PCIe 3.0 Analysis Tool Enables Automatic Configuration of Test Execution

Tektronix, Inc. today announced a new addition to the industry's most comprehensive solution for PCI Express 3.0. The new offering provides physical layer transmitter (Tx) verification, debug, characterization and compliance testing using Tektronix DPO/DSA/MSO70000 Series oscilloscopes. With this release, Tektronix now offers the broadest and most complete set of physical and protocol layer measurement capabilities for PCI Express.

The PCIe 3.0 architecture provides a low-cost, high-performance I/O technology that includes a new 128b/130b encoding scheme and a data rate of 8 GT/s, doubling the interconnect bandwidth over PCIe 2.0. Based on the same board material (FR4) and connectors as previous generations, PCIe 3.0 represents a far more difficult test challenge with smaller margins and new jitter measurements required to account for increased signal loss in the channel.

The new Tektronix PCIe 3.0 solution (Option PCE3) builds on the success of PCIe Gen 1 and Gen 2 test solutions. Coupled with Serial Data Link Analysis (SDLA) software, it provides a complete solution for verifying transmitter and channel performance of PCIe 3.0 designs and provides support for both the PCIe 3 Base Specification and CEM Specification measurements.

"As the release of the PCIe 3.0 specification nears completion, the hard work of designing, testing and manufacturing silicon and other components that implement the specification is now in full swing," said Jim Pappas, Director of Technology Initiatives for Intel's Data Center Group. "Due to the complexities of the physical layer within the PCIe 3.0 specification, electrical testing will play a major role to ensure the success and performance of motherboards, adaptor cards and other server-platform components. We value the success of the PCIe 3.0 architecture within the Enterprise market and recognize the contribution Tektronix makes by delivering electrical test solutions which enable the industry."

The electrical testing support provided by the new Option PCE3 solution complements the Tektronix TLA7SA16 and TLA7SA08 Logic Protocol Analyzer modules, bus support software, and probes announced earlier this year that bring PCIe 3.0 logical and protocol testing support to the TLA7000 Series high-performance logic analyzer family.

Accelerate PCIe 3.0 Validation, Precompliance Testing

With the world's best over-sampling performance at 100 GS/s, DPO/DSA/MSO70000 Series oscilloscopes deliver the performance and signal fidelity required to meet PCIe 3.0 test challenges. Option PCE3 for these instruments accelerates the analysis and validation of PCIe designs and provides the flexibility to check devices for

precompliance or perform device characterization or debug in a single software package.

Serial Data Link Analysis software enables channel de-convolution, convolution and receiver equalization. DPOJET Jitter and Eye-diagram Analysis software provides jitter, eye-diagram and parametric testing. And the P7520 TriMode Differential Probe is available for validation and debug of chip-to-chip links, including common mode measurements.

Performance validation and stress testing of PCI Express 3.0 receiver designs will also be critical given the large speed increase in the standard. The BERTScope BSA85C provides stressed pattern testing with jitter and interference added to determine effective Bit Error Ratio from new receiver designs. The BERTScope is complemented by the DPP125B which adds critical pre-emphasis to the stressed pattern, and the CR125A that recovers the embedded clock to allow for eye diagram analysis on the resulting signal. BERTScope provides a true Bit Error Ratio in addition to eye diagram analysis for complete debug of PCIe3.0 receivers.

These tools integrate with the TLA7SA16 and TLA7SA8 Logic Protocol Analyzer modules to provide complete visibility of PCIe 3.0 physical and logical layers. The combination of the two solutions allow for rapid PCIe 3.0 digital debug and validation, analog validation, compliance testing, and device characterization.

“Over the last few years, we’ve been preparing for the release of the Gen 3 serial data standards by increasing the performance and signal fidelity of our oscilloscopes and by working closely with the standards organizations to define test requirements,” said Brian Reich, general manager, Performance Oscilloscopes, Tektronix. “Now that PCIe 3.0 has arrived, we are fully prepared with an industry leading combination of precision oscilloscopes and the broadest range of measurement coverage for this exciting new specification.”

Availability
DPO/DSA/MSO70000 Series oscilloscopes with Option PCE3 are available now globally. Pricing for Option PCE3 (not including a supported instrument) is $6,000 U.S. MSRP.

Source URL (retrieved on *04/17/2014 - 6:26am*):
http://www.ecnmag.com/product-releases/2010/12/pcie-30-analysis-tool-enables-automatic-configuration-test-execution