

Storage Testing Solution

Support for PHY Layer Testing at All Data Rates for Hosts, Devices and Cables

Application Fact Sheet

The storage and server industry has seen a relentless drive for faster data transfer speeds and greater storage capacity, at the lowest possible cost. Tektronix provides a powerful and comprehensive test instrument portfolio for a variety of standards, including: SATA, SAS, InfiniBand™, Fibre Channel, XAUI, and more.

Storage Testing Challenges:

Debug & Verification of Transmitter and Receiver Designs	<ul style="list-style-type: none">• Finding and fixing jitter sources• Comprehensive analysis for determining the health of performance from an electrical/PHY perspective• Determining the impact of design variances on signal integrity performance• Correlating jitter results with signal changes and other design parameters
Conformance Test Automation and Documentation	<ul style="list-style-type: none">• Completion of required test sequences with well-managed software automation, including seamless DUT control• RX/TX testing for Device and Host electrical channel performance• PHY/TSG for signal timing stability including jitter and amplitude characteristics• OOB testing for Out Of Band signal validation• RSG testing to ensure receiver jitter and amplitude sensitivity compliance• Cable/Signal Integrity with crosstalk, skew and frequency domain measurements
Cable Testing and Characterization	<ul style="list-style-type: none">• Ensuring robust cable & connector performance• Determining sources of impedance/reflection on cables and connectors• Identifying signal integrity issues, including bit errors, BER, channel loss, jitter, ground bounce, crosstalk, EM interference and susceptibility• Accounting for any reflections that result from higher frequency effects on connector or cable designs



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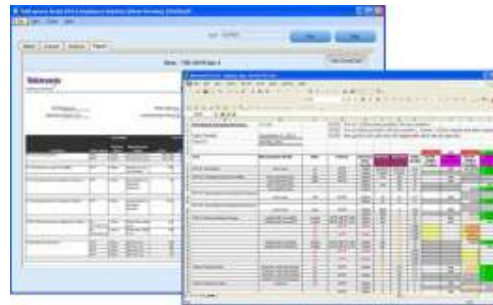
Application Fact Sheet



Transmitter & Receiver Testing

DPO/DSA/MSO70000 Series Oscilloscopes, AWG7000 Series AWG's BSA BERTScopes, Fixtures, Probes, and Software

- Improve test margin and repeatability by capturing 5th harmonic of 6 Gb/s signals
- Save time by capturing waveforms and analyzing later without needing the DUT connected
- DPOJET analysis software decomposes jitter and isolates random jitter components from deterministic jitter (periodic, clock and data-dependent)
- Arbitrary Waveform Generator, including SerialXpress waveform creation software, enabling receiver limit and stress testing
- BERTScope Bit Error Rate Tester for deep eye pattern mask analysis and PRBS31 caliber testing



Automated Conformance Testing

TekExpress™—Automated Conformance Test Software for SATA/SAS

- TekExpress offers efficient automation of all compliance testing, thus reducing compliance test times by approximately 70%
- Simple implementation and setup includes auto-recognition of all required test equipment, precise DUT/Host control and one-button testing
- Automates 100% of the SATA Gen-1, Gen-2 and Gen-3 6 Gb/s and SAS2 6 Gb/s PHY conformance measurements
- Robust debug capabilities, including informative measurements such as dF/dt and JTF-conformance eye rendering
- Compliance test sequencer based on industry standard National Instruments TestStand™ for adaptability into lab/manufacturing environment



Transmitter Validation & Cable Testing

DSA8300 Series Sampling Oscilloscopes, IConnect® Advanced Application Software, and Probes

- Ultra low noise with the lowest Jitter noise floor ensure great signal fidelity
- Ideal for noise analysis and channel emulation of SATA/SAS 6 & 12 Gb/s transmitter devices
- Achieve higher level of accuracy for serial data standard TDR/S-Parameter measurements and better characterization of non-linear devices
- Quickly and accurately perform required S-Parameter measurements in a cost effective manner