Compact LossLess Encoder/Decoder RTL Core

We offer high quality solutions using
our original computer algorithm, [**DMNA**]

1 Abstract

TMC's Compact LossLess is an encoder / decoder IP core using TMC original algorithm.
The logic gate count and internal memory capacity are optimized to reduce cost and power consumption.

2 Features *- Industry-leading compact size -*

- ◆ Complete lossless compression
- ◆ Compact and high speed processing
  - ・The compression algorithm of TMC reduces the internal memory capacity and logic gate count
  - ・High speed compression & decompression
- ◆ Low latency
  - ・Ultra-low latency achieved by optimizing the encoding algorithm
- ◆ Pursuing good integration
  - ・Easy implementation without changing the image data path of existing systems
- ◆ Support for high resolution
  - ・Flexible support for parallel processing with high resolution
- ◆ Reliable quality and results
  - ・Lossless IP has been adopted as DSC RAW compression format for many years

3 Specifications

Compact LossLess DMNA

- ◆ Compression format
  - ・TMC original
- ◆ Compression and decompression capability
  - ・Minimum 1 sample/clock, performance can be improved by parallel processing
- ◆ Image size
  - ・Minimum width:32samples and height:8samples, maximum size is variable on request
  (The maximum image size is width:65K and height:65K for ASIC products)
- ◆ Image formats
  - ・RGB / YUV4:4:4, 4:2:2, 4:2:0 / Monochrome
  (We also support pixel interleaving / component separation and other customer-specific image formats)
- ◆ Image bit depth
  - ・8bit to 16bit
- ◆ Image data, compressed data interface
  - ・Simple interface with enable and data

Note Specifications are subject to change without notice

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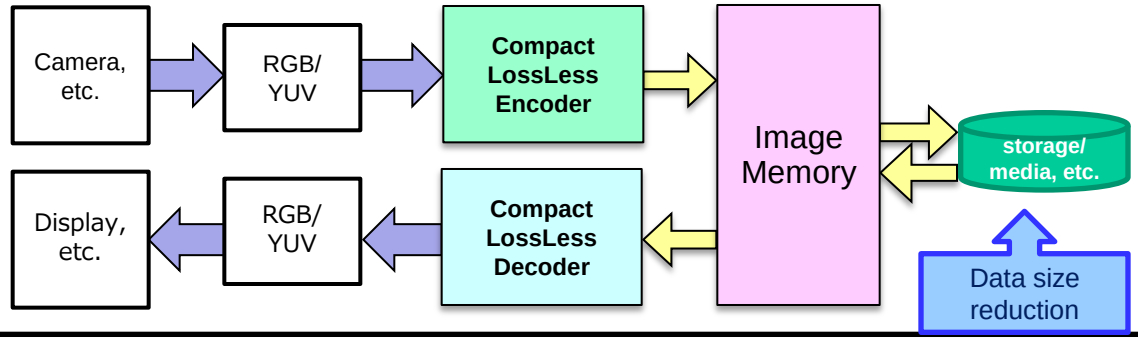
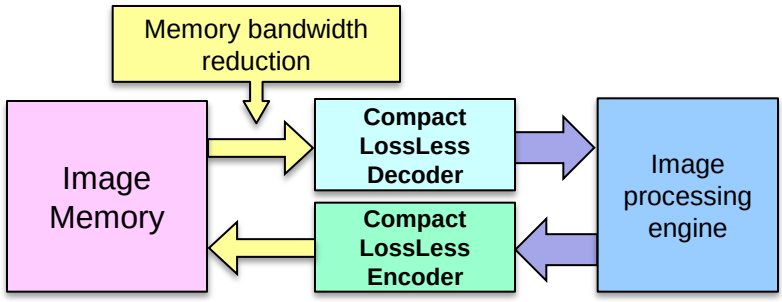
4 Applications

Example 1 : Data size reduction for storage/media



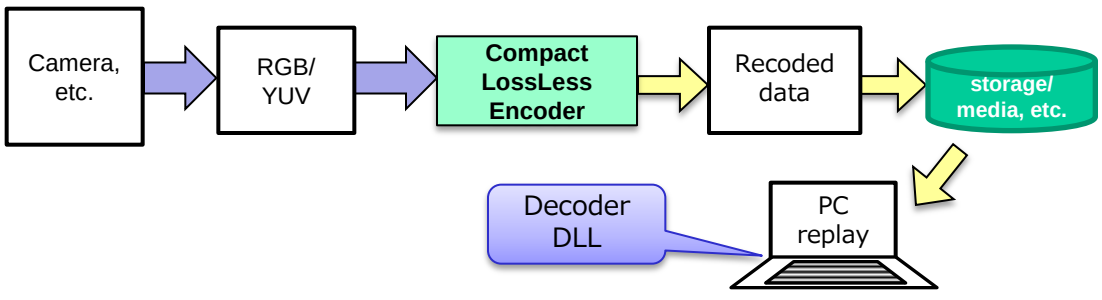
By reducing the data size, you can efficiently record/transfer image data to the storage device.

Example 2 : Memory bandwidth reduction of image processing engine



By compressing/decompressing the image data of the image processing engine, you can reduce the memory bandwidth without degrading the image quality.

Example 3 : Encoder only(Data logger, etc.)



You can employ only encoder RTL for image data recording systems such as data loggers.
TMC provide the DLL required to decompress lossless compressed data in recorded data (Windows / iOS)

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