

H.264 Video Encoder IP Core

Product Description

SOC provides the H.264 encoder in three formats: IP cores for FPGAs, ASIC Chipsets, and all-in-one hardware modules.

IP cores are available for both Xilinx and Altera FPGAs. SOC configures the cores according to user specifications, including I/O formats.

The SOC codec chipsets (SOC-MCodec™) are AISC chips based on the SOC IP cores. Standard H.264 encoder chipsets for different specifications are available.

The SOC codec modules are System-on-Module (SoM) cards, based on SOC codec IP cores, that can be connected to user devices/PCBs using a standard DDR3 memory connector.

Users have the options of using the codec IP cores, chipsets, or modules. If IP cores are preferred, users have the option of Xilinx or Altera FPGAs.

SOC also offers product development boards, which allow users to develop products using the SOC codec IP core, chipsets, and modules.

Key Features

- All-hardware Design (without embedded processors)
- High Speed (Low latency)
- Small Silicon Footprint
- Low Power
- High Reliability (due to hardware architecture)
- High-Precision – 10bits available
- High-Video Quality
- Low Output Bandwidth
- High-Output Bandwidth Version Available
- User Controllable API
- Option of IP Core or Module
- Video Transmission Cores available
- Development Board available

Specifications

- Standard: H.264/AVC (ISO/IEC14496-10)
- Video Encoder Profiles: High, Main, Baseline
- Output Bit Rates: 1-100Mbps & above
- Video Resolutions: HD 1080p upto 240fps
4k upto 120fps
8k upto 60fps
- Chroma Formats: 4:2:2 or 4:2:0
- Precision: 8 bits or 10 bits
- Output Format: H.264 Elementary, or Transport Stream
- Video Input Format: RGB or YUV
- Audio Support: AAC or MPEG-2 Layer-II
- Latency: 0.25ms
- Power Consumption: 800mw (Core only)
- Target FPGAs: Xilinx or Altera

FPGA Resources

	Xilinx FPGAs	Altera FPGAs
Logic Resources:	90,000 LUTs	60,000 ALMs
Block RAMs:	7,000kb	5,000kbits
DSPs:	320 DSPs	310 DSPs

H.264 Video/Audio Encoder Chipset



H.264 Video/Audio Encoder Module

Digital Video/Audio Data →

Support multiple channels

← H.264 Compressed Video/Audio Stream

