo of their combined PCIe 4.0 solution that delivers full PCIe 4.0 bandwidth (16 GT/s) over copper or optical fiber at minimal cost.

The solution is based on a PLDA PCIe 4.0 acquisition board running PLDA’s PCIe 4.0 controller IP combined with Samtec’s FireFly™ Micro Flyover System™. This demo suggests a solution to overcoming the inherent limitations of maintaining PCIe 4.0 performance over long distances without changing the motherboard technology or using costly retimers.

As cloud computing and deep learning accelerators drive faster advances in the PCIe roadmap, existing hardware designs cannot support the higher speed signals over the same distances. The PCIe 1.0 specification allowed signals to travel as much as 20 inches over traces in mainstream FR4 boards, even while passing through two connectors.

In contrast, today’s quicker 16 GT/s PCIe 4.0 signals will peter out in under six inches and without going over any connectors. In today’s designs, PCIe 4.0 signals can only travel three to five inches, requiring costly redesigns, moving to MEGTRON 6 and adding a retimer for increased distance.

The PLDA and Samtec solution demonstrates an alternate approach using optical fiber (330 feet) or Twinax Flyover™ Systems (10 inches) to deliver PCIe 4.0 x4 with no significant loss of bandwidth.

**Demo Overview and benefits:**

* PLDA’s demo shows a system running at 16 GT/s and displaying relevant throughput and latency measurements. The demo result shows the bandwidth is not impacted by distance when using copper or optical fibers.
* By using optical fibers, PLDA and Samtec demonstrate that PCIe 4.0 can be used for remote applications (e.g. EMI sensitive environments)
* By using passive Twinax Flyover™ Systems, PLDA and Samtec show a differentiated and affordable way to design a PCIe 4.0 platform. Using retimers, if you can find them, could cost between $15 to $25 for 16 lanes of PCIe 4.0 at 16GT/s, plus an additional $300 for updating the motherboard PCB to MEGTRON 6. (Cf Rick Merrit article: <https://www.eetasia.com/news/article/18061502-pcie-45-higher-bandwidth-but-at-what-cost> )

"PCIe Designers are delaying their upgrade to the next generation of PCIe because they anticipate high board manufacturing costs, said Hugues Deneux, COO of PLDA. “With this demo, we want to show a new approach that provides great bandwidth and good latency over any distance for PCIe 4.0 communications."

“Samtec and PLDA’s multi-year PCIe 4.0 collaboration lowers barriers of entry and quickens time to market,” said Arlon Martin, Senior Marketing Director of Samtec Optical Group. “The Samtec [PCIe® Optical Flyover Cable Assembly](https://www.samtec.com/products/pcuo) enables designers to more efficiently take advantage of the incredibly low latency and high throughput without board constraints“.

For more information or to discover how the PLDA and Samtec approach could work for your next PCIe 4.0 design:

* Watch the video of the demo of [PCIe 4.0 Communication over Optical Fiber and TWINAX Cables](https://www.plda.com/blog/pcie-40-communication-over-optical-fiber-and-twinax-cables)

at <https://youtu.be/Ns9AxO_DmEQ>

* Explore multiple silicon proven PLDA’s [PCIe 4.0 controller solutions](http://www.plda.com/products/xpressrich4)
* Find [PCIe 4.0 platform](https://www.plda.com/products/debug-test-solutions) tailored for prototyping, developing and debug of PCIe devices: <https://www.plda.com/products/debug-test-solutions>.
* Find more information on Samtec’s FireFly™ Micro Flyover System™ at <https://www.samtec.com/firefly>
* Contact PLDA to schedule a time to test your own hardware using PLDA’s demo at [sales@plda.com](mailto:sales@plda.com)

**About PLDA**

PLDA is a developer and licenser of Semiconductor Intellectual Property (SIP) specializing in high speed interconnect supporting multi-gigabit rates (2.5G, 5G, 8G, 16G, 25G, 32G, 56G, 112G) and protocols such as PCI Express, CCIX, and Gen-Z. PLDA has established itself as a leader in this field with over 3,200 customers and 6,800 licenses in 62 countries. PLDA is a global technology company with offices in Silicon Valley, France, Bulgaria, Taiwan, and China.

**About Samtec, Inc.**

Founded in 1976, Samtec is a privately held, $713MM global manufacturer of a broad line of electronic interconnect solutions, including High-Speed Board-to-Board, High-Speed Cables, Mid-Board and Panel Optics, Precision RF, Flexible Stacking, and Micro/Rugged components and cables. With 33 locations in 18 different countries, Samtec’s global presence enables its unmatched customer service. For more information, please visit <http://www.samtec.com>.

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