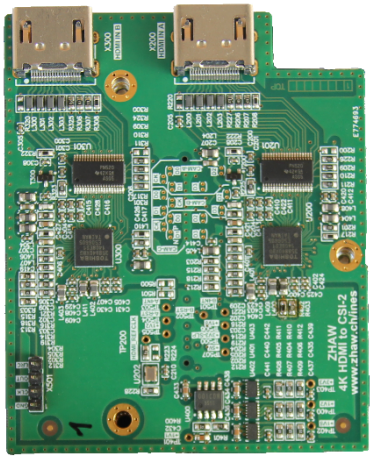
InES *HDMI2CSI* module with Dual HDMI Input and 4K HDMI video capturing for Jetson TX1 development kit



The Institute of Embedded Systems of ZHAW (Zurich University of Applied Sciences) developed a High Definition Multimedia Interface (**HDMI**®) to MIPI®Camera Serial Interface Type 2 (**CSI-2**) converter module (HDMI2CSI) as a plug in to the NVIDIA Jetson TX1 developer kit.

The HDMI2CSI module supports 4K video resolution for next-generation embedded Ultra High Definition video applications. The HDMI2CSI module offers two 4K/2K HDMI video and audio streams to be simultaneously converted in MIPI CSI-2 video and TDMI audio format that can be processed by the Jetson TX1 processor.

The Jetson TX1 board is equipped with 3 four-lanes MIPI high-speed serial camera interfaces (CSI-2) which are used by the HDMI2CSI board to input HDMI video. The module utilizes two MIPI CSI-2 ports of the Jetson TX1 board (8 lanes) to input a 4K HDMI video stream. For a second 2K HDMI video stream, the remaining MIPI CSI-2 port is used (4 lanes).

Eight channels of HDMI audio streams per HDMI input are also supported and can be transmitted over TDMI or I2S.

4K capable drivers for the HDMI2CSI are available as open source.

Technical Data:

- Based on Toshiba TC358840 Camera Serial Interface converter ICs
- HDMI 1.4b
- 4096 x 2160 (4Kx2K) @ 24 fps

- 3840 x 2160, @ 30 fps
- 4 x I2S Audio Interface with 16, 18, 20 or 24-bit
- 8 Channel TDM (Time Division Multiplexed Audio Interface) with 16, 18, 20 or 24-bit
- HDCP 1.4 support
- EDID support via I2C

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