

# H.264/MPEG-4 AVC|MVC Encoder & Codec IPs

- Designed for integration into smartphones, tablets, camcorders & digital still cameras, wireless displays, set-top boxes, webcams and video surveillance encoder and codec ICs
- H.264/AVC Baseline, Main and High profiles and H.264/MVC Stereo High profile (3D Ready) real-time encoding and decoding up to 4K resolutions
- State of the art video quality thanks to Allegro DVT broadcast quality H.264 compression algorithms
- Hardwired architecture for minimum gate count and optimized power consumption
- Ultra-low latency for wireless display applications such as Wi-Fi display and WiGig
- Fast and easy SoC integration



# H.264/MPEG-4 AVC|MVC Encoder and Codec IPs

## HIGH-PROFILE / UP TO 4K RESOLUTION

SILICON IP

Allegro DVT's H.264/MPEG-4 AVC|MVC encoder and codec IPs are real-time hardware (RTL) video accelerators.

They support H.264/AVC baseline, main and high profiles and H.264/MVC stereo high profile encoding and decoding up to 4K resolution.

Allegro DVT's H.264 encoder and codec IPs are perfectly suited for integration in applications such as:

- Smartphones
- Tablets
- Camcorders/DSC
- Webcams/Video surveillance
- Wireless Display
- Set-top boxes

### Key advantages

- State of the art H.264/AVC baseline, main, high profile and H.264/MVC stereo high profile (3D Ready) encoder and decoder
- Any video resolution up to 4K resolution
- Multi channel encoding and decoding
- Fast and easy integration within a wide range of System-On-Chip (SoC) designs
- Hardware architecture minimizes both gate counts and power consumption
- Independent entity, requiring minimum support from the SoC embedded CPU
- Tested using Allegro DVT's "industry standard" certification streams
- Motion estimation algorithms optimized to fit the memory bandwidth and latency requirements of consumer SoCs
- Support for M-JPEG

### Features

Profile/level	H.264/AVC Baseline, Main and High profiles up to 4K H.264/MVC Stereo High Profile
Input format	4:2:0 or monochrome Progressive or Interlaced content with PAFF support
Slice Type	I, P, B
Intra prediction	All intra4x4, intra8x8 and intra16x16 modes
Inter prediction	Support for 16x16, 16x8, 8x16, 8x8, 8x4, 4x8, 4x4 partitions ¼ pel interpolation
Transform	4x4 and 8x8
Quantization	Flat, default and custom scaling list
RDO	Yes
Weighted Prediction	Yes
Entropy coding	CABAC, CAVLC and PCM coding modes support
Loop filter	In-loop deblocking filter
Rate control	CBR, VBR
Latency	Ultra Low-Latency for wireless display applications such as: Wi-Fi Display and WiGig

### Deliverables

- RTL source code
- C control software
- Bit accurate reference model
- Documentation



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Allegro DVT is a leading provider of H.264/MPEG-4 AVC|SVC|MVC, H.265/HEVC, AVS2, VP9 and AV1 solutions, including industry standard compliance test suites, H.264/MPEG-4 AVC, H.265/HEVC and VP9 encoder, codec and decoder hardware (RTL) IPs. Allegro DVT products have been chosen by more than 100 major IC providers, OEMs and broadcasters.

For more information, visit <http://www.allegrodvt.com> or contact [info@allegrodvt.com](mailto:info@allegrodvt.com)

