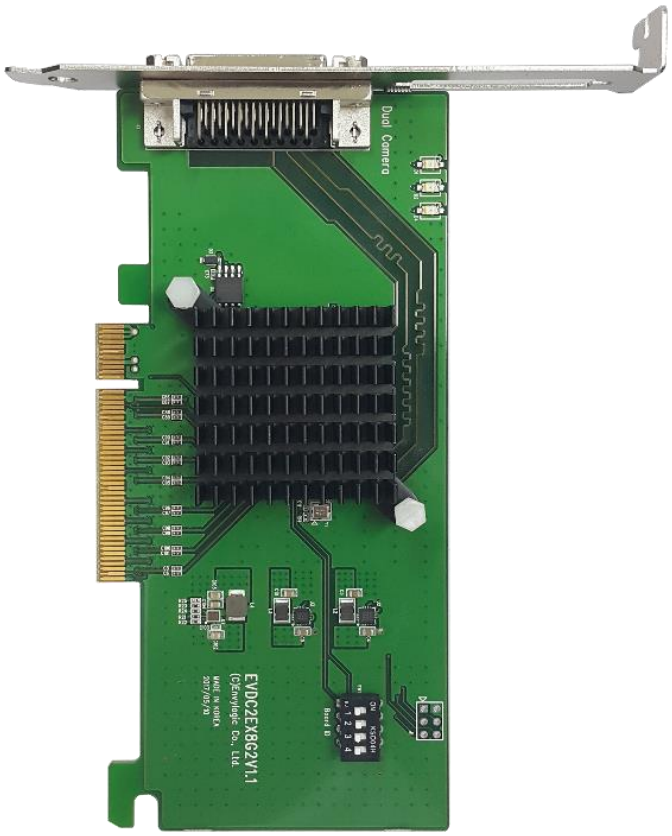
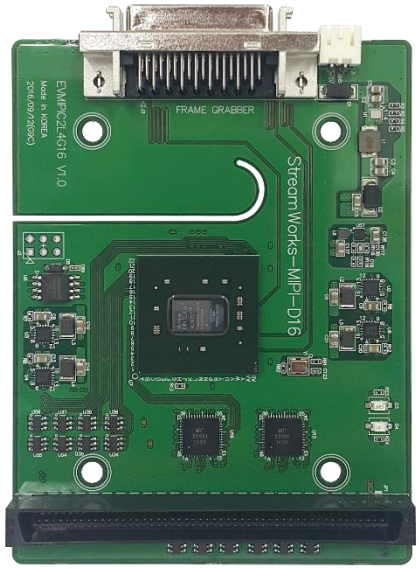


Dual Channel PCI Express Frame Grabber
EVDC2EX8G2 V1.1



MIPI 4-Lane Interface
EVMIPIC2L4G16 V1.0

Dual Channel PCI Express Frame Grabber & MIPI 4-Lane Interface

• Dual Channel PCI Express Frame Grabber (EVDC2EX8G2 V1.1)

- **2 Channel Scatter Gather DMA Controller**

  Efficient and automatic data transfer to user-assigned frame buffer without extra CPU load.
  64bit DMA supported to a larger memory region.
  2 Channels of DMA are available, which are independent of each other.

- **Dual channel connectivity with a single cable**

  A dedicated cable can concurrently transfer data from two 1.6Gbps MIPI 4-lane sensors. Duplex 90Mbyte/s communication is supported, which can deliver I2C and SPI data at high transfer rate. Configuring hardware for receiving and analyzing dual sensor signals become much easier with this feature.

- **MIPI CSI-2, DSI Packet reception and analysis**

  Can receive MIPI packets in CSI-2 format from cameras.
  Can process DSI data and receive Display MIPI packets.
  Data integrity check with ECC and CRC is available during data transfer.

• MIPI 4-Lane Interface (EVMIPIC2L4G16 V1.0)

- **Frame Grabber Link Interface**

  Direct mapping to the host's I/O map is available through a bridge interface to the host I/O.
  Duplex 90Mbyte/s communication is supported, which can deliver I2C and SPI data at high transfer rate.
  Dual Channel MIPI Packet can be transferred at the rate of 800Mbyte/s per channel.

- **I/O lines for Dual Sensor Interface**

  MIPI 1.6Gbps 1,2,4-lane data can be received. I2C, SPI, clock, I/O voltage control, reset, and GPIO are included for 8b9b decoding and sensor control.

- **Convenient Management**

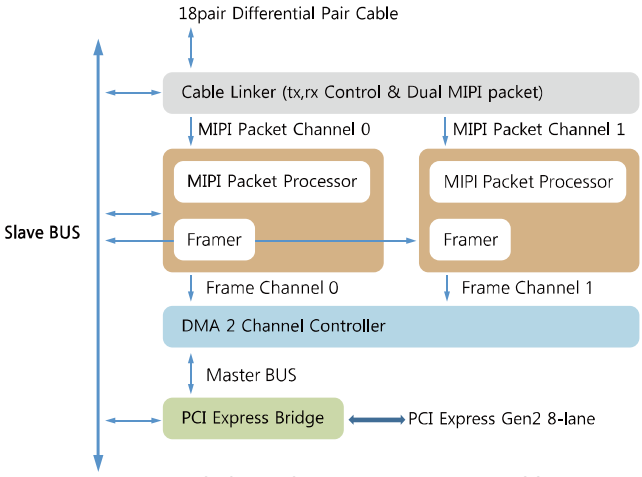
  Convenient system management with all features integrated on a single board.

1. Summary

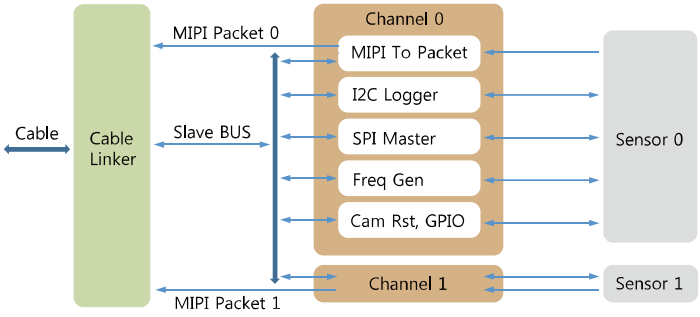
- **Dual Channel PCI Express Frame Grabber (EVDC2EX8G2 V1.1)**
  Capable of delivering data packets from 1.6Gbps MIPI 4-Lane Dual Sensor to the host's memory with minimal CPU load. Can be connected to a Dual MIPI Interface Board for efficient control and data transfer to a dual channel sensor.

- **MIPI 4-Lane Interface (EVMIPIC2L4G16 V1.0)**
  Capable of processing dual channel MIPI 4-Lane 1.6Gbps sensor data with a single board. Each sensor can be controlled by signals delivered from I2C, SPI, I/O volt, clock, reset, and GPIO. Inputs from MIPI sensor are transferred to Frame Grabber in MIPI packet format through the cable.

2. Block Diagram



Dual Channel PCI Express Frame Grabber



MIPI 4-Lane Interface

3. Specification

Dual Channel PCI Express Frame Grabber

Host Interface	PCI Express Gen2 8-lane, Max bandwidth 4GByte/s
DMA Controller	2 Channel Scatter Gather DMA Controller Transfers directly to the memory allocated by the user application No extra CPU load by data transfer 64-bit Addressing available
MIPI Packet Processor	Processes MIPI CSI-2 and DSI packets Data integrity check with ECC and CRC MIPI Packet processing rate of 800MByte/s per channel (MIPI 4-lane 1.6Gbps)
Cable Link	PCI Express Target I/O Bridge - 90MByte/s Duplex control signals MIPI Packet 2 Channel transfer - 800MByte/s Transfer rate per channel
Board Dimension	69 (W)mm × 146 (L)mm × 18.5 (H)mm
Power	3.3V, 1.9A
Temperature	0~55℃
Humidity	0~95%
Software support	Device Driver: Windows 7,8,10 32bit/64bit API: Windows 7,8,10 32bit/64bit Sample view program source provided (Windows)
Model No.	EVDC2EX8G2 V1.1

MIPI 4-Lane Interface

Frame Grabber Link	Dual Channel MIPI Packet Output - Max 800MByte/s per channel Host I/O Bridge Function - Max 90Mbyte/s Duplex control signals. - Local target bridge function - This feature enables high speed I2C and SPI Cable length: Max 2.5 meters for single line cable, 3 meters for dual line cable
MIPI Rx	MIPI CSI-2 Camera Input MIPI DSI Input (Video, Command Mode) 8b9b Decoding 1,2,4 Lane supported Max data rate: 1.6Gbps per lane
Sensor I/O Functions (2 Channel supported)	I2C (H/W) - Clock Stretch, Timeout, ACK error detection - Operating frequency: 61kHz-5MHz (Variable) SPI(H/W) - Operating frequency: 61kHz - 60MHz Camera Clock: 11-150MHz I/O voltage: 1.2-3V (0.05 step) Reset, GPIO - 2 bits General I/O - 16 bits
Board Dimension	75 (W)mm × 101 (L)mm × 13 (H)mm
Power	5V, 500mA
Temperature	0~55℃
Humidity	0~95%
Software Support	Device Driver: Windows 7,8,10 32bit/64bit API: Windows 7,8,10 32bit/64bit Sample view program source provided (Windows)
Model No.	EVMIPIC2L4G16 V1.0

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