

# Milbeaut® Image Processor

## 4K UHD Camera Design 'Smart-Kit'



The 'SC2000 Smart-Kit' is a 4K UHD camera reference design-kit which enables rapid development of mobile camera applications. Customers can easily achieve general camera and image streaming functions including UVC

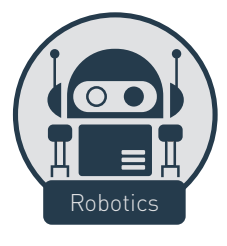
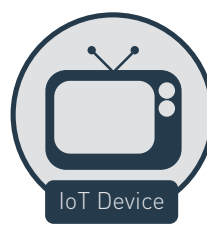
and RTP. The included Software Development-Kit (SDK) will enable easy code development for various target applications. All components are built under Linux Ubuntu 14.04.5 LTS 64-bit using a pre-installed environment.

### Key Features

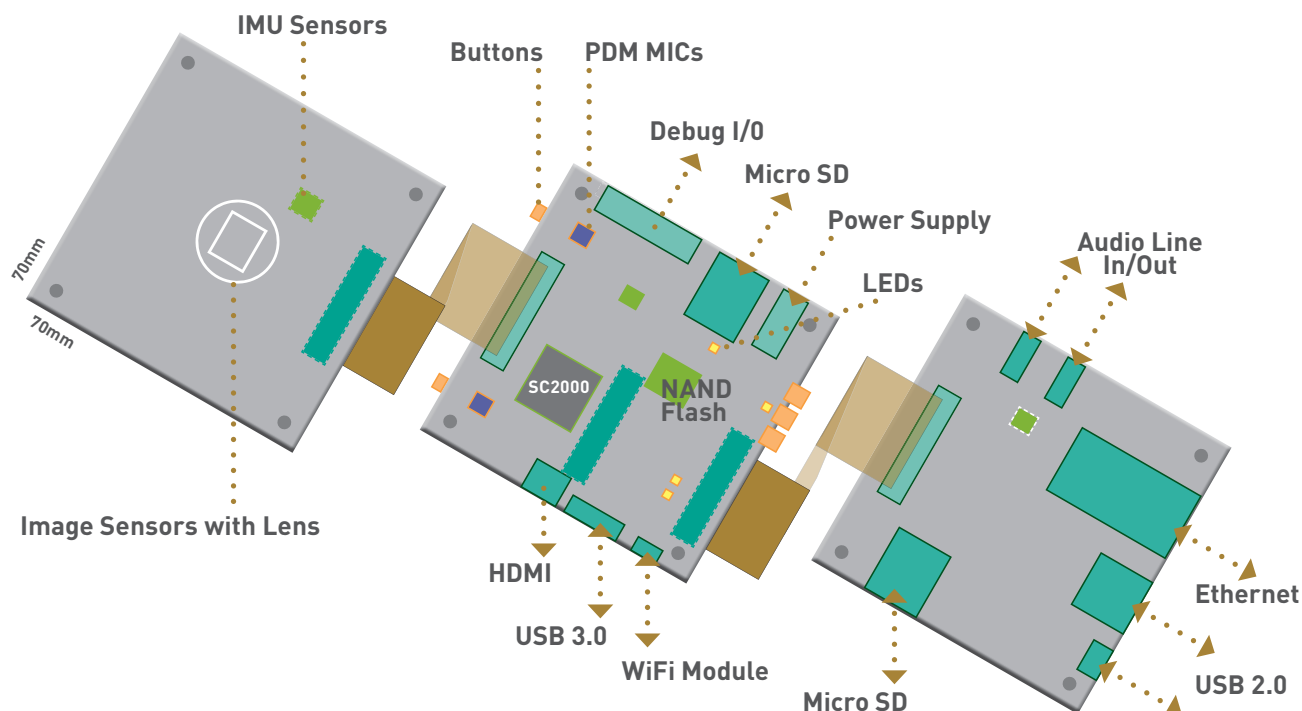
- High Imaging Quality
  - DSLR-Grade Pixel Processing and Enhancement
  - Advanced Noise Handling
  - EIS
- High Performance
  - 4K@30fps + 1080p@30fps Recording
  - + 720p@30fps Streaming
- High Flexibility
  - HDMI2.0 Support
  - Image Streaming by RTP and UVC
- Various Action-Cam Functions
  - Burst Capture
  - Time-Lapse



### Target Applications



## Board Overview



## Specifications

Chip	Socionext SC2000 SoC
Core Architecture	Quad-Core ARM Cortex-A7
CPU	450-658MHz
Memory	2GByte LPDDR3
NAND Flash Memory	4Gbit
Operating System	Linux 4.4.15 Based
Image Sensor	Sony 12MPixel CMOS Sensor
Lens	Horizontal FOV 84° F2.8
Wi-Fi	IEEE 802.11ac Compliant
IMU Sensor	6-Axis Gyro/Accelerator Sensor
Operation Interface	x4 Push Button
Dimensions	70mm x 70mm (Stacked 3 Boards)
Power Supply	12V 2A AC Adapter

## Camera Functions

Mode	Video Recording, Single Capture, Multi-Shot (Burst/Time Lapse), Playback
Video	3840x2160@30 (Media) + 1080p (Wi-Fi) + 480p@30 (Media) + 720p@30 (HDMI)
Sound	PCM, AAC-LC (License Needed)
Image Output	USB (UVC), Ethernet/Wi-Fi (RTP), HDMI (Rev 2.0), SD Card
Adjustable IP	AE, AWB, EIS, 3DNR
Image Settings	ISO, AE Metering, Exposure Control, Flicker, White Balance
Tool	Camera Setting/Image Tuning Tool
USB	MTP, CDC, UVC

## Interface / Connectors

HDMI	Micro Plug
USB3.0	Micro-B Connector
USB2.0	Micro-B Connector, Type-A Connector
LCD Connector	25-pin DSI Flat Flex Cable Connector
Memory Card Slot	Micro SDIO x 2
Ethernet	1000 BaseT Ethernet Socket
Audio	Line In/Out, PDM Mic

## Debug Connectors

Mode Selector	8-Pin Dip Switch
ICE Connector	20-Pin SWD ICE Connector 20-Pin JTAG ICE Connector
UART Interface	x3 USB Micro-B Connector
User Interface	Rotary Switch, Joy Stick

## Deliverables

Hardware	Smart-Kit Board
Software	Firmware Binaries Linux BSP and Sample Code
Document	Linux Development Document Schematic PDF/CAD Data (OrCAD), PCB Layout PDF/CAD (Allegro) BOM List

The Products and product specifications described in this document are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements. All company names, brand names and trademarks herein are property of their respective owners.

## Socionext Europe GmbH

Pittlerstrasse 47  
63225 Langen, Germany  
Tel: +49-6103-3745-0  
Fax: +49-6103-3745-122  
<http://eu.socionext.com>