VisionLink F1
Camera Link 1-lane framegrabber for PCI Express

Description

The VisionLink F1 is a Camera Link PCI Express x1 framegrabber with one or two SDR26 connectors for up to two base mode cameras (up to 400 MB/s total in a PCIe Gen2 slot).

The compact board has a half- or full-height backpanel and fits in a 1-, 4-, 8-, or 16-lane PCIe slot.

Image capture and display is in real time via DMA to the host computer, with onboard region-of-interest (ROI) control. For additional FIFO / data buffering, optional DDR3 memory (128 MB) is available.

Line and frame triggering are supported internally via standard camera control (CC) lines, or externally (opto-coupled) via the included Berg or optional Lemo connector. Similarly, an optional IRIG-B timecode input is available via the Berg or Lemo connector. Standard Camera Link serial communication also is supported.

Provided with the board are drivers for supported operating systems and a software development kit that includes C language libraries, examples, utilities, image capture and display GUI, camera configuration files, and Camera Link standard DLL for camera control.

Features

Camera Link PCIe x1 interface fits in a 1-, 4-, 8-, or 16-lane PCIe slot

Comes with half- or full-height backpanel

Provides one or two SDR26 connectors for one or two base mode cameras

Supports data rates up to 400 MB/s total in a PCIe Gen2 slot

Offers optional 128 MB DDR3 for FIFO / data buffering

Captures and displays images in real time, via DMA to host computer

Provides onboard region-of-interest control

Supports line and frame triggering over camera control lines

Supports external trigger inputs via included Berg or optional Lemo connector

Offers optional IRIG-B input via included Berg or optional Lemo connector

Applications

Astronomy / biology / microscopy

Aerial mapping / traffic systems

Commercial film / multimedia

Medical and nuclear imaging

Remote scientific monitoring

Manufacturing / inspection

Machine vision / robotics

Security / surveillance

Scanning / archiving

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Specifications

Memory	DDR3 (for additional FIFO / data buffering)	0 or 128 MB (see ordering options)
Data Rates	Peak / typical	400 MB/s in a PCIe Gen2 slot
Data Format (I/O)	Camera Link input; optional timecode input (IRIG-B)	
Camera Link Compliance	Version	2.0
	Modes	Base
	Pixel clock rate	20-85 MHz
	Serial	Via API or serial DLL (9600 to 115,200 baud)
	Control	C1–CC4, discretely programmable for steady-state, trigger, and timed pulse
	Connectors	SDR26 for data and control
EU Compliance	TBD	
PCI Express Compliance	PCIe version	2
	Direct memory access (DMA)	Yes
	Number of lanes	1
	Backpanel	Half or full height
Noise	0 dB	
MTBF	TBD	
Triggering	Via CC lines, or external (opto-coupled) via Berg mated to SamTec MTMM 132-03-F-S-126 or Lemo mated to FGG.0B.307.CLAD.56.	
Connectors	**Type**	**Purpose**
	One or two SDR26 Camera Link	Data and control
	Berg	External trigger inputs and optional IRIG-B timecode input
	Optional 7-pin Lemo	External trigger inputs and optional IRIG-B timecode input
Cabling	SDR26 standard Camera Link, purchased separately; consult EDT for options.	
Physical	Weight	1.4 oz. typical
	Dimensions	2.6 x 2.75 in. (with backpanel, 2.6 x 4.75 x 0.75 in.]
Environmental	Temperature (operating / non-operating)	10° to 40° C / -20° to 60° C
	Humidity (operating / non-operating)	1% to 90%, non-condensing at 40° C / 95%, non-condensing at 45° C
System and Software	System: Requires a PCIe 1-, 4-, 8-, or 16-lane slot that is not dedicated to display use only.	
	Software: Drivers for Windows and Linux, with included software development kit, examples, and utilities.	
	See EDT website for detailed system requirements and supported OS versions.	

Ordering Options

Part number	Description
019-14836	Full height backpanel, 1 SDR
019-14852	Full height backpanel, 2 SDRs, 128 MB DDR3, timecode, Lemo
019-14853	Half height backpanel, 1 SDR
019-14854	Half height backpanel, 2 SDRs, 128 MB DDR3, timecode

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