D9020DDRC DDR2 and LPDDR2 Compliance Test Application Software

The Keysight Technologies, Inc. DDR2 and LPDDR2 compliance test application provides a fast and easy way to test, debug, and characterize your DDR2 and LPDDR2 designs. The tests performed by the DDR2 compliance test software are based on the JEDEC DDR2 SDRAM specification, the tests performed by the LPDDR2 compliance test software are based on the JEDEC LPDDR2 Specification. In addition, both the DDR2 and LPDDR2 test application features Custom mode, which covers crucial measurements such as eye-diagram, mask testing, ringing, and other tests that are not covered in the specifications but are critical for characterizing DDR2 and LPDDR2 devices. The test application offers a user-friendly setup wizard and a comprehensive report that includes margin analysis.

Features

- Setup wizard for quick setup, configuration and test selection.
- Execution speed and proven test algorithm which minimizes test time.
- User-select tests and configuration based on the JEDEC DDR2 and LPDDR2 specification.
- Read and write cycle separation in real time mode for powerful debug and analysis.
- DDR debug tool for navigation to areas of interest in a saved waveform with pre and post compliance testing capability.
- Test framework that reports multi trial results with full array of statistics for each measurement with worst case measurement result.

KEYSIGHT TECHNOLOGIES

Comprehensive Test Coverage

The DDR2 and LPDDR2 compliance test application automatically configures the oscilloscope for each test and provides information test results which includes margin and statistical analysis. The tests coverage includes electrical, timing and eye diagram tests as stated in the JEDEC specification. The signal is optimized for most accurate test result and measurement repeatability. If you discover a problem with your device, the Custom mode feature and debug tool are available to aid in root-cause analysis.

Easy Test Definition

The test application enhances the usability of Keysight Infiniium oscilloscopes for testing DDR2 and LPDDR2 devices. The Keysight automated test framework guides you quickly through the steps required to define the setup, perform the tests and view the test results. You can select a category of tests or select an individual test. The user interface is designed to minimize unnecessary reconnections, which will help save test time and minimize potential operator error. You can save the tests and configurations as project files and recall them for quick testing and review previous results. You can also run the compliance test with saved waveform files from the oscilloscope or the ADS simulation tool on your PC, freeing the oscilloscope for other data acquisition purposes.

Configurability and Guided Connection

The DDR2 and LPDDR2 compliance test application provides flexibility in your test setup. The application lets you define controls for critical test parameters such as voltage threshold values, number of waveforms used for analysis and customizable violation settings. Once you have configured the tests, the connection page will display the connection diagram for the test you have selected.

You can also specify the number of test trials and only stop running selected tests when the stop condition is met. The application will save the worst-case test result to help you track down the anomalies in your signals.
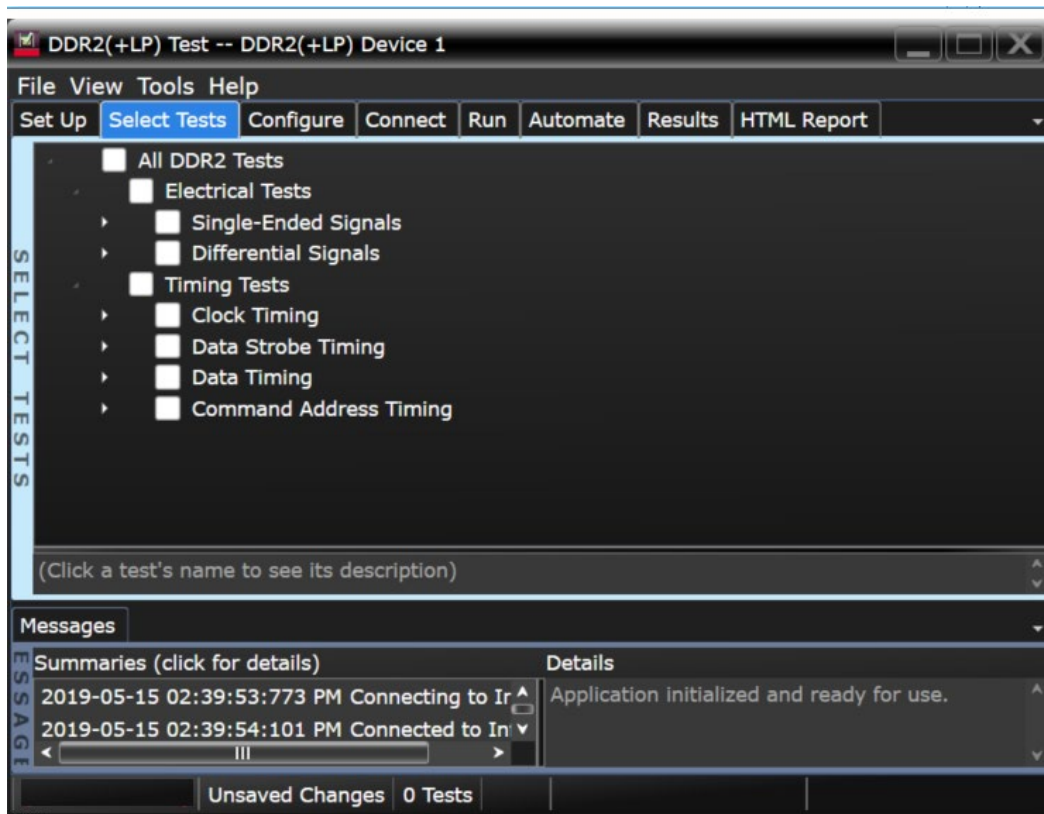
Figure 1. The Select tab list all the tests available in your setup. You can easily setup the individual test or group of tests.
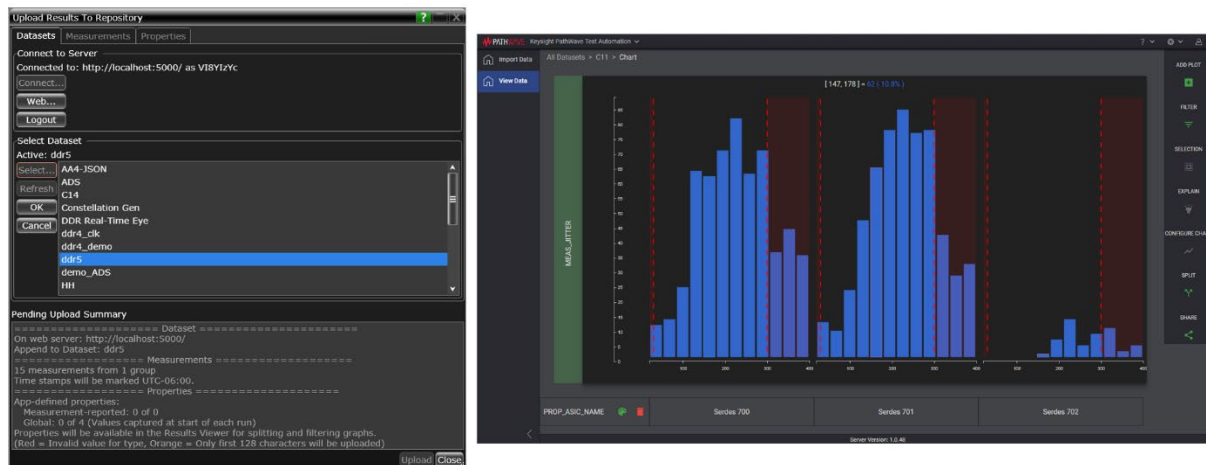

Figure 2. Infiniium Compliance Test Software with Data Analytics option. The user exports the compliance test result to the repository via an URL address that connects to the server.
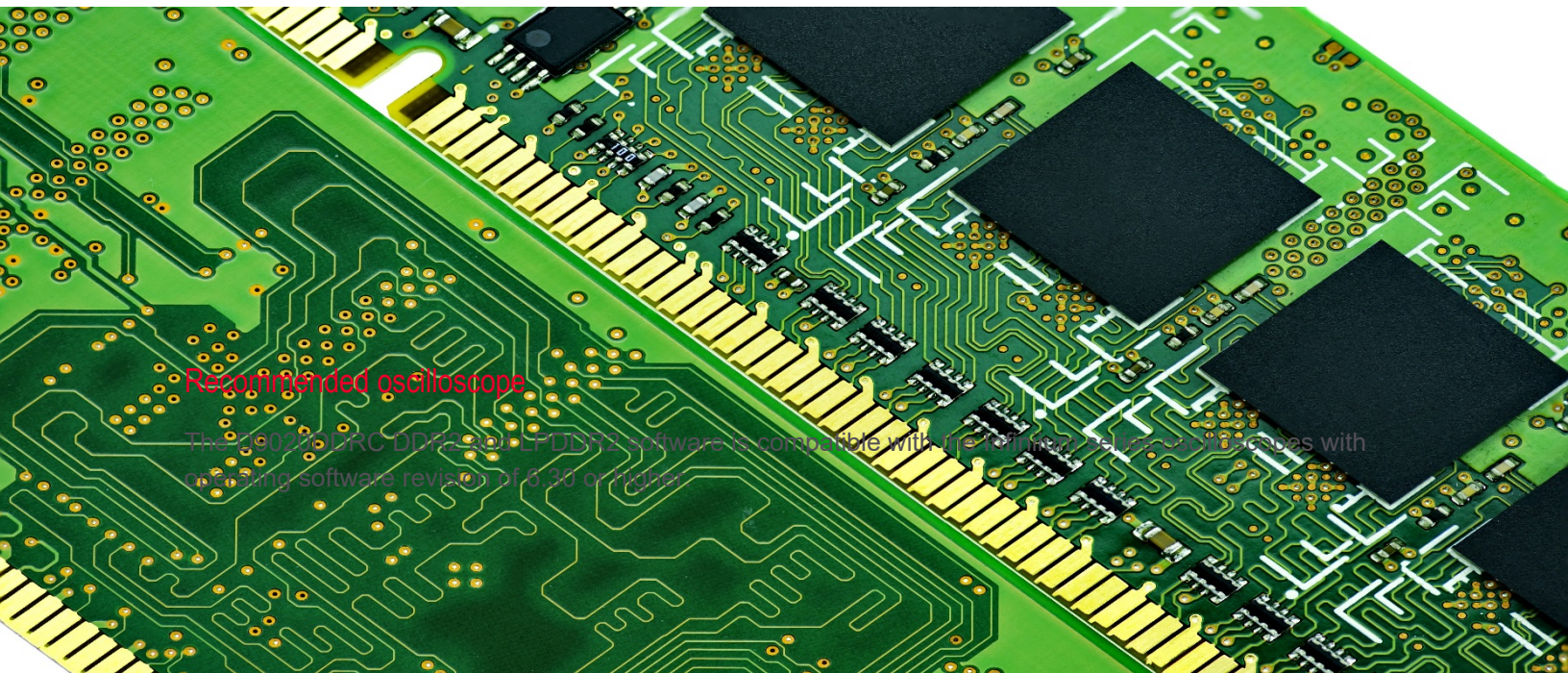
Comprehensive Result Analysis

In addition to providing you with measurement results, the compliance test application reports how close your test results are to the specified test limit. You can specify the level at which warnings are to be issued. You are provided a full array of statistics for each measurement.

Thorough Performance Reporting

The DDR2 and LPDDR2 compliance test application generates HTML reports that captures the performance, status and margins of your device under test. It also captures screenshots of critical measurements of your reference and documentation. This report is suitable for printing and sharing with your test vendors, customers and suppliers.

Recommended oscilloscope

The U8029DRC DDR2 and LPDDR2 software is compatible with the full Infiniium series oscilloscopes with operating software revisions of 6.30 or higher.

Data rate	Minimum Bandwidth	Minimum Channels	Description
Up to 1067 MT/s	4 GHz	3	Infiniium 9000A, S- series, V-series, Z- series, UXR oscilloscopes

Ordering Information

Model number	Description	Note
D9020DDRC	DDR2 and LPDDR2 Compliance Test Software	Required
D9010SCNA/ D9020SCNA	InfiniiScan Event Identification Software	Required

Example of hardware configuration

Model number	Description	Quantity
DSOS404A	4 GHz High Definition Infiniium oscilloscope	1
1134B	InfiniiMax 5 GHz probe amplifier	Minimum 3
E2678B	InfiniiMax 12 GHz Differential socket probe head	Minimum 3
W2631/3B	DDR2 BGA adapter	1
W2639A	Probe board adapter for use with the DDR2 BGA interposer	2

Flexible Software Licensing and KeysightCare Software Support Subscriptions

Keysight offers a variety of flexible licensing options to fit your needs and budget. Choose your license term, license type, and KeysightCare software support subscription.

License Terms

Perpetual – Perpetual licenses can be used indefinitely.

Subscription – Subscription licenses can be used through the term of the license only (6, 12, 24, or 36 months).

License Types

Node-locked – License can be used on one specified instrument/computer.

Transportable – License can be used on one instrument/computer at a time but may be transferred to another using Keysight Software Manager (internet connection required).

USB Portable – License can be used on one instrument/computer at a time but may be transferred to another using a certified USB dongle (available for additional purchase with Keysight part number E8900-D10).

Floating (single site) – Networked instruments/computers can access a license from a server one at a time. Multiple licenses can be purchased for concurrent usage.

KeysightCare Software Support Subscriptions

Perpetual licenses are sold with a 12 (default), 24, 36, or 60-month software support subscription. Support subscriptions can be renewed for a fee after that.

Subscription licenses include a software support subscription through the term of the license.

KeysightCare Software Support Subscription provides peace of mind amid evolving technologies.

- Ensure your software is always current with the latest enhancements and measurement standards.
- Gain additional insight into your problems with live access to our team of technical experts.
- Stay on schedule with fast turnaround times and priority escalations when you need support.

Selecting your license:

Step1. Choose your software product (eg. S1234567A).
Step2. Choose your license term: perpetual or subscription.
Step3. Choose your license type: node-locked, transportable, USB portable, or floating.
Step4. Depending on the license term, choose your support subscription duration.

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