Tektronix®

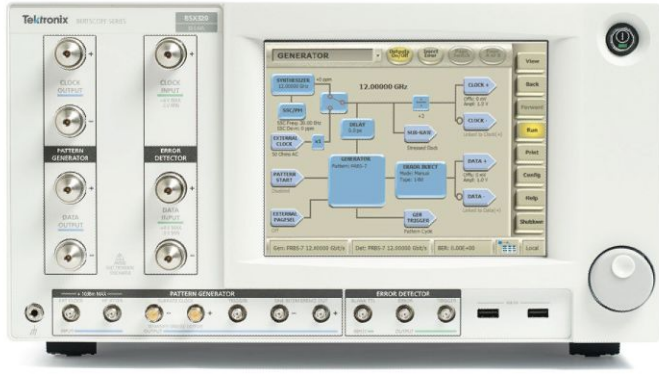# DisplayPort™ 1.4 Sink Calibration and Test Software (DP-SINK-BSX/DP-SINK)

For Tektronix BERTScope™ and Real-Time Oscilloscope

Key features

- Automated DisplayPort Sink electrical calibration and compliance testing consistent with the VESA approved CTS (compliance test specifications) and MOIs (method of implementation).

- Jitter tolerance compliance test calibration

- 100% coverage of sink jitter tolerance tests per DisplayPort PHY 1.4 draft and DP over USB Type-C CTS

- Automated DDJ (ISI) calibration TP2 or TP3 using Artek CLE-1000-A2

- Jitter margin testing with user-defined amplitude and frequency steps

- Simple setup, test execution, and reporting in HTML and .csv formats

- Fully integrated with Unigraf DPT-200 reference source or GRL-USB-PD-C2 (USB Type-C power delivery analyzer) with AUX control for link training and checking

- Automate VESA method of implementation (MOI) using Tektronix test equipment

- Achieve consistent results with rapid calibration and test execution

- Reduce technical risk using an industry accepted calibration methodology

- Calibrate and test at all test points and data rates with a single setup

- Extended customization available through GLR's full KayaQ™ automation framework.

Developed for Tektronix by Granite River Labs (GRL), DisplayPort 1.4 PHY Sink Calibration and Test software for the Tektronix BERTScope BSX (DP-SINK-BSX) and BERTScope BSA (DP-SINK) provides an automated, simple, and efficient way to test DisplayPort Sink (Receiver) devices per the Jitter Tolerance requirements of the DisplayPort physical layer compliance test specification (CTS) version 1.4 and DisplayPort over USB Type-C 1.0a CTS.

DP-SINK-BSX software automates stressed signal calibration and jitter tolerance testing at all DisplayPort data rates (RBR, HBR, HBR2, and HBR3) with a single setup and runs on any Windows 7 PC or oscilloscope.

DP-SINK-BSX supports all sink devices; USB Type-C display or multi-port adapters, docks, and monitors with either USB Type-C or standard DisplayPort connectors. TP2 and TP3 test point calibration is achieved by simply adjusting the ISI using the Artek CLE-1000-A2.

Link training, compliance, and margin testing through DPCD registers is automated using the Unigraf DPT-200 (reference source with AUX control) for standard connector designs and GRL-USB-PD-C2 for USB Type-C designs. Margin testing stresses the receiver to failure at user-defined jitter amplitude and frequency steps, revealing the true capabilities of your receiver design.
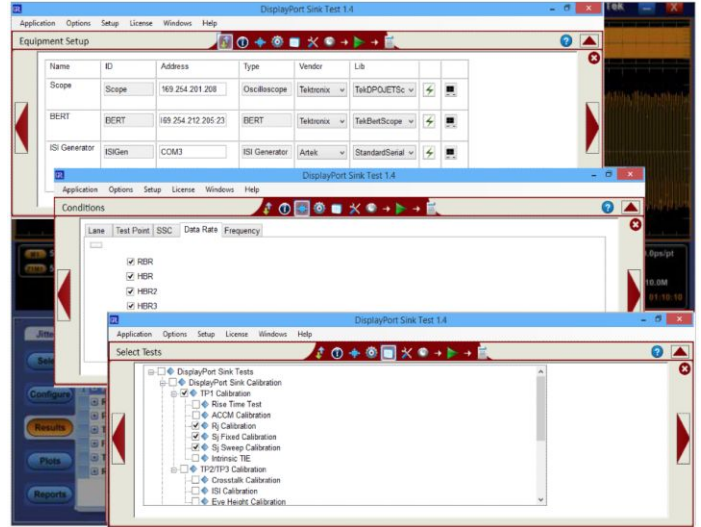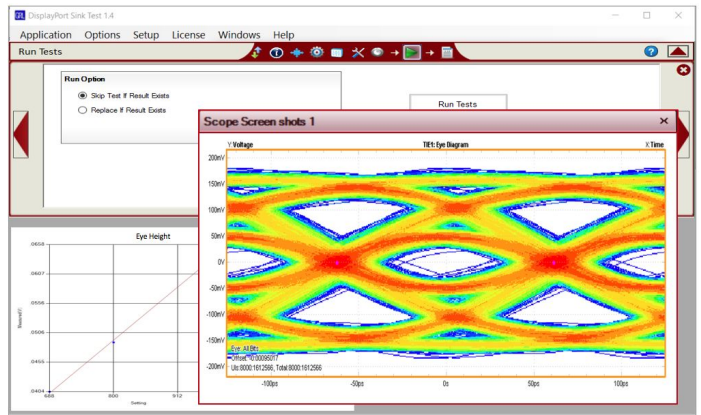
DP-SINK-BSX can be further customized by the user or GRL Engineering using GRL's full KayaQ automation framework. Contact GRL at support@graniteriverlabs.com or through your Tektronix Account Manager for further details.

Specifications

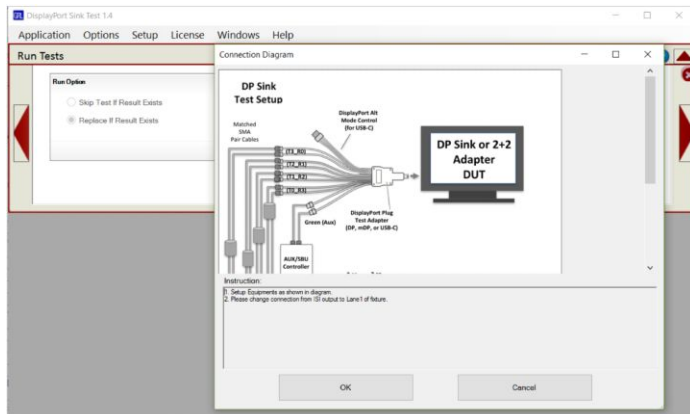| Specification	
Specification	• DisplayPort 1.4 PHY CTS • DisplayPort over USB Type-C CTS Rev. 1.2a
Data rates	RBR (1.62 Gb/s), HBR (2.7 Gb/s), HBR2 (5.4 Gb/s), HBR3 (8.1 Gb/s)

Required equipments	• Tektronix BSA or BSX series BERTScope
	
	• Tektronix DPO/MSO70000DX/SX real-time oscilloscope
	
	• Tektronix DPOJET (Jitter and Eye Analysis) software
	
	• Artek CLE1000-A2
	
	• Unigraf DPT-200 reference sink or GRL-USB-PD-C2
	
	• Cables and adapters (refer to MOI for specific part numbers):
	    ○ SMA cables
	    ○ DC blocks
	    ○ RF combiners
	    ○ SMA adapters

Application

Push-button automation

Fully configurable

Automated stressed eye calibration

Ordering information

BERTScope Models

BSA

DP-SINK — DisplayPort 1.4 Sink Calibration and Test Software for the BERTScope BSA with Node Locked License to single Oscilloscope/PC Operating System.

DP-SINK-FLT — DisplayPort 1.4 Sink Calibration and Test Software for the BERTScope BSA with Floating License enabled by USB Dongle.

DP-SINK-UPGR — Upgrade License to DisplayPort 1.4 Sink Calibration and Test Software for the BSA from GRL-DP-SINK 1.2a Software for BSA.

DP-SINK-FLT-UPGR — Replace DP-SINK Node Locked License with Floating USB Dongle License. Requires GRL to disable Node Locked License.

BSX

DP-SINK-BSX — DisplayPort 1.4 Sink Calibration and Test Software for the BERTScope BSX with Node Locked License to single Oscilloscope/PC Operating System.

DP-SINK-BSX-FLT — DisplayPort 1.4 Sink Calibration and Test Software for the BERTScope BSX with Floating License enabled by USB Dongle.

DP-SINK-BSX-UPGR — Upgrade License to DisplayPort 1.4 Sink Calibration and Test Software for the BSX from GR-DP-SINK for BSA.

DP-SINK-BSX-FLT-UPGR — Replace DP-SINK-BSX Node Locked License with Floating USB Dongle License. Requires GRL to disable Node Locked License.

Extended customization

DP-SINK can be further customized by the user or GRL Engineering using GRL's full KayaQ automation framework. Contact GRL at support@graniteriverlabs.com or your Tektronix Account Manager for further details.

Certifications

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CE Marking Not Applicable.

Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tek.com.

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