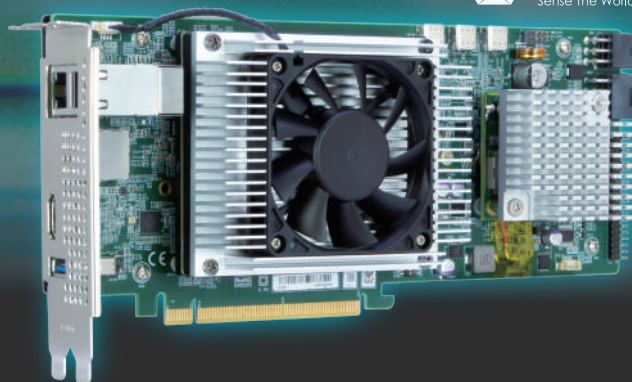


LIPSedge™ F110

3DxAI Edge Accelerator

Empowering next-generation 3D Vision and A.I.

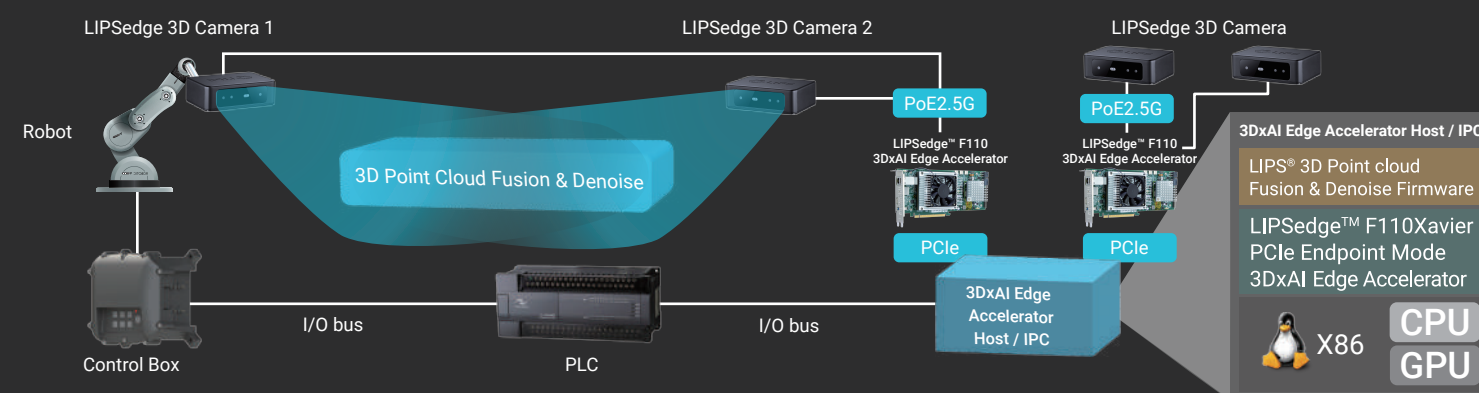


World's first **NVIDIA Jetson Xavier based PCIe PoE+ Endpoint-Mode Edge Accelerator.**

Best of Both Worlds on x86 and Nvidia Jetson:

Run x86 applications such as ROS & ROS2 while taking advantage of the parallel computing & deep learning capabilities of Nvidia Jetson.

LIPS® Low Latency 3D Robotic Vision Solution

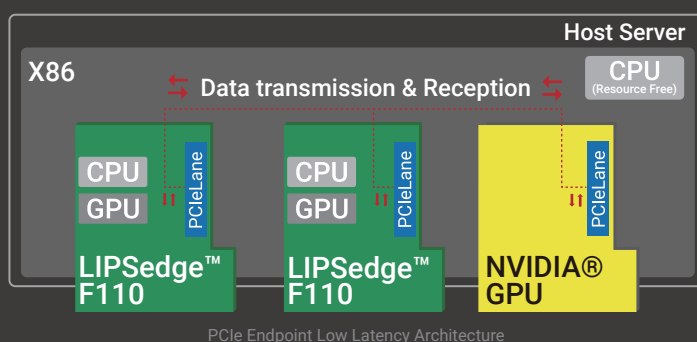


Main Features

Industrial Ready for GigE/ PoE RGB-D Camera with GenICam

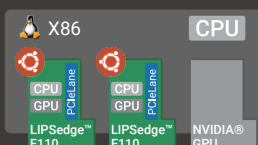
2 (Two) independent GigE/PoE ports transferring up to 2.5 Gb/s per port

PCIe Endpoint Mode



Interconnect OS for Heterogeneous System Design

Enable heterogeneous OS communications between the host system (x86 based) and LIPSedge™ F110 (Nvidia Jetson based)



Accelerate Point cloud 3D De-noise, Stitching & Fusion

LIPS® proprietary algorithm for 3D point-cloud noise-filtering and data redundancy elimination

- Passthrough Filter
- Voxel Grid Filter
- Radius Outlier Removal Filter

LIPS® Algorithm Speed Efficiency
<40 milliseconds

Root Port Deployment

- Switchable between Root and PCIe Endpoint Mode
- Develop applications with a full and extended SDK library from NVIDIA® Xavier support

Scale and Accelerate 3D Vision Applications:

LIPSedge™ F110 3DxAI Edge Accelerator allows a single system to scale-up & pre-process multiple 3D camera streams while performing AI inference and keeping the CPU utilization low

PoE+ 2 ports with PSE

Supports IEEE 802.3af/at for Power Sourcing Equipment (PSE), delivering up to 30 watts

High Bandwidth (16GB/s) with PCIe 4.0

High-bandwidth data transfer to the host PC up to 16GB/s with PCI-e 4.0

Edge Computing via CUDA/OpenCL

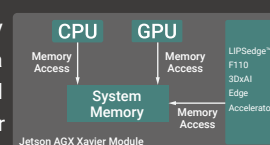
Enable edge computing and full-programming capability using CUDA/OpenCL with dedicated System-on-Module (SOM) design

Scale-Up Architecture for Robotics Vision with x86

Expand and use from x86 Legacy Applications with multiple LIPSedge™ F110 3DxAI Edge Accelerator in a single host system without CPU bottleneck

Low Latency Data Exchange with GPUDirect RDMA

Low latency data exchange in memory without CPU involvement by providing a direct path between host GPU and LIPSedge™ F110 3DxAI Edge Accelerator



Compatible with LIPSedge™ 3D Camera

Compatible with full-line of LIPSedge™ 3D Camera family covering ToF, Stereo, and Structured-light technologies that support OpenNI, OpenCV, ROS/ROS2, Halcon, NVIDIA Isaac, and more.



Module Support	
Module	NVIDIA Xavier AGX 32GB
Internal I/O Physical	
HDMI	1x HDMI type A
LAN	1x 1000Base-T RJ-45 (optional)
	2x 2.5Gbase-T RJ-45 supports POE 802.3at
USB	2x USB 3.2 Gen1 type-C
	1x USB type-C OTG only
	1x USB 3.0 eSata combo port
Pin header	40-pin pin header (5x GPIO, 1x I2C, 1x Debug UART)
Expansion slot	1x M.2 M key PCIe only
Power connector	1x 8-pin backward connector
Fan connector	1x 4-pin fan connector
Optional function	
Boot sequence control	Build-in MCU to control boot sequence
TPM	TPM 2.0
Storage	
Storage	Micro SD.
Power Input	
Power Input	9~19V DC input
Board Dimension	
Dimension (mm)	254 x 111 x 54
OS	
Supported OS	Linux Ubuntu 18.04 LTS / 20.04 LTS
Environmental	
Humidity	10 ~ 90% @ 40°C, (non-condensing)
Temperature	Operating Temperature : -25 °C ~ +80°C
	Storage Temperature: -45°C ~ 80°C

