Shikino Launches Still Image Codec IP Obtaining

16X Faster Image Processing

UOZU (August 1, 2015) —Shikino High-Tech Co., Ltd. ("Shikino") today announced that it has launched a new still image codec IP, "KJN-8EX", and commenced sales on July 31, 2015. As a new product from the "KJN series" with the world's top share in the still image compression/decompression technology, Shikino developed this still image codec IP which has the high-speed image processing performance, 16X speed (16 data/clock), in the JPEG compression/decompression with high bit depths (8-bit/10-bit/12-bit). The product is most suitable for the mobile/broadcasting/ medical/aerospace fields and so forth.

●Speeding up: Achieve ultra-high speed JPEG compression/decompression (codec)
KJN-8EX makes it possible to achieve 16X speed (16 data/clock), as the image processing performance of the JPEG compression/decompression (data rate). This product is most suitable for digital cameras and smart phones requiring high-speed continuous shooting and display performance, and broadcasting equipments for the ultra high definition television broadcasting for next-generation 8K4K images.

●High image quality: Achieve ultra-high definition images with high bit depths
In addition to the general 8-bit depth in JPEG, the high bit depth feature (10-bit/12-bit) added in KJN-8EX attains high image quality. This KJN-8EX technology is optimally applied to highly advanced medical equipment, aviation/aerospace equipment, broadcasting equipment for the ultra high definition television broadcasting that require color reproducibility and high gradation.

●Low power consumption: Achieved by a high-speed codec design
Shikino's original implementing technology minimizes gate amounts following high-speed image processing and reduces 35% of the power consumption, compared to our existing company's products. This is optimal for portable devices (e.g., tablet PCs) and battery drive devices (e.g., digital cameras).

This brand-new product, KJN-8EX, is anticipated to meet the market demands for digital cameras, smart phones, tablet PCs, broadcasting equipment, medical equipment, aerospace equipment and so on. Also, Shikino's "KJN series" provides customers with the IP products featuring 1X to 32X JPEG image processing. We Shikino will continuously develop and expand our lineups to satisfy the requests from more customers.

∗16X speed: Decompress 8K4K images with 60 frames per second in real time (240 MHz clock)

∗Gradation: A unit expressing colors and brightness

  Number of colors: Cubed gradation numbers in the RGB color model

    8 bits: 256 gradations per color/16.77 million colors (8 bits applied to PC)

   10 bits: 1024 gradations per color/1.07 billion colors

   12 bits: 4096 gradations per color/68.71 billion colors

【About JPEG Extended DCT-based process】

The 12-bit JPEG (Extended DCT-based process) employed in "KJN-8EX" is an international standard to extend general 8-bit JPEG to 12 bits in the ITU-T Recommendation T.81 and ISO/IEC International Standard 10918-1.

Features of "KJN-8EX", a high-bit depth still image compression/ decompression IP

- Support 8-bit/10-bit/12-bit depth for the JPEG compression/decompression.
- Enable high-speed processing in 3840M Sample/sec (240 MHz).
- Obtain high-speed, small-scale and power-thrifty processing by Shikino's original algorithms.

Specifications

- CPU bus   : 32 bits
- Image data bus   : 128 bits (8-bit depth) and 192 bits (10-bit/12-bit depth)
- Code data bus   : 128 bits (8-bit depth) and 256 bits (10-bit/12-bit depth)
- Quantization table : 4 tables (RAM)
- Huffman table   : 2 tables for DC and AC respectively (Fixed)
- Color format   : YUV444, YUV422, YUV420, YUV411, Gray-Scale and CMYK

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