GRL
GRANITE RIVER LABS

For Keysight Infiniium Series Oscilloscopes

GRL HDMI 2.0 and 1.4b Protocol Decode and Compliance Test Software

Test & Debug HDMI 2.0 and 1.4 Protocol in Real-Time

HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE

KEYSIGHT TECHNOLOGIES
Solutions Partner

- Get detailed insight into HDMI 2.0 & 1.4 Protocol transactions
- Test HDMI 2.0 & 1.4b Source Compliance with your oscilloscope at a click of the button
- Correlate between HDMI Protocol and Physical layer to quickly debug issues
- Most comprehensive HDMI 2.0 Source Protocol Compliance coverage available today

Product Overview

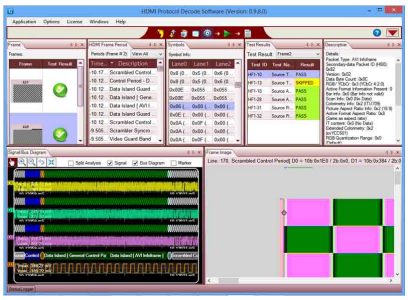
Quickly resolve challenges in early designs with GRL's HDMI 2.0 and 1.4b Protocol Decode and Compliance Test Software, the only tool available for oscilloscope-based HDMI 2.0 protocol analysis and debugging. GRL's solution is compatible with Keysight (formerly Agilent) state-of-the-art Infiniium real-time Oscilloscope platform, and offers the most comprehensive automated coverage of HDMI 2.0 Source Protocol Compliance tests available today.

Overcome the limitations of using a traditional oscilloscope to debug early designs, and extend your oscilloscope's capability using time-correlated views to quickly troubleshoot HDMI 2.0 and 1.4b protocol problems back to their timing or signal integrity root cause.

GRL-HDMI-DEC is the only tool that allows developers to decode HDMI 2.0 traffic on a real-time scope. A new and exciting HDMI 2.0 Protocol compliance test feature allows you to perform HDMI 2.0 Source compliance tests as per the Compliance Test Specification. A robust frame grabber feature saves time and eliminates errors by allowing you to view HDMI frames with horizontal and vertical blanking periods along with all secondary data packets.

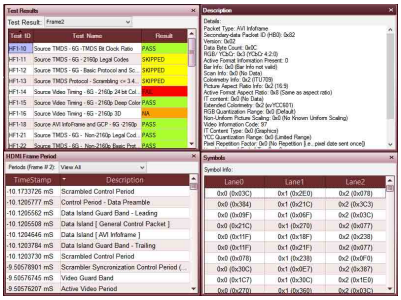
Features - Available Now

- Supports HDMI 2.0 and 1.4b Source Protocol Compliance Tests
- Seamlessly links physical layer signals to HDMI periods to video frames
- Links the frame image to pixel details and corresponding physical layer signals
- Provides deep insight into the HDMI link with detailed packet descriptions
- Displays physical layer waveform along with the bus diagram
- Displays the HDMI stream/frame visually as it is in the specification
- Frame grabber displays the complete horizontal and vertical blanking periods
- Displays active video, secondary data packets, and audio packets in a readable tabular format
- Decodes RGB, YCbCr 4:4:4, YCbCr 4:2:2 and YCbCr 4:2:0 pixel encoding formats
- Supports 18, 24, 30, 36 and 48 bits per pixel
- Generates LFSR without scrambler reset to optimize use of oscilloscope record length
- Decodes live and stored waveforms
- Powerful, clutter free UI
- Automated PDF and CSV report generation



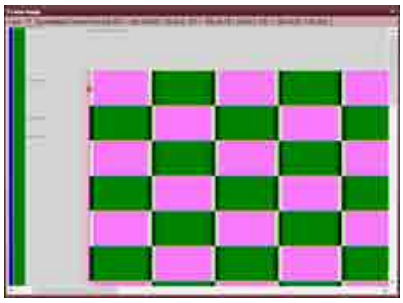
Test HDMI 2.0 and 1.4b Protocol Compliance with your oscilloscope

Turn your Keysight Oscilloscope into a HDMI 2.0 & 1.4b Source Protocol Compliance tester by decoding live and captured waveforms



Intuitive, easy to use, clutter-free UI

Test results, HDMI packet information, raw data, and secondary data packet are presented in a user-friendly format with multiple, easy-to-navigate windows



HDMI 1.4 and 2.0 Frame Capture

Grab that HDMI frame like never before! GRL-HDMI-DEC provides a complete frame with color-coded regions to help identify control period, data period, guard bands, and pixel encoding details

Silicon Valley, USA

Hsinchu & Taipei, Taiwan

Bangalore, India

Boeblingen, Germany

Singapore

Penang, Malaysia

Beaverton Oregon, USA

Yokohama, Japan

Application Specifications

This application is compatible with all Keysight Technologies 90000 Series oscilloscope models

HDMI 1.4b & 2.0 Protocol Decode and Compliance Test Software	
Protocol Specification	HDMI 2.0 and 1.4b
Scrambling	Scrambling supported
Bits per pixel	18, 24, 30, 36 and 48
Pixel Encoding	RGB, YCbCr (4:2:2), YCbCr (4:4:4), YCbCr (4:2:0)
Oscilloscope Memory	250M points or more per channel recommended
Supported Signal Types	Live oscilloscope channels or Agilent .BIN files
Supported HDMI 1.4 Protocol Tests	7-16, 7-17, 7-18, 7-19, 7-23, 7-24, 7-25, 7-26, 7-27, 7-28, 7-29, 7-30, 7-31, 7-32, 7-33, 7-34, 7-35, 7-36, 7-37, 7-38, 7-39, 7-40
Supported HDMI 2.0 Protocol Tests	HF1-11, HF1-12, HF1-14, HF1-15, HF1-16, HF1-18, HF1-21, HF1-22, HF1-24, HF1-25, HF1-26, HF1-31, HF1-32, HF1-33, HF1-34, HF1-35, HF1-36, HF1-37, HF1-38, HF1-39, HF1-40, HF1-41, HF1-42, HF1-43, HF1-44, HF1-45, HF1-47, HF1-48, HF1-49, HF1-51, HF1-52

Ordering Information

For a formal quote and pricing contact info@graniteriverlabs.com

Model Number	Description
GRL-HDMI-DEC	GRL HDMI 2.0 and 1.4b Protocol Decode and Compliance Test Software

About Granite River Labs

Granite River Labs (GRL) provides end-to-end Engineering Services and Test Solutions to help hardware engineers adopt high speed interfaces. A trusted partner of small up-and-coming hardware developers to some of the largest companies in the world, GRL combines recognized industry experts, high performance test equipment, automated test solutions, and convenient locations to provide the utmost in customer service and robust, user-friendly tools. Together with our customers we overcome challenges with designing and validating early stage products and new connectivity technologies.

For additional information or questions regarding Granite River Labs Test Solutions, including quotes, product demonstrations, software and technical assistance please contact us at: info@graniteriverlabs.com

GRL
GRANITE RIVER LABS

World Wide Headquarters

Granite River Labs Inc.
3500 Thomas Road, Suite A
Santa Clara, CA 95054 USA
+1 (408) 627-7608

info@graniteriverlabs.com

www.graniteriverlabs.com

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