

The KJN series are still image compression/decompression IP core, KJN-S1 is new product which is able to get Higher performance lossless Compression by original algorithm.

Features

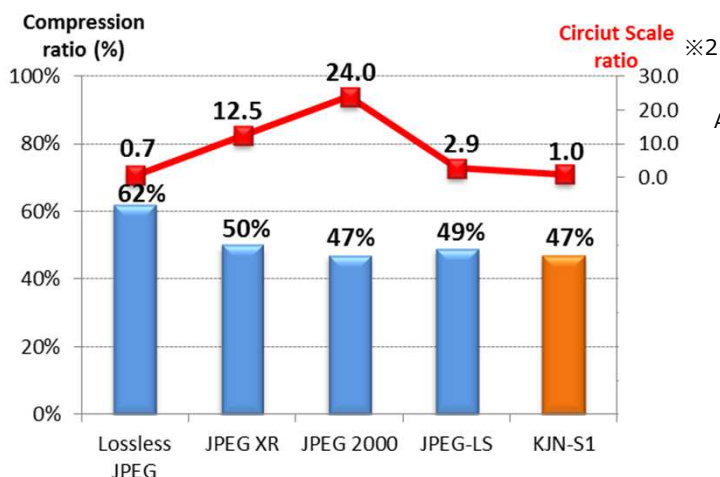
Original lossless algorithm "KJN-S1"

World's highest level compression ratio!!

World's smallest class circuit scale!!

- Lossless compression/decompression specification of Shikino-High Tech original algorithm.
- The core get Highest Compression and Smallest circuit by we have grown up compression/decompression algorithm knowhow in development of JPEG IP cores.
- Available of loading both ASIC and FPGA.
- Image in/output format : pixel interleave
- Image size : arbitrary
- Operation mode like processing mode, image size, DRI value etc. are set in internal register via external CPU.
- Written from external during compression, and downloaded from compressed data during decompression.
- Marker : Automatically generated on Encode, and automatically analyzed on Decode.
- DLL for compression / decompression provided (windows version)

Compression ratio & Circuit scales ratio each of lossless recommendation ※1



Average value of JIS standard images (16 types of natural images)
(target image : 2560x2048 RGB24bit)

Achieves a compression ratio equivalent to the existing lossless standard with a small circuit!!

※1 Based on our survey results
※2 Comparison with KJN-S1

Specifications

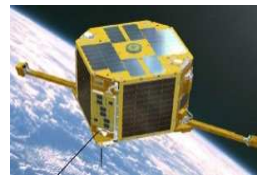
	FPGA (Intel-CycloneV)	ASIC (@28nm)
Method of Encode	Shikino High-Tech original specification	
Gate size	4,500 (ALMs) ※3	70 (KGate) ※3
RAMs	25 (M10Ks) ※3	112 (Kbit) ※3
DSPs	0	0
Frequency	125 MHz	400 MHz
Throughput	1 Sample/CLK	
Frame rate	20 fps ※3	64 fps ※3
Image bit depth	8,10,12,14,16bit	
Interface	CPU bus : 8,16,32bit Image bus : 8,10,12,14,16bit (depend on Image bit depth) Code bus : 64bit	
Color Space	RGB, YCbCr, Bayer-RGB, Gray Scale, CMYK	
Block Unit	Pixel interleave	

※3 Value for Image size:1920x1080、Bit depth:8bit、Color Space:RGB

The circuit scale and RAMs are the combined values of the encoder and decoder. The encoder is 1/2 and the decoder is 1/2.

Applications

- Smartphone, digital still camera
- Broadcast equipment
- Medical equipment
- info input/output system
- Monitoring system
- Aerospace image system
- image data transfer unit
- In-car image system ETC.



Customize

IP core customization according to customer needs.

- Processing capacity.
- Reduce Gate amount.
- IP core peripheral circuit design.
- Code stream format.



<http://www.shikino.co.jp/eng>

E-mail : ip_sales@shikino.co.jp

■ Osaka Design Center

Shin-Osaka Nishiura Bldg 6F,
7-38, Nishimiyahara 2-chome,
Yodogawa-ku, Osaka, 532-0004, Japan
Phone : +81-6-6150-7730
FAX : +81-6-6150-7739