KAC CMOS Evaluation Hardware

ON Semiconductor®

Description

The KAC CMOS Evaluation Hardware supports evaluation of ON Semiconductor 4.7 micron CMOS products, enabling rapid turn−around for customer evaluations without the need to develop a full camera design. When combined with Sensor Studio II software, this hardware allows full control of the CMOS Image Sensor's register settings and enables both still capture and video recording. With this level of programmability, CMOS functionality such as global shutter, rolling shutter, very fast frame rate, high NIR sensitivity, multiple regions of interest, and interspersed video streams can be evaluated.

Features

- Compatible with ON Semiconductor 4.7 micron CMOS Image Sensors
- Operates Device using 2 or 4 LVDS Output Banks
- Compatible with Sensor Studio II Software
- Flexible Readout Architecture
- High Frame Rate
- Full Access to Image Sensor Register Settings
- User Selectable Interfaces for Sensor Control, Image Capture and Firmware Download:
  - USB 3.0 (2 m Cable Included)
  - USB 2.0
  - Camera Link (Medium)
- Active Sensor Cooling
- Includes C/CS Lens Mount
- Integrated 1/4−20 Thread Tripod Mount
- Engineering Grade Image Sensor Included

Figure 1. Evaluation Board Picture

Parameter	Typical Value
Hardware Interface	USB 3.0, USB 2.0, Camera Link (Medium)
Typical Data Rate USB 3.0 Camera Link	86 MB/s to 300 MB/s 256 MB/s
Power Required	12 VDA, 2 A
Control Software	Sensor Studio II, ver 6.2.0 or newer
On Board DDR2 Memory	4 GB
Optics	Includes C/CS lens mount. Compatible with optional Lens Mount Kit
FPGA	Xilinx Spartan−6

ORDERING INFORMATION

Product Name	Description
KAC−06040−CB−A−GEVK	Evaluation Hardware for KAC−06040 Image Sensor (color). Includes Image Sensor.
KAC−06040−AB−A−GEVK	Evaluation Hardware for KAC−06040 Image Sensor (monochrome). Includes Image Sensor.
KAC−12040−CB−A−GEVK	Evaluation Hardware for KAC−12040 Image Sensor (color). Includes Image Sensor.
KAC−12040−AB−A−GEVK	Evaluation Hardware for KAC−12040 Image Sensor (monochrome). Includes Image Sensor.
LENS−MOUNT−KIT−C−GEVK	Lens Mount Kit that supports C, CS, and F mount lenses. Includes IR cut−filter for color imaging.

REQUIRED HARDWARE AND SOFTWARE

Host Computer
- 2+ GHz processor, 2+ GB RAM, USB 2.0
- Windows XP, Vista 32 bit, or Windows 7 32 bit Operating System. 64 bit Operating Systems are not currently supported.

For Maximum Speed
- Desktop PC: Native USB 3.0, or PCIe x1 Gen 2 slot.
  Tested PCIe x1 Gen 2 Slot Adapters:
  Startech PEXUSB3S2 – 133 MB/s,
  SilverStone SST−EC04−P – 189 MB/s
- Laptop PC: Native USB 3.0, or Express 54 slot.
  Tested Express 54 Card Adapters:
  Imperx FrameLink Express54 (Camera Link)
  Startech ECUSB3S2 – 86 MB/s (USB 3.0)

Other
- +12 VDC, 2 A, power supply with 2.1 mm center positive DC jack
- Camera lens
- Sensor Studio II software
- IR Cut Filter (optional)
- Table−top tripod (optional)