NOLAM SERVICES & INDUSTRIES

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NES-IPCORE-H265
IP CORE H265

HIGHLIGHTS

Video: H.265/HEVC (ISO/IEC 23008-2:2015)

Audio: HE-AAC (ISO/IEC 14496-3)

Main 4:2:2 10

Chroma format : 4:2:0
4:2:2

Precision : 8 bits
10 bits

Frame Rate : 10fps ,24fps,25fps ,29.97fps,30fps
30fps,50fps,59.95fps,60fps,120fps

Inter frames: I frame
I&P frame

Audio Sample rate : 32kHz,44.1kHz and 48 kHz

Audion Bit Rate : 16-18 kbps(32kHz), 16-36 kbps (44.1kHz and 48 kHz

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Output Stream Format: Constant Bit Rate (CBR) – User controllable through API
Variable Bit Rate (VBR) – User controllable through API.

Logic Resource Consumption (Xilinx FPGAs):
Standard Version: 200k LUTs, 10Mb of Block RAM, 630 DSPs
I-Frame Version: 140k LUTs, 3Mb Block RAM, 630 DSPs

Logic Resource Consumption (Intel FPGAs): Standard Version: 150kALMs, 10Mb of Block RAM, 630 DSPs
I-Frame Version: 110kALMs, 3Mb Block RAM, 630 DSPs

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▸ OVERVIEW

The Nolam services & Industries NES-IPCORE-H265 HEVC video encoder IP core is a single chip solution, which is designed to support single or multi-stream H.265 video encoding for all industrial standard resolutions including QVGA, SD, HD up to 1080p@120, and 4K@60 (8K@60 will be supported). It currently supports up to1080@60, and 4K@60. Higher resolutions will be released in the near future. The NES-IPCORE-H265 H.265 video encoder IP core supports FPGAs of both Xilinx and Intel.

The encoder can fit into a mid-end FPGA, for example, the Xilinx Zynq-7000 series and the Intel Arria-10 series. The NES-IPCORE-H265 HEVC video encoder (all of the versions) is at Main 4:2:2, 10bits. The encoder encodes either 4:2:0 or 4:2:2 streams whichever is desirable. The encoder supports both 8-bit and 10-bit profile (12 bit will be available). The 8-bit encoder is most suited for consumer products, while the 10-bit version is for high-end applications such as broadcast, digital cinema, and medical devices.

The Nolam services & Industries NES-IPCORE-H265 HEVC video encoder comes with a user API which allows the user to control the operations of the encoder, including CBR or VBR, bit rate, etc. The API user manual is shipped with the evaluation and product development kit. The NES-IPCORE-H265 encoder IP core is customized into the following versions:

1.Standard Version: A balanced system optimized for key factors of logic resource utilization and performance.

2. I-Frame Version: The I-frame version implements intra-prediction (I-frames) only, without motion vector predictions, which reduces the logic reduces logic resources and simplifies decoder complexity.

3. Slim Version: The slim version encoder is optimized for low logic resources, which uses about 50% of the logic resources compared to the standard version. Other special versions of the Nolam services & Industries NES-IPCORE-H265 video encoder, such as multiple channels and dual core for 3D HD TVs, are also available

ORDERING INFORMATION:'
NES-IPCORE-H265   IP CORE H265 Encoder