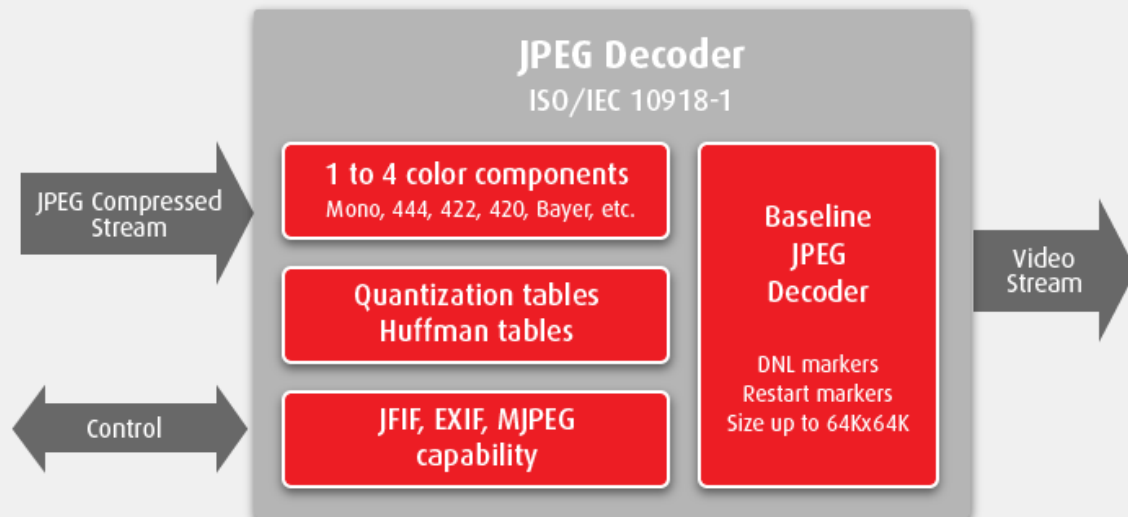


JPEG Decoder IP core

BA115 Product sheet



The Silex Insight JPEG decoder core is intended for decoding of images according to ISO/IEC 10918-1 baseline coding standard.



General Description

The IP core can be used with all Xilinx and Altera (Intel) FPGA families and ASIC technologies. Our JPEG decoder is very compact and can fit in smallest FPGA devices.

The JPEG decoding doesn't require external DDR memory. It is the ideal IP core for many applications with a good compromise between the quality, latency, complexity and compression ratio.

The decoder supports the complete header parsing, including retrieving the Huffman and quantization tables from the header.

The simple FIFO-like interfaces and 100% synchronous structure of the JPEG decoder IP core makes the integration very easy. The decoding of the image or video is handled autonomously by the IP core, without any CPU intervention.

APPLICATIONS

Our JPEG Decoder IP core is used in many applications including:

- industrial imaging
- datacenter
- multimedia conferencing

Features

- Compliant with baseline JPEG (ISO/IEC 10918-1)
- Unrestricted image resolutions up to 64K by 64K.
- Chroma subsampling (4:4:4, 4:2:2, 4:2:0), grayscale and bayer support.
- No external DDR memory required.
- Full header parsing capability:
 - user-definable comments
 - application markers
 - quantization tables
 - Huffman tables
- Support for full-format and abbreviated-format
- Header error catching features
- Support all features of the baseline standard including restart markers, restart interval and DNL.

Interfaces

- Simple FIFO interfaces for compressed data and pixel data interfaces
- 8×8 block-format pixel output with classical scan order
- Simple CPU interface for decoder configuration
- Easy-to-use status and control interface
- Programmable external interrupt for event follow-up

Other video compression IP cores

- JPEG2000 encoder and decoder for many types of applications in broadcast, digital cinema, surveillance,...
- VC-2 HQ encoder and decoder for ultra-low latency lightweight image/video compression.
- MPEG-2 decoder for high performance multichannel systems.

About Silex Insight

Silex Insight is an electronic design house (ASICs, FPGAs, DSP, boards, embedded SW) specialized in video compression, security and memory controllers. Silex Insight offers the best guarantee for continuous support throughout the complete lifecycle of products.

For more information, please contact us.

Silex Insight SA
Rue du Bosquet, 7
1348 Louvain-la-Neuve
Belgium

Website www.silexinsight.com
Email contact@silexinsight.com
Phone +32 (0) 10 454 904