TAURO TECHNOLOGIES

DA322 Holoscan MIPI Adapter

For Robotics, Defense, and Edge AI Applications

Key Features

- 4× MIPI CSI-2 interfaces
- 10GbE SFP transceiver
- PTP per IEEE 1588-2019
- Low power consumption

Applications

- Signal Processing
- Autonomous Systems
- Industrial Inspection
- Healthcare Imaging
- Robotics
- Radar/Lidar Integration

Overview

The Holoscan MIPI Adapter is an Edge AI solution that enables developers to rapidly design connectivity bridging applications from sensor to compute for healthcare, robotics, signal processing, and autonomous systems. Optimized for high-performance sensor integration, edge AI workloads, and low power consumption, it allows developers and integrators to both evaluate Holoscan-based solutions and integrate them directly into final products without additional debugging.

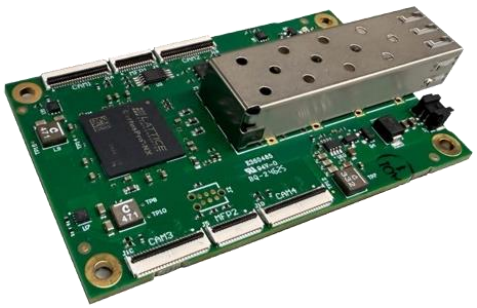
Engineered for maximum flexibility, the DA322 MIPI Adapter integrates four MIPI CSI-2 interfaces with x4 D-PHY lanes, two control interfaces with 11 GPIOs, an I2C EEPROM for storing MAC address, and a 10G SFP transceiver, enabling simultaneous high-bandwidth connections to diverse sensors - including cameras, radars, lidars, and RF sensors - over a single Ethernet link. At the functional level, peripheral device data is acquired by the adapter's FPGA and transmitted via 10G Ethernet to the host system, supporting low-latency, real-time sensor streaming with GPU-direct capability.

Holoscan provides key functions such as an end-to-end safety concept targeting IEC 61508 SIL 2 and Precision Time Protocol (PTP) per IEEE 1588-2019. The safety framework is based on a combination of an end-to-end safety protocol (leveraging MACsec), watermarking, and support for camera testing. PTP provides precise timestamping of sensor data for host-side processing and enables synchronization across multiple boards within a network.

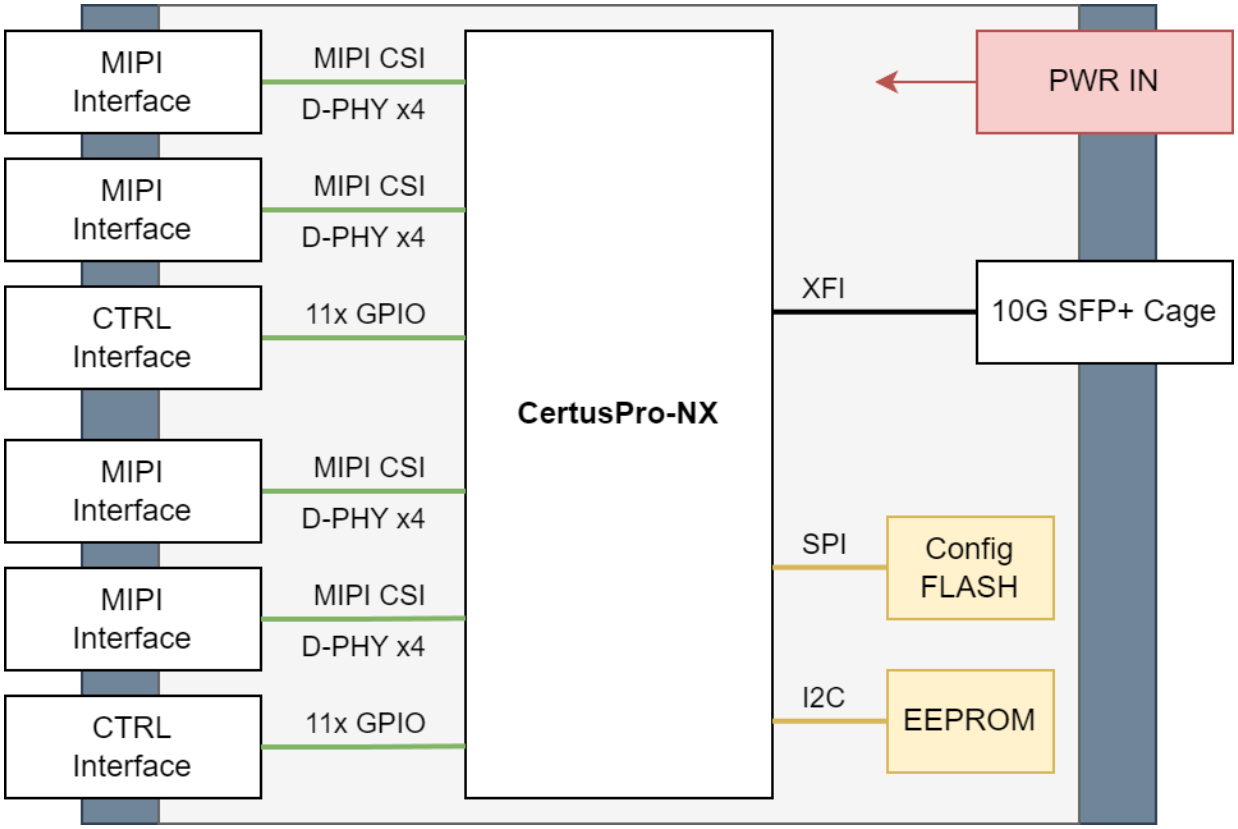
With its rugged, compact, and energy-efficient design, the DA322 Holoscan MIPI Adapter is ideally suited for defense, industrial, and medical applications.

Key Advantages

- Production ready - easy to integrate into a wide range of applications
- Low power consumption
- 4× MIPI CSI-2 (D-PHY x4) for multi-camera input
- 2× control interfaces with x11 GPIO
- SFP transceiver with XFI (10 Gbps) connectivity
- Precision Time Protocol (PTP) per IEEE 1588-2019
- CertusPro-NX FPGA
- EEPROM for storing MAC address



Block Diagram



Specifications

FPGA	Lattice CertusPro-NX FPGA
SENSOR INTERFACE	4x MIPI CSI-2 interfaces with x4 D-PHY
ETHERNET INTERFACE	10G Ethernet SFP transceiver
CONTROL INTERFACE	2x control interfaces with x11 GPIO
POWER	4.5V to 17V DC input
	~8W consumption
DIMENSION	75 mm (W) x 45 mm (D) x 15 mm (H)

Ordering Options

Part Number	Description
DA322-100-000-000	Holoscan MIPI Adapter Board

The system can be customized for specific customer requirements, contact Tauro Technologies sales for details.

TAURO TECHNOLOGIES
9205 W. Russell Rd., Ste 240
Las Vegas, NV 89148
taurotech.com
Phone: +1 (725) 220-6100
Email: info@taurotech.com
Visit Our Website

© 2025 Tauro Technologies LLC. All rights reserved. Features and specifications are subject to change without notice.

Related Products

DA325 GMSL MIPI Converter Board

GMSL2/GMSL3 Support: Dual GMSL2/GMSL3 inputs via Coaxial FAKRA connectors.

Power over Coax (PoC): Unified data and power delivery over a single cable.

High-Bandwidth CSI-2: Dual 4-lane DPHY interfaces to the host platform.

Sensor Control: Dedicated signaling for Deserializer and Peripheral Sensor configuration.

TAURO TECHNOLOGIES

9205 W. Russell Rd., Ste 240
Las Vegas, NV 89148
taurotech.com

Phone: +1 (725) 220-6100
Email: info@taurotech.com

Visit Our Website

© 2025 Tauro Technologies LLC. All rights reserved. Features and specifications are subject to change without notice.