

64 Gbps PAM4 (PCIe® 6.0) GEN-Z™ HSEC6

This demo features Samtec's HSEC6-DV SI Evaluation Kit. The HSEC6 series connector is mechanically compliant to the Gen-Z™ and SFF-TA-1002 specifications.

The Synopsys® test silicon generates 64 Gbps PAM4 (PCIe® 6.0) data. The channel under test routes through Isola I-Tera MT40 test boards via Samtec's 70 GHz Bulls Eye® High-Performance Test System cable assembly (BE70A Series) to a precision 1.85 mm Samtec compression mount jack. The signal travels through the edge card mated into the HSEC6 connector. The signal then travels back through the Bulls Eye® cable to the Synopsys® test silicon.

The overall channel loss is measured at -28 dB @16 GHz*. Signal eye heights, bit error and eye patterns are displayed in real time.

*Additional trace length and loss have been designed into the Synopsys® board for the display.

Samtec's 0.60 mm Edge Rate® Vertical High-Speed Edge Card Connectors offer 64 Gbps PAM4 performance in typical edge card applications. The HSEC6-DV SI Evaluation Kit provides system designers and SI engineers an easy-to-use solution for testing HSEC6-DV connectors. This evaluation kit, as well as others, are accessible to you. Visit www.samtec.com/kits for available options.



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PCIe® 6.0 brings higher performance and a slew of new features, including a 64 GT/s data rate, the use of FLITS with throughput and latency benefits, and a new low power state, L0p, enabling true bandwidth scaling to reduce power. However, these changes introduce considerations that designers need to understand before deciding on migrating to the new PCIe® 6.0 specification. Synopsys® can make this transition much easier with both DesignWare® IP for PCIe® 5.0, which has been leveraged by customers in over 150 designs, and PCIe® 6.0 which was recently introduced.