TAURO TECHNOLOGIES

DA326 Holoscan GMSL Adapter

For Robotics, Defense, and Edge AI Applications

Key Features

- Dual GMSL2/3 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 GMSL 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 DA326 GMSL Adapter integrates 2x GMSL2/3 interfaces, 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. DA326 implements Power over Coax (PoC) functionality, allowing both data transmission and power delivery through a single coaxial cable. 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.

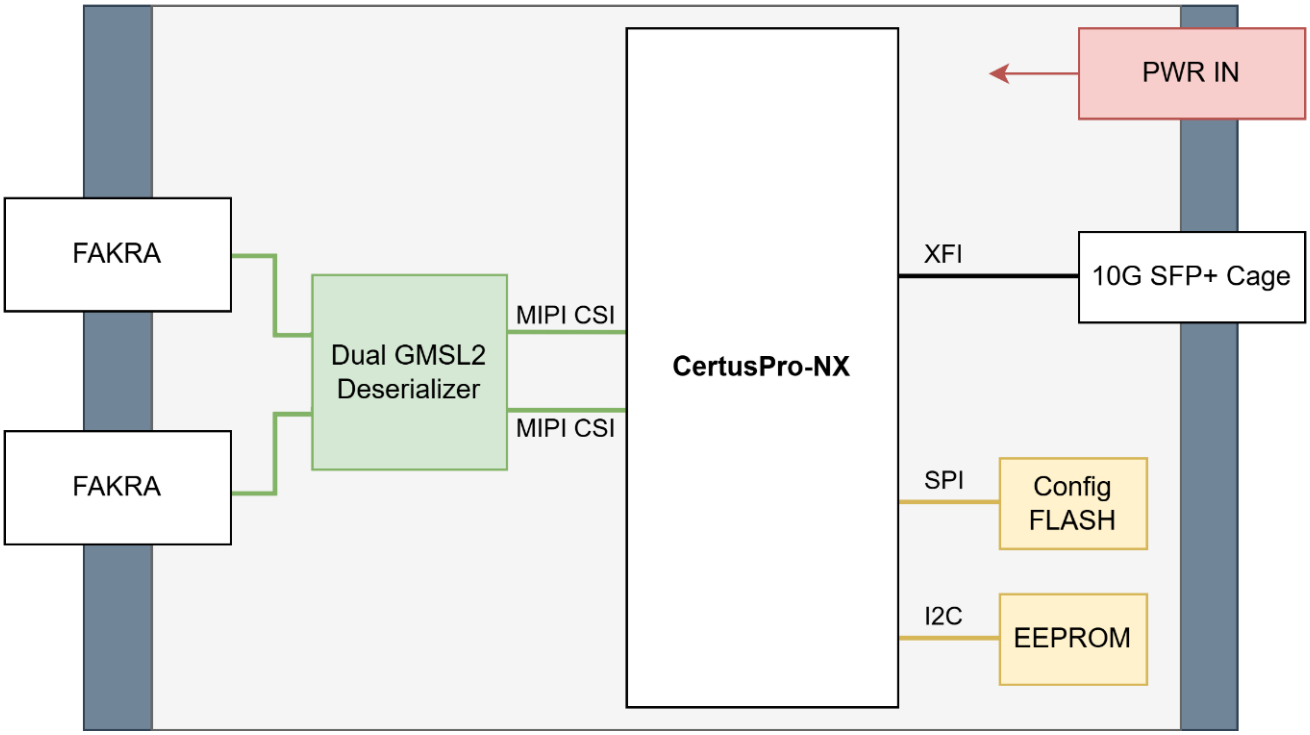
Holoscan provides key functions such as an end-to-end safety concept targeting IEC 61508 SIL 2 and Precision Time Protocol (PTP) per IEEE 1588-2019. The safety framework is based on a combination of an end-to-end safety protocol (leveraging MACsec), watermarking, and support for camera testing. PTP provides 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 DA326 Holoscan GMSL 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
- 2× GMSL2/3 interfaces for dual-camera input
- 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	2x GMSL2/3 interfaces
ETHERNET INTERFACE	10G Ethernet SFP transceiver
POWER	4.5V to 17V DC input
	~4.5W consumption
DIMENSION	100 mm (W) x 40 mm (D) x 13.6 mm (H)

Ordering Options

Part Number	Description
DA326-100-000-000	Holoscan GMSL Adapter Board with MAX96716A GMSL2 6Gbps
DA326-200-000-000	Holoscan GMSL Adapter Board with MAX96792A GMSL3 12Gbps

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

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