Tektronix Rolls Out First Fully Automated MIPI® M-PHY® 3.1, CTS 3.1 Transmitter Test Solution for Mobile Storage Devices

Tektronix DPO70000SX, MSO/DPO70000DX Oscilloscopes, P7600 Series TriMode™ Probes Offer Industry's Lowest Noise M-PHY Test Solution

BEAVERTON, Ore., Oct. 20, 2015 /PRNewswire/ -- Tektronix, Inc., the world's leading manufacturer of oscilloscopes, today announced the industry's first fully automated physical layer transmitter test solution for the MIPI® M-PHY® 3.1 specification and Conformance Test Suite (CTS) 3.1. The solution supports M-PHY High Speed Gears 1, 2 and 3, PWM Mode (G0-G7), and SYS Mode and offers the industry's lowest noise solution for M-PHY measurements when used with Tektronix DPO70000SX or MSO/DPO70000DX oscilloscopes and P7600 series probes.

The mobile industry is moving toward smaller and faster devices that require faster communication between chips over interfaces such as SSIC and need faster access to storage devices over interfaces such as UFS/MIPI UniPro^{SM}. This drives the need for higher data rates, higher throughput, modern design implementations and the need for sophisticated test and measurement tools. Automated serial test solutions such as what Tektronix is now offering for MIPI M-PHY 3.1 allow engineers to complete the full set of tests in significantly less time while improving consistency. The automated solution supports advanced analysis, debugging and characterization of devices while allowing designers to test in compliance mode as well as user-defined mode.

"Last year we introduced comprehensive test support for M-PHY 3.1, giving our customers the tools they needed to design cutting edge mobile devices with higher performance and improved efficiency," said Brian Reich, general manager, Performance Oscilloscopes, Tektronix. "Now we are taking our test solution to the next level by giving our customers the advantage of full automation which in turn will help them to bring even higher performing products to market in less time."

The M-PHY TX automated solutions provides support for 100 percent of tests as per M-PHY 3.1 and CTS 3.1 using the TekExpress 4.0 framework, a state-of-the-art tool designed for automation. The backend engine of automation is based on Iron Python which uses socket based programming and .Net remoting. Socket-based scripting interface is a de-facto standard that allows engineers to integrate Tektronix automated solution into their automation environments.

Testing M-PHY transmitters running in high-speed mode requires a scope and probe system with rise time 3X faster than the signal rise time, sensitivity of 200 $mV_{FS,}$ minimal added noise (<1 or 2 mV_{rms}), and high return loss as specified in the M-PHY standard. Tektronix DPO70000SX and MSO/DPO 70000DX oscilloscopes and P7600 Series TriMode probes are the only measurement system available that can meet these requirements while also providing convenient and consistent bus termination for HS measurements with low noise and high sensitivity. The closest alternative has 10X worse sensitivity *(Tektronix: 35 mVfs vs. Competition: 360mVfs)* and adds 4X more noise *(Tektronix: <1mVrms vs. Competition: 4 mVrms)* to the signal.

Automated BERTScope Solution for RX Testing

Along with the automated TX solution, Tektronix also announced its fully automated BERTScope-based M-PHY RX solution. The automation solution is provided by Tektronix partner Granite River Labs. Auto calibration along with measurement support for HS and PWM Mode is supported as per M-PHY 3.1 and CTS 3.1. Auto calibration for high speed gears reduces the complexity of setup, saves time, and enables users to test devices faster. Margin testing for high speed gears allows designers to validate and stress their devices to

maximum potential resulting in competitive technical specifications for their products.

M-PHY HS Gear 4 Support
The recently released M-PHY 4.0 specification includes support for HS Gear 4 with a data rate of 11.6 Gb/s. This introduces the need for new measurement methodologies and equalization techniques. Characterization of the bit error ratio (BER) of devices requires a breakdown of the impact of both jitter and noise. At the receiver side, the eye will be completely closed due to attenuation of the signal and equalization will be needed. Tektronix analysis solutions, DPOJET and SDLA (Serial Data Link Analysis), are well positioned to meet these needs by providing both jitter and noise analysis displayed using full contours, along with receiver equalization for HS Gear 4.

UniPro, UFS Protocol Testing
For protocol testing, PGY-UPRO and UFS software for use with Tektronix high performance oscilloscopes is now available. This software delivers protocol aware triggering and protocol analysis of the latest version UniPro and UFS protocols. This software leverages hardware-based serial pattern trigger and long capture features to display time correlated view of communication between UFS host and the device under test. Designers can correlate the protocol activity down to the physical layer to debug problems with visibility of both electrical signals and bit level information. For more information go to: www.prodigytechno.com.

Pricing & Availability
Option M-PHY TX Automated is available now worldwide. Pricing for the new option is $6,370 US MSRP.

Wondering what else Tektronix is up to? Check out the Tektronix Bandwidth Banter blog and stay up to date on the latest news from Tektronix on Twitter and Facebook.

About Tektronix
Headquartered in Beaverton, Oregon, Tektronix delivers innovative, precise and easy-to-operate test, measurement and monitoring solutions that solve problems, unlock insights and drive discovery. Tektronix has been at the forefront of the digital age for over 65 years. Join us on the journey of innovation at www.tektronix.com.

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