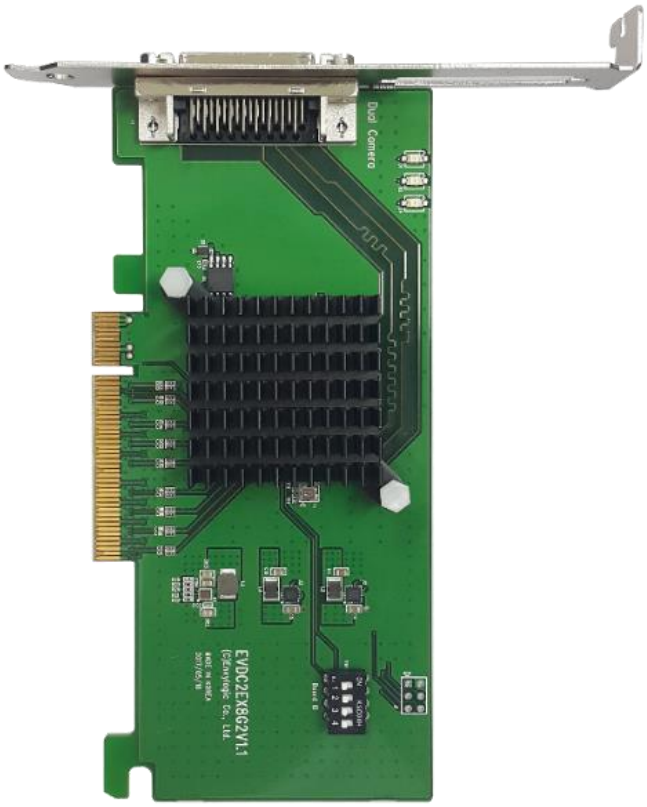
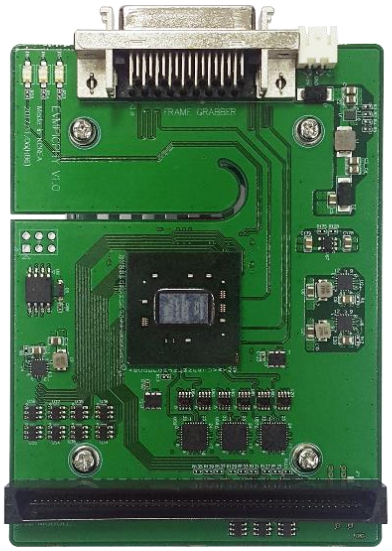


PCI Express Frame Grabber
EVDC1EX8G2 V1.1



MIPI C-PHY 3-Lane Interface
EVMIPICPHY V1.0

PCI Express Frame Grabber & MIPI C-PHY 3-Lane Interface Data Sheet

• PCI Express Frame Grabber (EVDC1EX8G2 V1.1)

- **1 Channel Scatter Gather DMA Controller**
  Automatically transmits to the frame buffer assigned by user application without extra CPU load.
  Efficient memory interface to large area supported by 64bit DMA feature. Real-time transmission rate of 1.5Gbyte/s attainable.
- **Real-time C-PHY 1.5Gbps 3-lane transmission with single cable**
  A dedicated cable can transmit the payload size of MIPI C-PHY 1.5Gbps 3-lane(10.29Gbps) in real-time.
  Bidirectional sensor connectivity available through high-speed peripherals (I2C, SPI, GPIO).
- **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 C-PHY 3-Lane Interface (EVMIPICPHY V1.0)

- **Frame Grabber Link Interface**
  Controller interface is mapped directly to the host target's I/O map.
  API module can uniformly operate with resources that are either connected locally or through cable.
  Device can be controlled with 90Mbyte/s bidirectional communication. (I2C, SPI)
  Maximum 1.5Gbyte/s MIPI packet transmission rate
- **I/O for Sensor & Resource Management**
  Supports MIPI C-PHY 1,2,3-lane and I2C, SPI, Clock, I/O Voltage , Reset, and GPIO for sensor connectivity.
- **Convenient Management**
  Convenient system management with multiple I/O integrated on a single board.

1. Summary

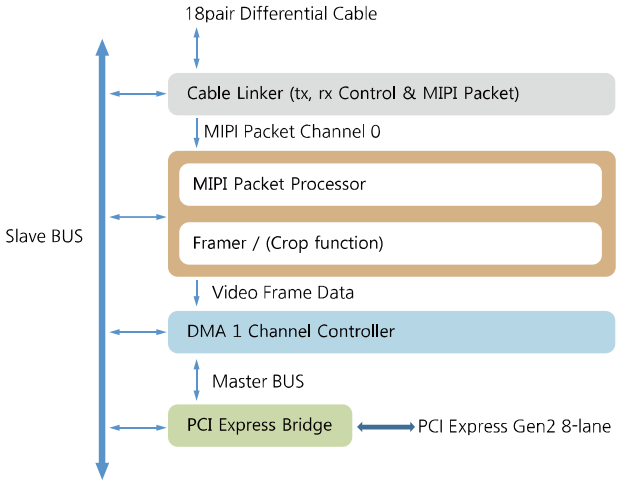




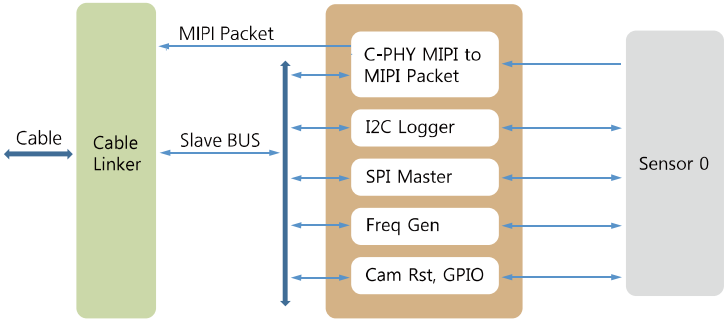
- **PCI Express Frame Grabber (EVDC1EX8G2 V1.1)**
  Transmits MIPI packet data from image sensors at the rate of 1.5Gbyte/s. Can be connected to a MIPI C-PHY interface board to receive image data and act as a host bus bridge to the sensor.

- **MIPI C-PHY 3-Lane Interface (EVMIPICPHY V1.0)**
  Receives MIPI C-PHY 3-lane 1.5Gbps image sensor signals. Transmits incoming MIPI C-PHY sensor data to Frame Grabber through a cable in MIPI Packet format. Controls peripherals and signals: I2C, SPI, I/O Volt, Clock, Reset, GPIO.

2. Block Diagram



PCI Express Frame Grabber



MIPI C-PHY 3-Lane Interface

3. Specification

PCI Express Frame Grabber

Host Interface	PCI Express Gen2 8-lane, Max bandwidth 4GByte/s
DMA Controller	Scatter Gather DMA Controller Direct access to memory allocated by user application No extra CPU load by data transfer 64-bit Addressing
MIPI Packet Processor	Processes MIPI CSI-2 and DSI Packet Data integrity check with ECC and CRC Handles up to 1.5Gbyte/s MIPI packet per channel (MIPI C-PHY 1.5G 3-lane : 1.286Gbyte/s)
Cable Link	PCI Express Target I/O Bridge - Control signals at 90MByte/s Duplex MIPI Packet Transmission - Maximum transfer rate: 1.6Gbyte/s
Board Dimension	69 (W)mm × 146 (L)mm × 18.5 (H)mm
Power	3.3V, 1.9A
Temperature	0~55℃
Humidity	0~95%
Software	Device Driver: Windows 7,8,10 32bit/64bit API: Windows 7,8,10 32bit/64bit Sample View Program Source (Windows)
Model No.	EVDC1EX8G2 V1.1

MIPI C-PHY 3-Lane Interface

Frame Grabber Link	MIPI Packet Output: - Max 1.5Gbyte/s transmission Host I/O Bridge Function: - Max 90Mbyte/s Duplex Control Signals. - Local Target Bridge Function - High speed I2C, SPI through this feature Cable Length: Maximum 2.5m on single line cable, 3m on dual line cable
MIPI Rx	MIPI C-PHY V1.0 compatible MIPI CSI-2 C-PHY Camera Input MIPI DSI Input (Video Mode, Command Mode) 1,2,3 Lane supports Max data rate 1.5Gbps per trio line. (3.43Gbps/per lane, 10.29Gbps for 3-lane)
Sensor I/O Functions (2 Channel support)	I2C (H/W) - Clock stretch, Timeout, ACK error detection - Operating frequency: adjustable between 61kHz-5MHz SPI(H/W) - Operating frequency 61kHz – 60MHz Camera Clock: 11-150MHz I/O voltage: 1.2-3V (0.05 step) Reset, GPIO (2 bit) General I/O (16 bit)
Board Dimension	75 (W)mm × 101 (L)mm × 27.5 (H)mm
Power	5V, 1.2A (including fan)
Temperature	0~55℃
Humidity	0~95%
Software	Device Driver: Windows 7,8,10 32bit/64bit API: Windows 7,8,10 32bit/64bit Sample View Program Source (Windows)
Model No.	EVMIPICPHY V1.0

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