

UCD-422 Gen2

HDMI 2.1b Video Generator & Analyzer



World's First and Only Computer Vision
Capable HDMI 2.1b Compliance Test Tool

10K Video Generator & Analyzer

UCD-422 Gen2 is a video generator and analyzer for testing HDMI 2.1b interface up to 12Gbps signal speed. Supported resolutions are 10K@30Hz and 8K@60Hz without DSC. UCD-422 Gen2 offers support for VRR, QMS, ALLM, FEC, DSC, eARC and HDCP 1.4/2.3. UCD-422 Gen2 provides two GPIOs via SMA connectors, one for input and one for output. All the functionality of the UCD-422 Gen2 is available via API for creating test automation.

Any video format, audio format, frame rate, video timing, and InfoFrames etc. including timestamps can be generated in any sequence, allowing the UCD-422 Gen2 to generate nearly endless combination of test scenarios.

HDMI CTS Test Tool

UCD-422 Gen2 supports HDMI and HDCP CTS tests covering Sink, Source, Repeater device category, world's first and only computer vision based testing. This includes support the following CTS versions.

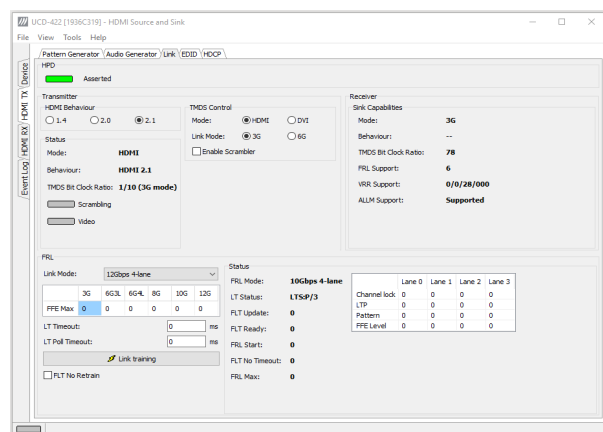
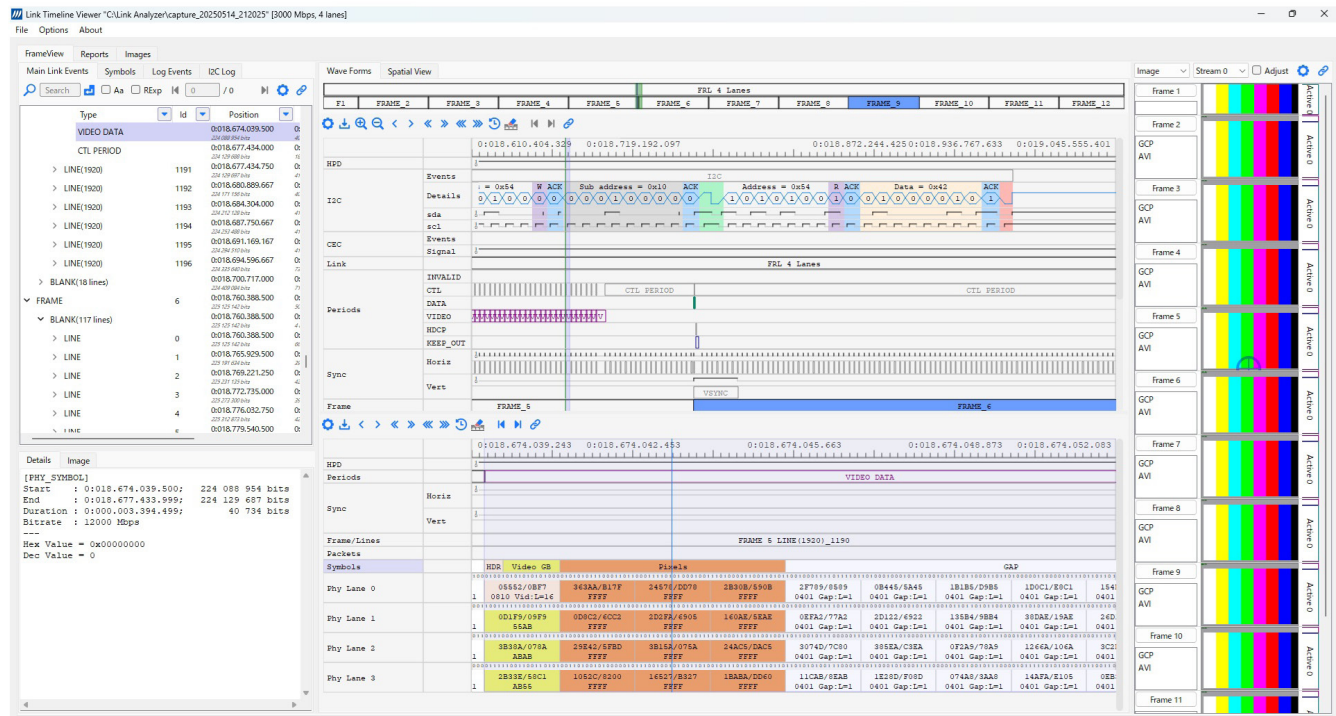
- HDCP 1.4 + 2.3
- HDMI 1.4b + 2.1b
- CEC 1.4b + 2.0

Highlights

- HDMI 2.1b Test Equipment (FRL/TMDS)
- HDMI, HDCP and CEC CTS Tests
- 12 Gbps support
- 10K@30Hz Support (w/o DSC)
- 8K@60Hz Support (YCbCr 4:2:0, w/o DSC)
- HDMI Link Analyzer with sniffer mode
- GPIO connectors
- VRR, QMS and ALLM with Latency Tool
- Forward Error Correction (FEC)
- Lip Sync Measurement with ULT-01
- CEC 1.4b & 2.x Support
- HDCP 1.4 & 2.3 Support
- eARC Support
- DSC Support
- Computer Vision based testing support
- Custom Playback/Scenario support

Link Analyzer

HDMI Link Analyzer is a tool for capturing Main-link Data Events and I2C Transactions. For each bulk capture, the data is parsed in a timeline view presenting the captured frames. Within each frame, users can have a deep view of the events and metadata that occurs in each line. Measure distances in nanoseconds and symbol size to identify the length of problems in between events. Observe descrambled and scrambled symbols in hexadecimal format in each of the active lanes. UCD-422 Gen2 supports the use of HDMI Link Analyzer in a Sniffer mode to monitor HDMI link between Sink DUT and Source DUT.



Specifications

Input (HDMI Rx)	HDMI 2.1b (10K@30Hz, w/o DSC)
Output (HDMI Tx)	HDMI 2.1b (10K@30Hz, w/o DSC)
HDMI 2.1b Features	FRL, TMDS, ALLM, VRR, QMS
Content Protection	HDCP 1.4 & 2.3
Additional features	eARC, DSC, FEC, CEC
Hardware option	Latency Tool ULT-01
Computer Interface	USB 3.0 (Type-A Connector)
Operating System	Windows, Linux, macOS
Software	UCD Console GUI TSI API with interface specific Test Sets
Power Input	AC/DC Power supply 100 to 240 Vac 50/60 Hz input, +12 Vdc output
Module Size	311 x 197 x 65 mm
Weight	1.2 kg w/o power supply

Fixed Rate Linked (FRL)

Fixed Rate Link (FRL) is the new video transport method in HDMI 2.1b. The UCD-422 can identify interoperability issues on FRL capable Sink and Source. Users can verify if an image is captured correctly on the UCD Console when testing Source devices using different FRL modes.

