

MOD-ZERO

June 2022

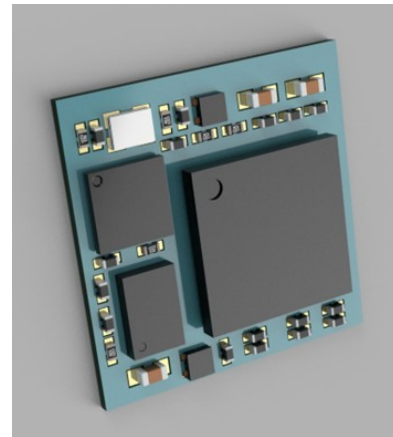
Overview

FPGA based Module for Camera and Display applications on the edge. Expand the capabilities of your SoC, multiply the number of needed interfaces, increase flexibility of the system, be future proof. High performance and flexible Module built on lattice latest nexus technology.

Speed up your prototype development and proof of concept phase, up to small series by using highly integrated Module in a space saving 11x11mm LGA package. Allows for Simple 4x Layer PCB technology, in system update over I2C or UART for future upgrades.

Highlights

- Up to 2x High-speed 10Gbps/Ports
- Up to 8x Camera/Display Interfaces
- Supported standards OpenLDI, CSI, DSI, LVDS, SLVS, Parallel
- Dual Bitstream boot
- Single Supply operation
- MCU for user-specific configuration

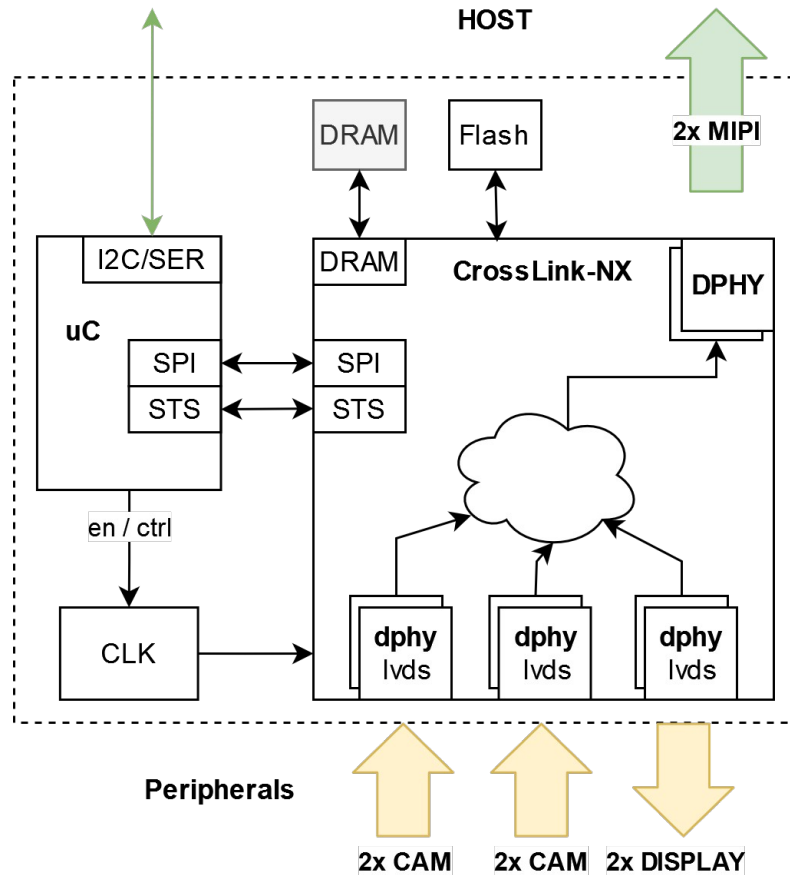


Specifications

Package:	11×11 mm, LGA98 - 0.65mm pitch
Logic Cells:	17K / 39K*
Connectivity:	6x Camera/Display RX/TX Flex Ports and 2x Camera/Display RX/TX High-speed Ports
Video:	2x 4-Lane Hard D-PHY CSI/DSI Ports (up to 2.5Gbps/Lane) 3x 4-Lane Soft D-PHY CSI/DSI Ports (up to 1.5Gbps/Lane) 3x 2-Lane Soft D-PHY CSI/DSI Ports (up to 1.5Gbps/Lane)
Peripherals:	Build in clock generator / integrated Flash
Input/Output:	57x Single-ended IOs (1.2V and/or 1.8V) 32x Differential Pairs (SLVS, LVDS) 8x Clock-capable Inputs
Power Supply:	1.8V (low power)
Environment:	Operating temperature commercial 0–60°C industrial -40...+85°C

*on request

Block Diagram



Applications

- Video Aggregation. Merge multiple video streams in a single CSI interface
- Video Interface Bridge. SLVS/LVDS to CSI, CSI to DSI, Parallel to CSI/DSI, etc...
- Video Cloning/Mirroring. Duplicate video content from input to multiple displays
- Video Pre-Processing(ISP). Image rotation, lens corrections, color space conversion, ...
- Video pattern generators for custom test equipment
- Video grabber from image sensor to USB, Ethernet, etc...

Targeted Platforms

Currently tested sensors:

- IMX258 (CSI2), OV5646(CSI2), OVM6211(CSI2), ...
- PYTHON1300 (LVDS), MT9V024 (LVDS), ...

Supported SoC:

- I.MX6, I.MX8, ...
- SMARC, **OpenStandardModule** (OSM), ...
- RaspberryPi, NVIDIA Jetson, ...