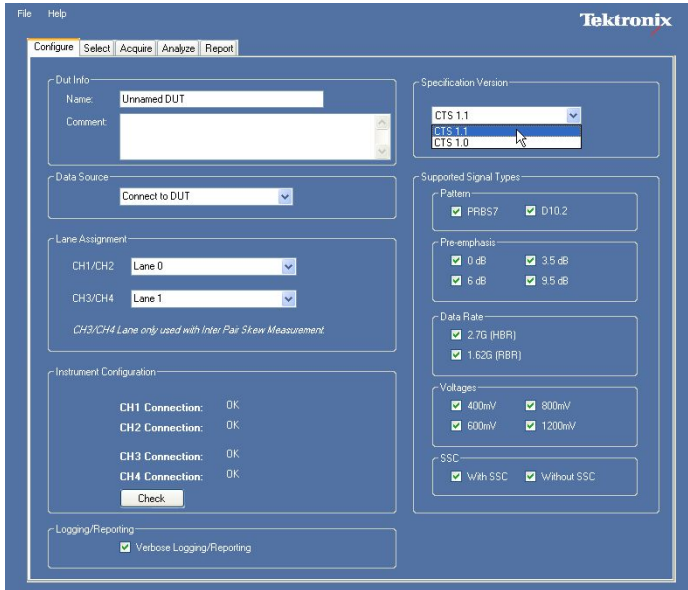


Compliance Test Software for Oscilloscopes

DPO DSPT Data Sheet



DisplayPort source compliance software interface

Features & Benefits

- Supports DisplayPort Compliance Test Standard (CTS) v1.1 and 1.1a Source Tests (User Selectable)
- Four-lane Simultaneous Testing with Tektronix P7300SMA Series Probes
- Detailed Test Report with Waveform Plots, Pass/Fail Results, and Margin Analysis
- Software Automatically Saves Test Data to Waveform Files for Later Analysis

Applications

- DisplayPort Transmitter Compliance Testing for Source Devices such as Computer Graphics Cards and Chipsets

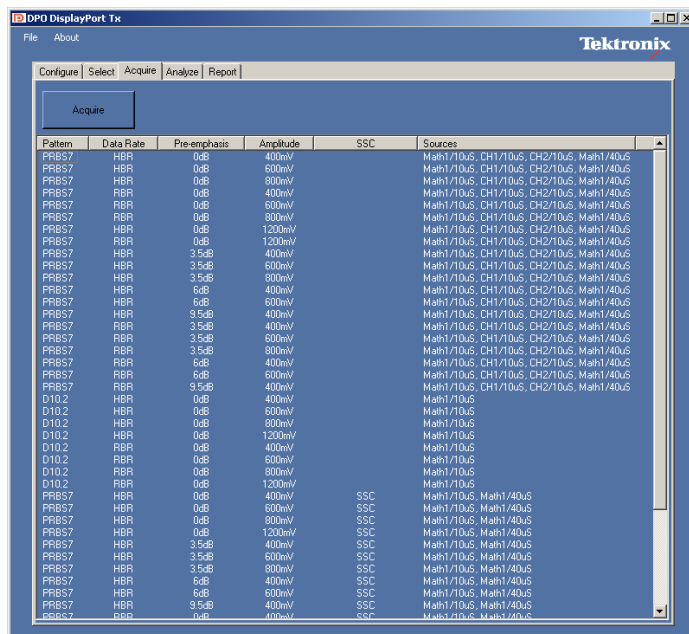
DisplayPort Source Compliance Testing for DPO/DSA/MSO70000 Series Oscilloscopes

DisplayPort is the new digital display interface technology for computers, monitors, and home-theater systems aimed at lower implementation costs and improved video performance. DisplayPort 1.1a gives manufacturers of LCD panels, monitors, graphics cards, PC chipsets, projectors, peripherals, components, and consumer electronics a next-generation digital interface that is designed to replace LVDS, DVI, and eventually VGA. This technology is rapidly moving through early adoption with chipsets, graphics cards, and first-generation displays now appearing on the market.

The Tektronix DPO/DSA/MSO70000 Series oscilloscopes are the instruments of choice for testing DisplayPort transmitter devices, providing the best combination of performance, feature set, and analysis using the optional DPOJET Jitter and Eye Analysis Tools software package. The new DPO DSPT software adds an automation layer that simplifies execution of all the transmitter test measurements required by the DisplayPort Compliance Test Specification (CTS). DPO DSPT aids engineers who need to validate their IC, motherboard, and graphic card designs for compliance with the DisplayPort 1.1a standard. The software adds predefined test sets that are automatically executed, reducing test time and minimizing user intervention. A menu-driven interface allows the user to specify what features their device-under-test (DUT) supports, and then the software creates a list of the available tests based on that information. The user can then choose to run the full suite of tests required for compliance, or to select only certain tests of interest for debug or troubleshooting. DPO DSPT now supports compliance testing to both CTS1.0 and CTS1.1, user-selectable from the menu interface.

The software automatically recognizes the method of electrical connection (differential probes or direct-cabled SMA) and configures the oscilloscope input channels. One lane, two lanes, or all four DisplayPort lanes can be tested simultaneously. Differential probes are used to connect multiple lanes.

For each transmitter signal condition (for example, with pre-emphasis enabled or disabled), DPO DSPT automatically performs all of the selected tests, properly configuring the oscilloscope settings for each test and making the required measurements. If the Tektronix DP-AUX DisplayPort Auxiliary Controller is used in conjunction with the DPO DSPT software, DPO DSPT can completely automate the process of source device parameter settings, eliminating user intervention and greatly simplifying the test process. A report is then generated documenting all measurement



DPO DSPT Transmitter Test.

results with the specified limits, pass/fail results, test margins, and illustrative screenshots where applicable.

DisplayPort Source Compliance Tests

- Eye Diagram
- Non Pre-emphasis Level Verification
- Pre-emphasis Level Verification
- Inter-pair Skew
- Intra-pair Skew
- AC Common Mode Noise*1
- Non-ISI Jitter
- Total Jitter
- Unit Interval*1
- Main Link Frequency Compliance
- Spread Spectrum Modulation Frequency
- Spread Spectrum Modulation Deviation

*1 Informative Test – Not required for compliance.

Ordering Information

DPO DSPT

DisplayPort Transmitter Compliance Test Software for DPO/DSA/MSO70000 Series Oscilloscopes

Includes: The software is supplied on internal hard disk and on compact disk media. Online documentation and printable manual in PDF format are supplied with the product.

Options

Option	Description
DPO/DSA/MSO70000 Series, 8 GHz or Higher	
Opt. DSPT	Order preinstalled on a new oscilloscope
Order an Upgrade for Existing Oscilloscope	
DPO-UP Opt. DSPT	DPO/DSA/MSO70000 (8 GHz or higher)
DPOFL-DSPT	Order Floating License version

Recommended Accessories

Accessory	Description
DPOJET (Option DJA)	Required measurement support for DPO DSPT
TF-DP-TPA-P Test Fixture	DisplayPort Source test fixture, needed for connection between DisplayPort Source DUT and oscilloscope inputs
174-5771-00 Phase-Matched SMA Cable Set	Matched pair of low-loss SMA cables, minimizes skew between inputs for accurate measurements
P7380SMA or P7313SMA Differential Probe	Enables connection of up to four DisplayPort lanes for simultaneous multilane testing
DP-AUX DisplayPort Auxiliary Controller	Enables direct communication with source DUT to completely automate signal parameter changes as required for each compliance test



Product(s) are manufactured in ISO registered facilities.



Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

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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.tektronix.com



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