

H.265 4k Video Encoder IP Core

Product Description

SOC provides the H.265 4k 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 also 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.265 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 SODIMM 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.265/HEVC (ISO/IEC 23008-2:2015)
- Video Encoder Profiles: Main 4:2:2 12
- Output Bit Rates: 1-100Mbps & above
- Video Resolutions: 4K@30, 4k@60
- Chroma Formats: 4:2:2 or 4:2:0
- Precision: 8 - 12 bits
- Output Format: H.265 Elementary, or Transport Stream
- Video Input Format: RGB or YUV
- Audio Support: AAC or MPEG-2 Layer-II
- Latency: 0.5ms
- Power Consumption: 1-3w (Core only)
- Target FPGAs: Xilinx or Altera

FPGA Resources for 4k@30

	Xilinx FPGAs	Altera FPGAs
Logic Resources:	150,000 LUTs	100,000 ALMs
Block RAMs:	10Mbits	7Mbits
DSPs:	450 DSPs	450 DSPs

FPGA Resources For 4k@60

The logic resources for 4k@60 equal to twice of the resources of the 4k@30, as two 4k@30 engines are used to achieve the 4k@60 resolution.

H.265 Video/Audio Encoder Chipset



H.265 Video/Audio Encoder Module

