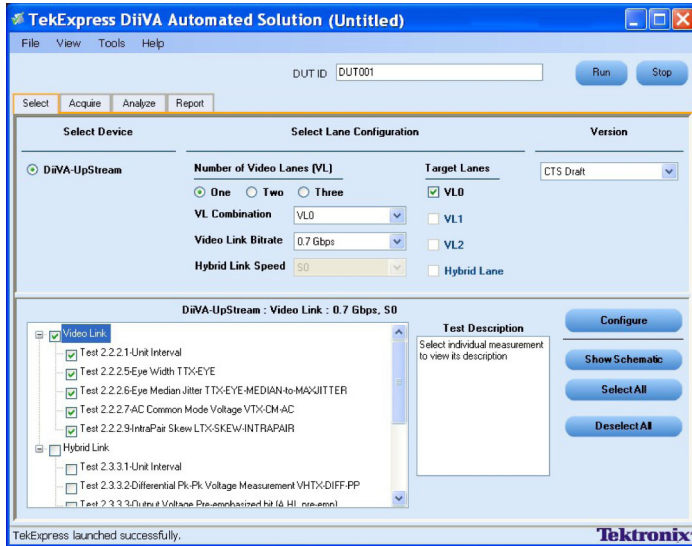


DiiVA Compliance Test Software

Option DiiVA Data Sheet



Features & Benefits

- Conformance to DiiVA Standards and Test Specifications 1.1 (CTS-draft Version) ensures Reliable Results
- Complete Validation to Standards with Wide Range of Tests for Transmitter, Receiver, and Cable Devices
- Accurate Tests using Precise Measurement Techniques
- Dependable Receiver Tests with Closed-loop Measurements that Eliminate Nonlinearity in Test Setup
- Path-breaking Direct Synthesis Method for Rx Testing
 - Removes the Dependency on Hardware Elements such as ISI Boards
 - Leverages the Software Method to Replace the Use of Different Hardware Elements to Meet ISI/Jitter Needs
- Reduce Test Times by Automating Complex Receiver Tests with Remote Control of Signal Sources
- Get Quick Results with Automatic Mask Fit, Measurements, and Pass/Fail Notifications
- Get In-depth Analysis and Mask Margins
- Ensure Faster Testing with One-button Selection of Multiple Tests
- Save Time with One-button MHT Reports
- Complete Compliance Solution with an Elaborate Test Fixture, Real-time Oscilloscopes, Differential Probes, Signal Sources, and TDR

Applications

- Design and Validation of DiiVA Physical Layer

Digital Interactive Interface for Video/Audio (DiiVA) Physical-layer Compliance Testing

Engineers designing and validating the DiiVA physical layer of their devices face constant pressure to improve efficiency. Engineers need to perform a wide range of compliance tests quickly and reliably right on their bench.

The DiiVA 1.1a draft specification, announced in January 2010, supports DiiVA, which enables seamless networking of CE devices, speeds up signaling between source and sink devices, and also provides a faster path for the uncompressed video/audio transmission. Option DiiVA Compliance Test Software, which meets the DiiVA 1.1a draft specification, automates a comprehensive range of tests enabling unprecedented efficiency with reliable results.

Reliable and Dependable Results

Option DiiVA software embeds the DiiVA CTS-draft version compliance test procedures, ensuring dependable results. Accurate jitter testing and precise violation testing deliver credible results. Perform accurate Transmitter and Receiver tests with closed-loop measurements that eliminate nonlinearity of the test setup. Authentic measurement techniques and automation eliminates errors to provide convincing results.

Option DiiVA leverages the TekExpress capability to provide smooth multi-equipment interactions enabling automated solutions for DiiVA Transmitter and Receiver testing. The Direct Synthesis method ensures greater repeatability as the dependency on hardware PCB traces to insert jitter components is eliminated.

Faster Validation Cycles

The unparalleled automation offered on Option DiiVA by leveraging the Direct Synthesis capability enables faster validation. Shrink test times for DiiVA testing with the software remotely controlling the DPO/DSA real-time oscilloscope and AWG to automate the complex test process. Demonstrate efficiency by using the "Select All" feature to perform multiple tests. Instantaneously generate CSV-format summaries or detailed reports at the press of a button.

Option DiiVA enables faster test times as there is no dependency on the hardware PCB for jitter component insertion. This removes the inaccuracy and rigidity of DiiVA testing. DiiVA software leveraging the Direct Synthesis capability of our industry-leading AWGs can create DiiVA signals with varying amounts of impairments.

Complete Solution for Validation

Option DiiVA offers a wide range of tests enabling thorough verification to standards. Tests offered include Transmitter and Receiver devices. Perform convincing validation using a complete solution that includes oscilloscopes, arbitrary waveform generators, test fixtures, and TDR.

Characteristics

DiiVA Transmitter Tests

DiiVA Video Lane Transmitter Tests

Test	Description
2.2.2.1	Verify UIVL
2.2.2.2	Verify VTX-DIFF-PP
2.2.2.3	Verify A PRE-EMP
2.2.2.4	Verify A DE-EMP
2.2.2.5	Verify TTX-EYE
2.2.2.6	Verify TTX-EYE-MEDIAN-TO-MAX-JITTER
2.2.2.7	Verify VTX-CM-AC
2.2.2.8	Verify TTX-RISE, TTX-FALL
2.2.2.9	Verify LTX-SKEW-INTRAPAIR
2.2.2.10	Verify LTX-SKEW-INTERPAIR

DiiVA Hybrid Lane Transmitter Tests

Test	Description
2.3.3.1	Verify UIHL
2.3.3.2	Verify VHTX-DIFF-PP
2.3.3.3	Verify A HL-PRE-EMP
2.3.3.4	Verify A HL-DE-EMP
2.3.3.5	Verify THTX-EYE
2.3.3.6	Verify THTX-EYE-MEDIAN-TO-MAX-JITTER
2.3.3.7	Verify VHTX-CM-AC
2.3.3.8	Verify THTX-RISE, THTX-FALL
2.3.3.9	Verify LHTX-SKEW-INTRAPAIR

DiiVA Receiver Tests

DiiVA Video Lane Receiver Tests

Test	Description
2.5.3.1	Verify VRX-DIFF-EYE
2.5.3.2	Verify VRX-EYE
2.5.3.3	Verify TRX-EYE-MEDIAN-TO-MAX-JITTER
2.5.3.4	Verify VRX-CM-AC

DiiVA Hybrid Lane Receiver Tests

Test	Description
2.6.3.1	Verify UIHL
2.6.3.2	Verify VHRX-DIFF-EYE
2.6.3.3	Verify VHRX-EYE
2.6.3.4	Verify THRX-EYE-MEDIAN-to-MAX-JITTER
2.6.3.5	Verify VHRX-CM-AC

DiiVA Recommended Test Equipment List

Equipment	Description
CTS-draft Recommended Real-time Oscilloscopes for DiiVA Testing	Tektronix DPO70000 Series Digital Oscilloscope (12.5 GHz to 20 GHz BW real-time oscilloscopes e.g. DPO71254B) w/ Option 2XL, DJA, MTH, PTH
	OR
	Tektronix DSA70000 Series Digital Oscilloscope (12.5 GHz to 20 GHz BW real-time oscilloscopes e.g. DSA71254B)
	OR
	Tektronix MSO70000 Series Mixed Signal Oscilloscope (12.5 GHz to 20 GHz BW real-time oscilloscopes e.g. MSO71254) w/ Option 2XL, DJA, MTH, PTH
CTS-draft Recommended Arbitrary Waveform Generators for DiiVA Testing	AWG7000 Series (AWG7122B) with Option 01, 06, 08
CTS-draft Recommended Differential Probes for DiiVA Testing	Tektronix P7313SMA probes (Min 1, Max 4)
CTS-draft Recommended Single-ended Probes for DiiVA Testing (Intra-pair skew test)	Tektronix P7313SMA probes (Min 2, Max 4)
CTS-draft Recommended DiiVA Fixtures for DiiVA Testing	Tektronix DiiVA Fixture Kit TF-DiiVA-TPA-KIT consisting of: - Tektronix Test Fixture TF-DiiVA-TPA-P (2 pieces) - Tektronix Test Fixture TF-DiiVA-TPA-R (2 pieces) - Tektronix Test Fixture TF-DiiVA-TPA-C

DiiVA Test Automation

NI GPIB-USB-A/B/HS

OR

GPIB-HS cables when using DPO/DSA oscilloscopes

OR

Cross connected-LAN CABLE

Ordering Information

DiiVA Compliance Test Software

Includes: Application CD and electronic documentation.

To order along with oscilloscope

Opt. DiiVA*1 – DiiVA Compliance Test Software

*1 Requires Option DJA and TEKEXP.

To upgrade existing oscilloscope

Model	Order
MSO70000	DPO-UP – Opt. DiiVA*1
DPO70000	DPO7UP – Opt. DiiVA*1
DSA70000	DSA7UP – Opt. DiiVA*1

*1 Requires Option DJA and TEKEXP.

Recommended Accessories

Accessory	Description
174-4944-01	SMA cables – Qty. 8
Picosecond Pulse Labs 5508-110 DC	DC Block – Qty. 8
TF-DiiVA-TPA-KIT	Consists of: - Tektronix Test Fixture TF-DiiVA-TPA-P (2 pieces) - Tektronix Test Fixture TF-DiiVA-TPA-R (2 pieces) - Tektronix Test Fixture TF-DiiVA-TPA-C
	DiiVA Golden Source Board (available from DiiVA Consortium)
	DiiVA Golden Sink Board (available from DiiVA Consortium)

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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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