

Unigraf Introduces Industry-First Computer Vision Technology for HDMI Testing

Unigraf Vision Intelligence Delivers Pixel Perfect Accuracy and Drastic Reduction in Test Duration

ESPOO, FINLAND, December 19, 2025 /EINPresswire.com/ -- Unigraf, a global leader in high-

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Henri Muhonen, Unigraf CEO

performance audio and video testing solutions, today announced a major enhancement to its line of HDMI® test and analysis solutions with the upcoming release of Unigraf Vision Intelligence™ (UVI™), available in first quarter 2026 on the company's UCD-422 Gen2 HDMI Generator and Analyzer system. The UCD-422 Gen2 is the industry's first HDMI compliance solution to incorporate computer vision, enabling automated testing with enhanced accuracy and speed.

HDMI Compliance Testing Transformed

Display manufacturers face mounting pressure to accelerate product development cycles while meeting

increasingly complex HDMI specifications. Until now, critical compliance validation has relied on tedious manual inspection, requiring engineers to visually verify test patterns frame by frame, a process prone to human fatigue, inconsistency, and error. Historically, a single compliance validation cycle could consume up to 13 hours of an engineer's time, creating bottlenecks that delay product launches and strain R&D resources. By applying computer vision—the branch of artificial intelligence that enables machines to interpret visual data with precision impossible for the human eye—Unigraf has transformed compliance testing from a manual burden into an automated, deterministic process. What once required a full business day now completes in approximately one hour, with pixel-level accuracy that exceeds human capability.

Henri Muhonen, Unigraf CEO said, "Thirteen hours down to one. That single number tells you everything about what computer vision means for display testing. Our customers have told us for years that manual compliance checks are the bottleneck holding back their product launches. With Unigraf Vision Intelligence, we've eliminated that bottleneck entirely. Engineers can now focus on innovation instead of staring at test patterns."

Comprehensive HDMI 2.1b Test and Validation Platform

Beyond its groundbreaking computer vision capabilities, the UCD-422 Gen2 delivers a complete ecosystem for HDMI development and certification. As consumer electronics manufacturers race to support HDMI 2.1b, the latest specification enabling 8K resolution, variable refresh rates for gaming, and enhanced audio return channel capabilities, the complexity of compliance testing has grown exponentially. The UCD-422 Gen2 addresses these enhancements with comprehensive support for the full HDMI 2.1b feature set.

- **Extreme Resolution Support:** Generate and analyze signals up to 10K@30Hz and 8K@60Hz without Display Stream Compression, enabling testing at the bleeding edge of display technology.

- **Full HDMI 2.1b Feature Coverage:** Native support for Quick Media Switching, Variable Refresh Rate (QMS/VRR), Auto Low Latency Mode (ALLM), Forward Error Correction, DSC, eARC, CEC 1.4b & 2.x, and HDCP 1.4/2.3.

- **Unlimited Test Scenario Flexibility:** Generate any combination of video formats, audio formats, frame rates, video timings, and standard or custom HDMI InfoFrames to stress-test devices under real-world conditions.

- **Production-Ready Automation:** Complete API suite enables seamless integration into automated test systems and continuous integration pipelines.

For more details, including datasheet and online demo request, visit www.unigraf.fi/product/ucd-422-gen2.

Availability and Upgrade Program

The UCD-422 Gen2 with UVI technology begins shipping first quarter 2026. Recognizing the significant investment existing customers have made in the widely adopted UCD-422 platform, Unigraf is offering a hardware upgrade program to enable current users to access the new



Unigraf Vision Intelligence™ transforms HDMI compliance testing from a manual, time-consuming task into a fast, deterministic, fully automated workflow—cutting validation time while improving test accuracy.

capabilities. For pricing, upgrade options, and delivery information, contact Unigraf directly.

About Unigraf

Founded in 1990 and headquartered in Espoo, Finland, Unigraf is a global leader in video electronics testing. The company develops hardware and software tools for USB Type-C®, DisplayPort®, and HDMI® interfaces used in R&D, compliance, and production environments. Leading electronics manufacturers rely on Unigraf to test smartphones, laptops, tablets, monitors, and other advanced display products for signal integrity, interoperability, performance, and standards compliance. Unigraf compliance tools support specifications from VESA and Digital Content Protection, LLC. The company is a member of the [Symbiosys Alliance](#), a consortium uniting innovators in complementary I/O interconnect technologies.

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