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Test & Measurement

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Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

If you click on the "Click-to-Call" logo below, you can all us for FREE!

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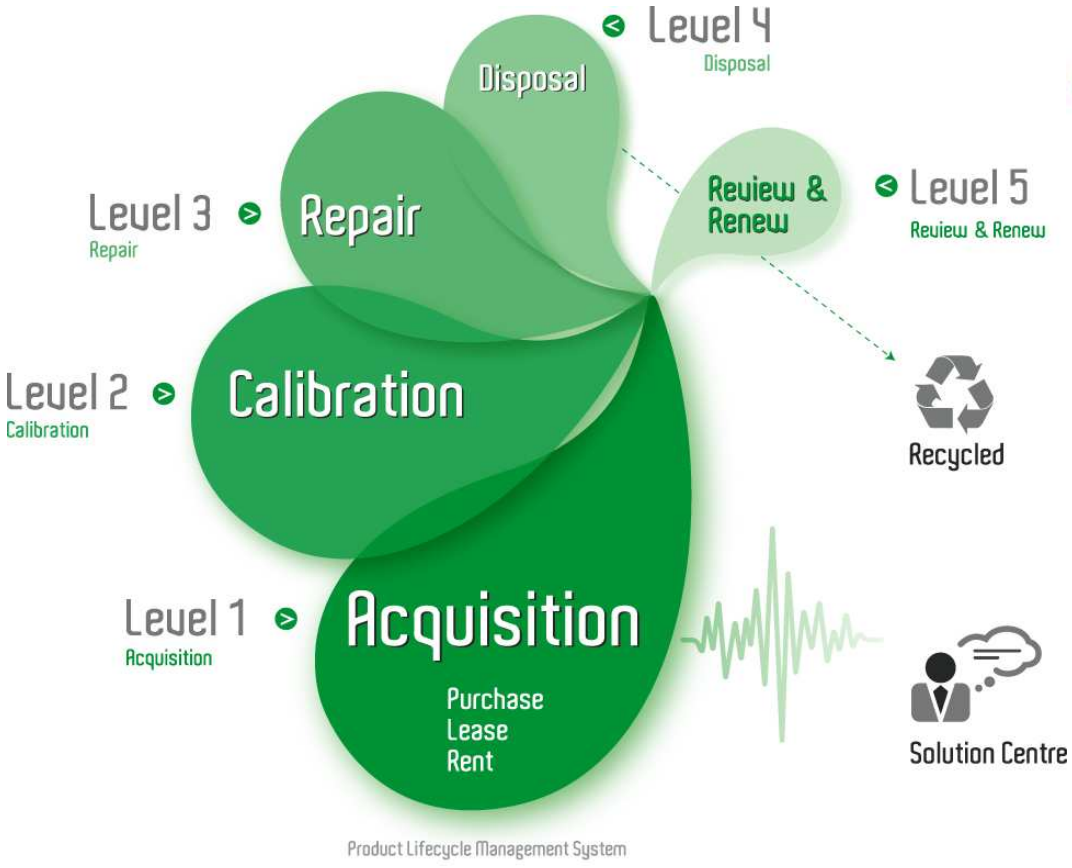
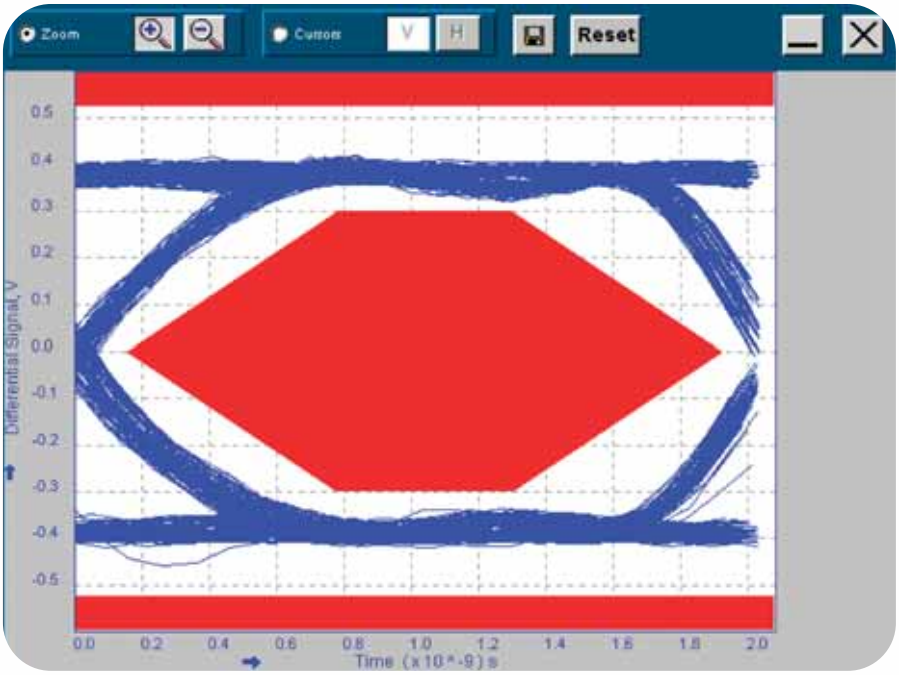


Universal Serial Bus (USB2.0) Compliance Test Package

▶ TDSUSB2



USB2.0 Physical Layer Verification and Compliance Test Package

Engineers involved in design, characterization and validation of USB2.0 devices face daily pressures to speed new products to the marketplace. USB2.0 designers need tools to properly characterize their designs and verify compliance to industry standards. Characterization of these electrical signals includes mask testing as well as parametric testing, up to 480 Mbps. TDSUSB2 eliminates the tedium of manually setting up the oscilloscope by providing predefined oscilloscope setups for various tests. Users can quickly perform all USB-IF recommended tests, such as eye diagram and parametric testing for low-speed, full-speed and high-speed hosts, devices and hubs. The comprehensive test fixture supports a wide range of tests.

Quick Pass/Fail tests substantiated with results make the TDSUSB2 application the preferred solution for USB2.0 physical layer validation. In-depth analysis is possible with the statistical information about the tests performed. The user-defined measurement limits also help to perform tolerance testing on a design. TDSUSB2 comes on a CD and can be easily installed by the user. After installation, the application is accessible from File--> Run Application in the menu bar of the TDS/CSA7000B, DPO7000, TDS6000 or TDS5000B Series oscilloscopes.

▶ Features & Benefits

Fully Compliant with USB-IF Tests for USB2.0 Compliance Testing

Automated Eye Diagram Analysis Verifies Signal Quality

Automated Oscilloscope Setups for Various Tests Eliminate Time-consuming Manual Setups

Comprehensive Test Fixture Enables Quick Setup for a Wide Range of Tests

High Speed Tests: Signal Quality, Receiver Sensitivity, Chirp, Reset, Resume, Suspend, Packet Parameter and Monotonicity Test

Automatic Rise and Fall Time Measurements Increase Test Throughput

Automatic Deskew for Accurate Measurements

Online Help Fully Documents Test Procedures

User Configurable Report Formats For Customization

User-configurable Measurement Limits For Tolerance Testing

▶ Applications

USB2.0 Physical Layer Verification and Compliance Testing

Characterize the Quality of USB2.0 Designs

Tektronix
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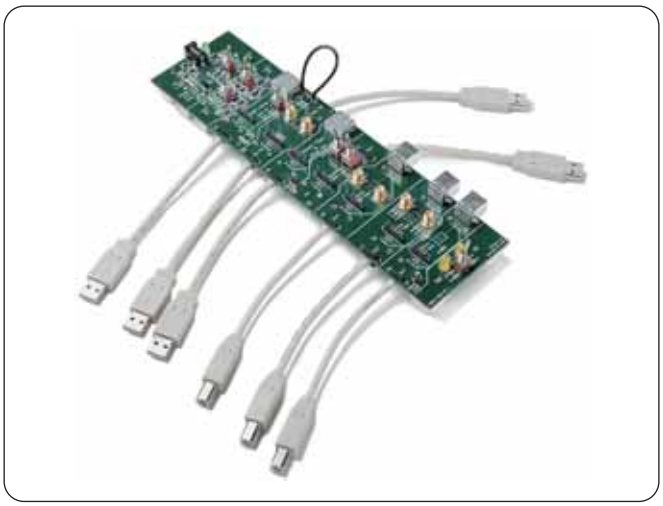
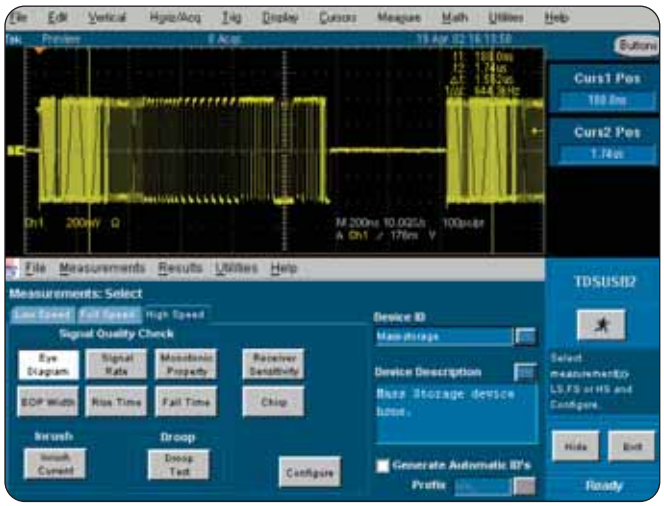
Universal Serial Bus (USB2.0) Compliance Test Package

► TDSUSB2



► USB2.0 Compliance Test Fixture (TDSUSBF).



► Measurement Select and Results menu for the Signal Integrity test.

Compliance Test Fixture

A comprehensive compliance test fixture provides a probing solution for the Signal Quality test, Inrush Current check, Drop and Droop test, Receiver Sensitivity and Impedance Measurement test. Connectors are available for the data generator and TDS8200 sampling oscilloscope with TDR module. The test fixture is an accessory of TDSUSB2, and is ordered separately.

Characteristics

Specifications

TDSUSB2 Tests – Host, hubs and devices.

Signal Quality Test –
Eye diagram test, jitter (JK, KJ and consecutive), cross over voltage range, signal rate, end of packet width, rise time, fall time.

High Speed Tests –
Receiver sensitivity, chirp, reset, resume, suspend, packet parameter and monotonicity test.

Inrush Current Check –
Coulombs and capacitance readout.

Droop Test – Volts readout.

Speed Selection –
Low-speed (LS), full-speed (FS) and high-speed (HS).

Signal Direction – Upstream and downstream.

Test Point Selection – Near end and far end.

Report Generation Format –
Plugfest, user specific and Tektronix format.

Tektronix Digital Oscilloscopes Required

For High-speed –
TDS/CSA7404B, TDS7254B, DPO7254 and all TDS6000 Series.

For Low-speed and Full-speed –
All TDS/CSA7000B, DPO7000 and TDS6000 Series, TDS5034B, TDS5054B and TDS5104B oscilloscopes.

USB2.0 Complete Solution

The following components make up the complete USB2.0 testing solution for the physical layer measurements and compliance testing.

▶ Ordering Information

▶ TDSUSB2

	For New TDS5000B[*1], TDS6000, TDS/CSA7000B, DPO7000 Series Instrument Orders	As an Upgrade to Existing TDS5000B[*1], TDS6000, TDS/CSA7000B, DPO7000 Series Instrument Orders
For Test Fixture ONLY	TDSUSBF	TDSUSBF
For Test Software ONLY	Opt. USB	TDS5B/6B/7BUP; CSA7BUP; DPO7UP; Opt. USB
For Software AND Hardware	Opts. USB and TDSUSBF	Opts. USB and TDSUSBF

System Requirements

For TDSUSB2 Software Running on Windows-based Oscilloscopes – Runs on the TDS5000B[*1], TDS6000, TDS/CSA7000B and DPO7000 Series oscilloscopes.

TDSUSB2 Recommended Accessories

DTG5274 or DTG5078 – Data Generator mainframe and a DTGM 21 output module.

AWG600 or AWG700 Series – Arbitrary Waveform Generator (Receiver Sensitivity and Squelch test).

TDSUSBF – USB2.0 test fixture. Ordered separately from TDSUSB.

Recommended Probes

Voltage Probes

P6248 – High Bandwidth Differential Probes[*2].

P6245 – High Bandwidth Single-ended Active Probes.

Active Probes

TCP202 – Current Probes (Inrush measurement).

For DPO7000 Series

- P6248 requires TPA-BNC Adapter
- TAP1500 or P6245, with TPA-BNC Adapter
- TCP0030 or TCP202, with TPA-BNC Adapter

TDR

TDS8200B – Sampling Oscilloscope with 80E04 TDR Sampling Module (Impedance Measurement Test).

[*1] TDS5000 Series – Opt. USB is not available for 2-channel oscilloscope models.

[*2] The P6248 probe is approved for compliance testing; higher performance differential probes may be used for design applications.

Universal Serial Bus (USB2.0) Compliance Test Package

► TDSUSB2

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