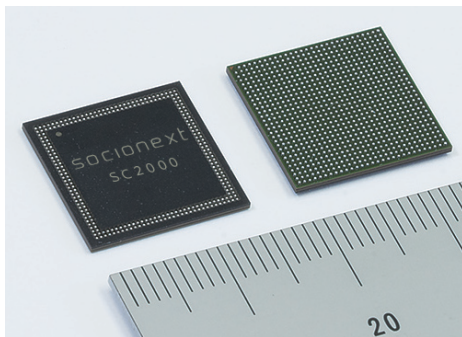


SC2000 (M10V) Milbeaut® Image Processor



The Socionext SC2000 image sensor processor (ISP) is ideally suited for the most challenging computer vision applications like action camera, drone camera, and high performance security cameras. The SC2000 features advanced functions such as 360-degree, real-time spherical stitching with multi cameras, image stabilization and image processing performance up to 1.2 Giga pixel per second while the power consumption as low as 1.7W.

High definition image quality, fast image processing at the lowest possible power is essential requirement for next generation imaging applications. The SC2000 makes it possible to stitch the video captured from at most 4 cameras, perform high frame rate video capture and high dynamic range (HDR) to prevent under/over exposure and capture vivid detailed images for both still and video captures up to 4Kp60.



Key Features

Advanced Image Processing

- 1.2 Gpixels/s image processing
- Up to 4 simultaneous sensor inputs
- Full HD multi-exposure HDR
- 3D motion capture
- 360° real-time image stitching with multi-cameras and image stabilization

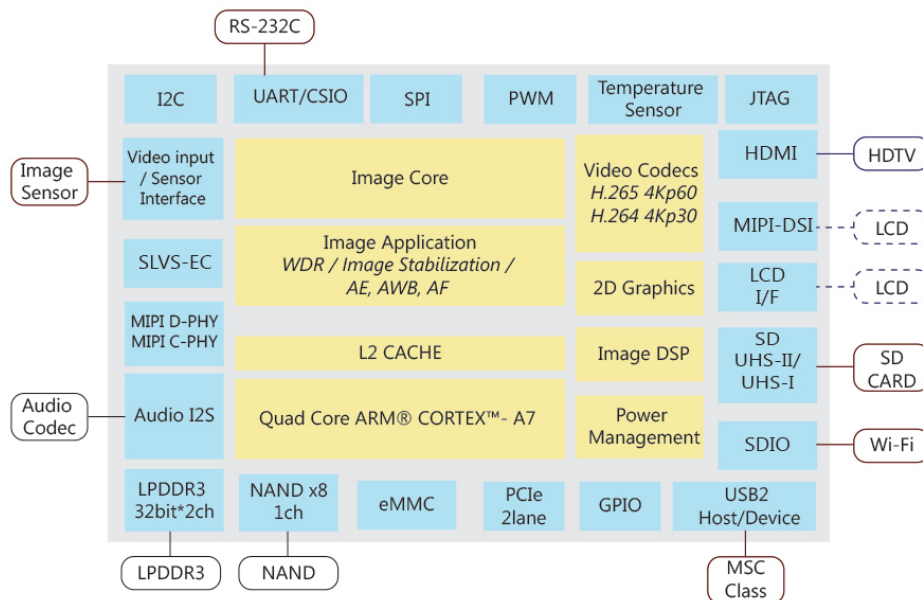
True 4K Video Encoding

- 4Kp60 H.265 encoding and H.264 streaming
- 4K120 sensor input over-sampling
- WDR and HDR techniques in 1080p

Low Power Consumption

- Under 2Watts at Full HD 60fps recording
- Adaptive Voltage Control and Power Island
- Fast wake and warm booth

SC2000 (M10V) Block Diagram



SC2000 General Specifications

Imaging Processing

- DSLR-Grade Pixel Processing and Enhancement
- Advanced Noise Handling - Bayer/Luminance/Chrominance/ Temporal
- 360° Real-time spherical multi-camera image stitching
- High Dynamic Range (HDR)

Video Encoding

- 4Kp60 H.265 encoding, 4Kp30 H.264 Streaming
- 1.2GPixel/sec Imaging Processing Speed, up to 4 Simultaneous Sensors
- 4K120 sensor input over-sampling for Highest Sensing Clarity
- Wide Range of WDR and HDR Techniques

Physical

- 28nm ISP Process
- 15mm, 0.5mm pitch
- Sensor Interfaces- MPI Rx(4 lane), S-LVDS (16lane/ 4cls), SLVS-EC(Blane) 2.5 Gbps x4ch
- Host interfaces- PCIe, USB3.0
- LCD interface- MIPI-DSI/16bit parallel
- TV interface- HDMI 2.0

Operation Temperature

- Tcase= -10°C ~ +85°C

Flexible Analytics

- Dedicated OpenCV-based DSP Engine for CV Algorithms
- Dedicated Object Detection/ Tracking/ Recognition Engine; User-defined Objects Supported
- Backlight Compensation

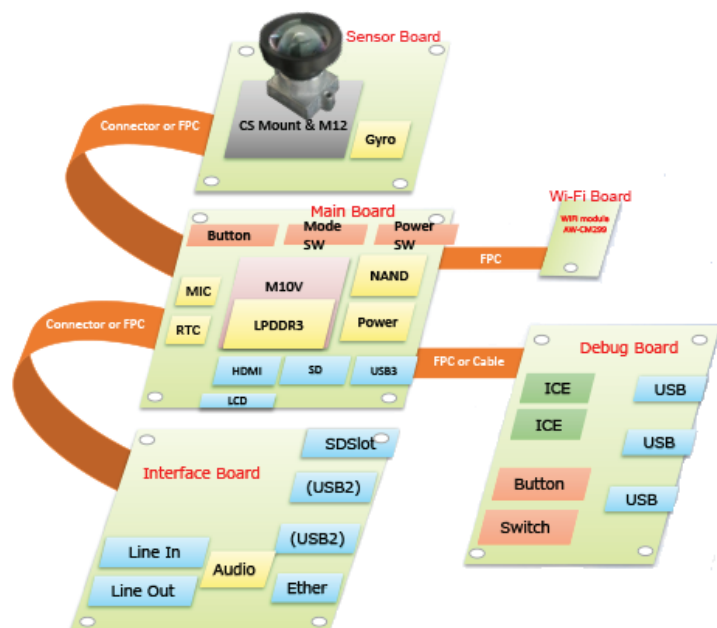
Lowest Power Consumption

- Primary 4K60fps H.265 + Secondary FullHD60fps Recording under 2Watts
- Power Saving Design Methodology, incl. Adaptive Voltage Control & Power Island
- Fast Wake-Up/ Warm-boot Mechanisam

Versatile System Configurations

- Quad-Core Cortex A7 w/ NEON, Single Cortex M0 Power Management
- Dual-OS System: RTOS + Linus3.x for System and User-Defined Applications
- Rich Set of Sensor Inputs and Video/Stream/ Multimedia Outputs
- SDRAM LPDDR3 (PoP)

SC2000 Development Kit



Item	Description
Development Kit Hardware	Camera & System controller for M10V
Easy Image Tuning Tool	IQ emulator for real board * Not including IQ Tuning Service
Drivers	SD, USB, PCIe drivers are necessary to have the source code
DSP	CEVA SDK tool or source