Display Testing Solutions
Support for PHY Layer Testing of Source, Sink and Cable

The latest high-speed serial data display technologies simplify connectivity between devices and deliver exceptional audio/video quality. Tektronix provides a powerful and comprehensive test instrument portfolio for a variety of standards, including: HDMI, DisplayPort, DiiVA, DVI, and more.

Display Testing Challenges:

Debug & Verification of Source and Sink Designs	- 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
Compliance Test Automation and Documentation	- Completion of required test sequences with well-managed software automation, including AUX channel control for sink and source tests - Source validation for signal timing stability including jitter and amplitude characteristics - Sink testing to ensure clock recovery with low bit error rates - Automated compliance test and AUX control to validate device error count and link training for sink test and output signal for source test - Cable/Signal Integrity with crosstalk, skew and S-Parameter measurements
Cable Testing and Characterization	- Ensuring robust cable & connector performance - Determining sources of impedance/reflection on cables and connectors - Identifying signal integrity issues, including bit errors, 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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Source & Sink Testing

DPO/DSA/MSO70000 Series Oscilloscopes, AWG7000 Series Arbitrary Waveform Generators, Fixtures, Probes, and Software
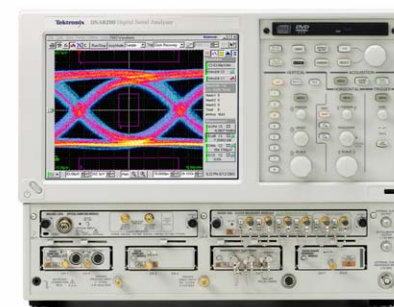
- Highly accurate oscilloscopes with full sample rate across all four channels for the greatest flexibility

- DPOJET analysis software decomposes jitter and isolates random jitter components from deterministic jitter (periodic, clock and data-dependent)

- Arbitrary waveform generators enable receiver limit and stress testing, as well as link training and bit error insertion

- Stressed pattern library with all signal impairments, including SSC and ISI can be created with a single setup file

- AUX channel controller for simplified test mode initiation and less user intervention

Automated Compliance Testing

TekExpress™–Automated Compliance Test Software for HDMI/HEAC, or DPO/DSA/MSO70000 Series Oscilloscopes with options DPST, HT3, and DVI

- TekExpress offers efficient automation of all compliance testing, thus reducing compliance test times

- TekExpress includes automated test setups to validate HDMI Ethernet and Audio Return Channel (HEAC), Automotive HDMI –Type E, Mobile HDMI –Type D for full test capability for HDMI 1.4

- DPST option provides enhanced jitter and timing measurements, analysis tools for debug, limits testing for DisplayPort compliance, and validation testing for CTS.

- DPST option delivers fully automated source compliance testing for CTS1.0 and 1.1a

Cable Testing

DSA8200 Series Sampling Oscilloscopes, IConnect® Advanced Application Software, and Probes

- DSA8200 sampling oscilloscope supports both time domain and frequency domain measurements with an approved method of implementation for cable testing

- Highly accurate TDR modules for pinpointing locations of signal imperfections in cable/connector designs

- IConnect® software provides S-Parameters for additional frequency-based analysis of reflective signal behaviors

Tektronix®