

# MAINCONCEPT WEBASM HEVC DECODER SDK

Secure browser-based streaming for delivering mission-critical video

The MainConcept® WebASM HEVC Decoder SDK provides mission-critical delivery of reliable, high-quality video with minimal bandwidth impact. HTML5 does not support HEVC, limiting viewing options on a web browser. WebAssembly (a.k.a. Wasm or WebASM) solves this by using JavaScript (JS) to develop secure, self-contained applications that run in Google Chrome, Mozilla Firefox, Microsoft Edge and others.

WebAssembly is perfectly suited for numerous use cases across surveillance, streaming, gaming, medical and education. It can be used to view live streams from security cameras, police & military bodycams, fleet management devices and much more. With the MainConcept HEVC Decoder, you can build powerful applications with optimized performance for multi-threaded H.265 video decoding on any device with an Internet browser supporting Wasm.

Supporting the same feature set as MainConcept's Low Level HEVC Decoder, the Wasm edition is highly scalable and flexible as it runs on the most popular operating and Internet browsers like Google Chrome, Mozilla Firefox, Microsoft Edge and Apple Safari, which combined account for over 90% of browser-based web traffic. This plus compatibility across devices means apps using the MainConcept WebASM HEVC Decoder can run natively virtually anywhere regardless of whether you are running a PC, laptop, cell phone, tablet, smart TV, game console, an IoT device, etc.

## FEATURES

- Decoding in up to 8K resolution
- 4:2:0 8-bit (Main), 4:2:0 10-bit (Main 10), 4:2:0 12-bit (Main 12) and 4:2:2 8-bit (Main 4:2:2), 4:2:2 10-bit (Main 4:2:2 10) and 4:4:4 10-bit (Main 4:4:4 10), 4:4:4 12-bit (Main 4:4:4 12) decoding profiles
- Signaling SMPTE 2084 based HDR-10 including SMPTE 2086 mastering display metadata
- Hybrid Log Gamma (HLG) transfer characteristics are signaled in accordance with ITU-R BT.2100-1
- Multi-threading modes for real-time playback of high resolutions, and parallel decoding of multiple HEVC/H.265 streams
- SIMD optimizations for enhanced decoding performance
- Binary format eliminates the need for specialized hardware or software
- Useful evaluation tools for quickly checking stream conformance, performance and preview

## BROWSER REQUIREMENTS

- Mozilla Firefox: 98.x or higher
- Google Chrome: 99.x or higher
- Microsoft Edge: 99.x or higher

## IDEAL SOLUTION FOR BANDWIDTH-FRIENDLY PREVIEW, PLAYBACK, EDITING OR MONITORING

### BENEFITS

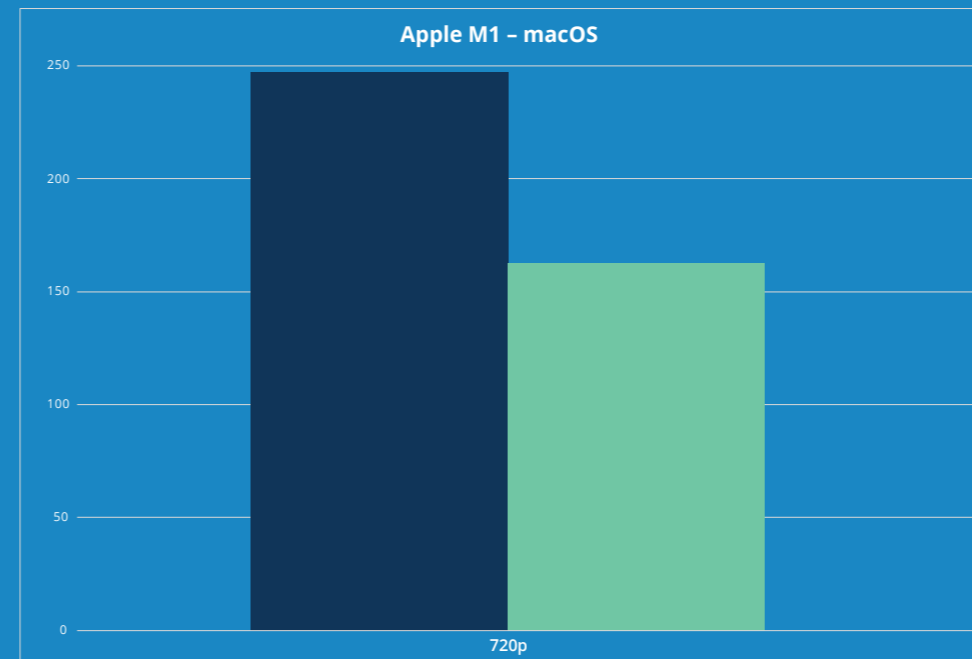
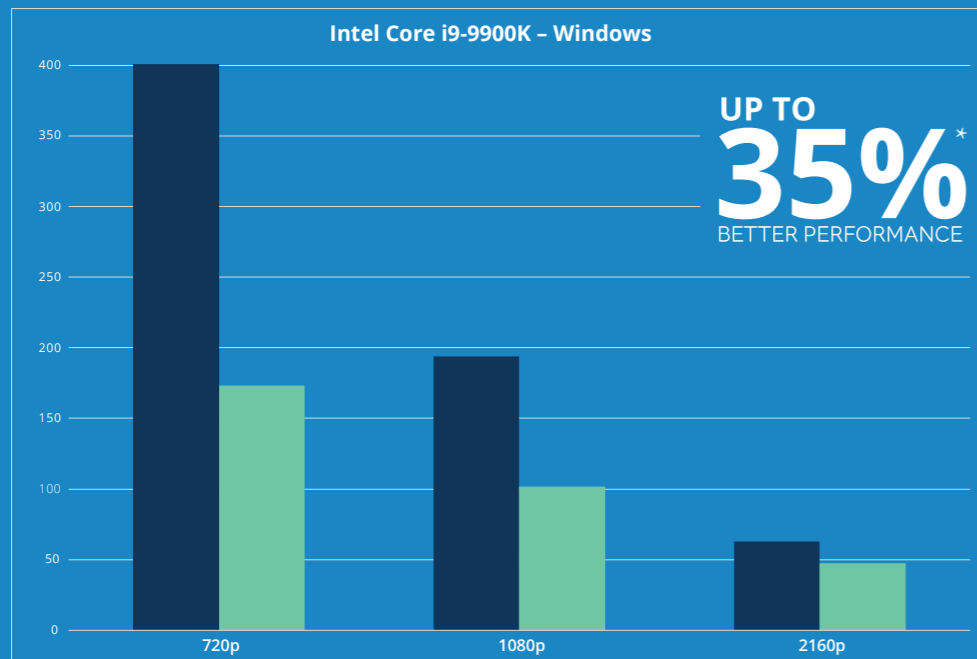
- **Broad browser and device support**  
Wasm is supported on the most popular operating systems and browsers, is platform independent and runs on many different devices
- **Securing viewing of videos anywhere**  
Avoid downloading insecure 3rd party browser plugins but still be able to view non-native content in the best quality under low network conditions in a secure environment
- **Industry leading HEVC decoder**  
Create browser apps featuring H.265 playback or editing on every system in every internet browser supporting Wasm using the state-of-the-art MainConcept HEVC Decoder

### KEY FEATURES

- 4:2:0 (8-bit - 12-bit), 4:2:2 (8-bit - 10-bit) and 4:4:4 (10-bit - 12-bit) decoding profiles
- Multi-threading and SIMD optimizations
- Simple sample player tool

# MAINCONCEPT WEBASM HEVC DECODER SDK

Performance Metrics - Speed (FPS) of decoding HEVC/H.265 using Web Assembly in Google Chrome



**Modes**

- SMP1: Optimized for highest performance. Decode multiple pictures in parallel. Decode in parallel within each picture.
- SMP2: Optimized for lowest latency. Decode one picture at a time. Decode in parallel within each picture.

The inputs used were decoded from a network stream in 10-bit. The minimum unit in the network video stream is NALU (Network Abstraction Layer Unit). Tests run in 8-bit and on Firefox showed similar results.  
\* Compared to version 2.0

**PACKAGES**

**WebASM HEVC Decoder SDK**

Enable WebAssembly decoding across internet browsers supporting the standard. Intended for browser-based workflows that require HEVC/H.265 preview, playback, editing or monitoring.

**STREAM TYPES & FORMATS**

**Elementary Streams:** Generic HEVC/H.265 ES up to 4:4:4 12-bit

**ABOUT MAINCONCEPT**

Since 1993, MainConcept has provided best-of-breed video/audio codec solutions that fuel creativity and business globally for professional video production, multimedia, broadcast, digital signage, gaming, medical and security industries. Our SDKs, transcoding applications and plugins are used across industry verticals to meet an ever-expanding list of use cases. MainConcept codecs are engineered to surpass the challenges of even the most demanding use cases and are used by organizations such as Adobe, Dalet, Nikon, Intel, MAGIX, Playbox, Soliton, Cinnafilm and Endeavor Streaming.

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