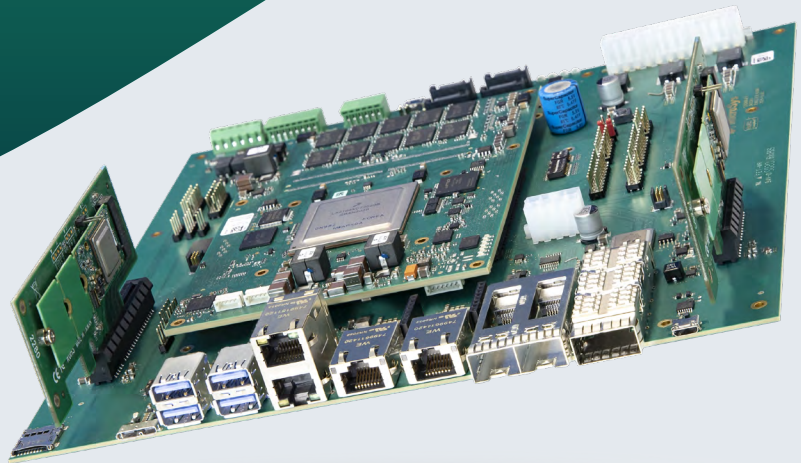


Off the Shelf

# miriac® AIP-LX2160A

High-performance embedded AI platforms



## System & Device at a glance

- Up to 5 parallel Hailo-8™ AI processors for massive processing performance up to 130 TOPS
- Full Hailo-8™ performance combined with maximum power efficiency (FPS / W ratio) compared to other solutions from competition
- Up to 955 YOLOv5m / 6145 Resnet\_v1\_50 / 5200 Ssd\_mobilenet\_v1 object detection frames (416×416) per second
- Comprehensive Hailo AI ecosystem incl. AI toolchain and developer tools
- Deep learning pre-trained models for various computer vision tasks to create fast prototypes on the AI platform





## Product Description

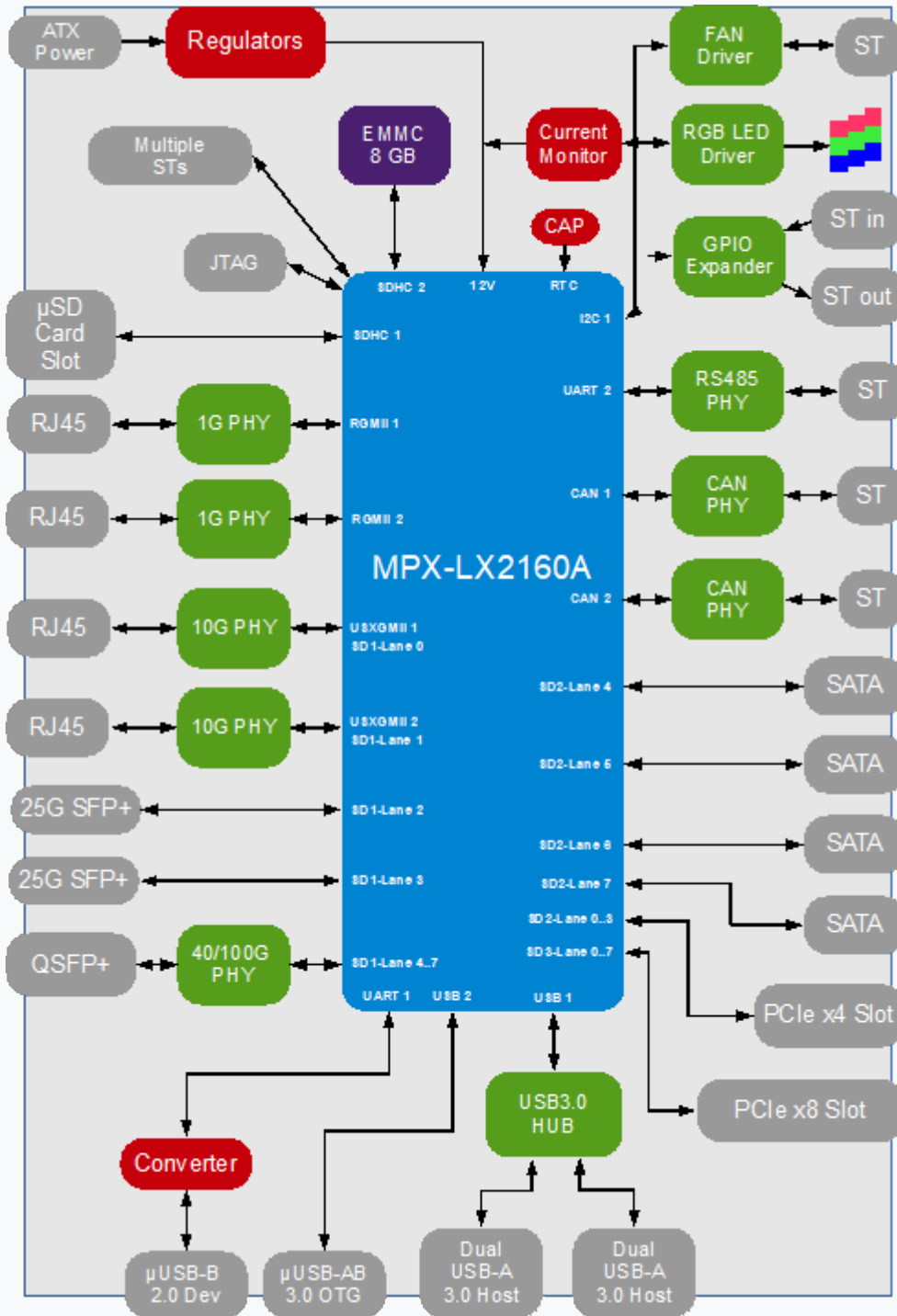
The AI platform for predictive maintenance, collaborative robotics, video surveillance servers in infrastructures with distributed cameras, communication servers for autonomous vehicles in logistics, agriculture and heavy equipment for construction, as well as edge servers in trains where multiple GigE Vision camera streams are analyzed with AI for security and surveillance reasons – for instance, to monitor wagon doors, passenger compartments, or sections of railroad.



## Specifications

Dimensions	microATX 244 mm x 244 mm (+ 6 mm for connectors), height 30 mm (without cooling solution)
Processor	NXP® Layerscape® LX2160A with 16 Arm® Cortex®-A72 64-bit cores up to 2.2 GHz: 24 SerDes lanes (PCIe Gen3 x4 and x8, 100 GbE / 40 GbE / 25 GbE / 10 GbE / 1 GbE, SATA) Trust Architecture
Architecture	Arm® Cortex®-A72
DRAM	Dual Memory Controller with up to 128 GB DDR4 RAM & optional ECC, up to 3200MT/sec, up to 4 ranks combined design: 2x discrete & 2x SODIMM
Additional	Up to 256 GB eMMC, 8-bit, HS400 / JEDEC 5.1 standard support, support for extended feature set and additional eMMC device on carrier
Flash	Up to 2 Gbits Octal SPI Flash at up to 200 MHz, double operation / golden image
Flash Card	Interface for external microSD card
Boot Device	Boot select: XSPI, eMMC or external microSD card
USB 3.0	4x Host, 1x OTG
CAN FD	2x
PCIe	<ul style="list-style-type: none"> <li>■ PCIe 1x Gen3 x8 (2.5, 5 or 8 Gbps) + 1x Gen3 x4 (2.5, 5 or 8 Gbps)</li> <li>■ 1x Gen3 x4 (2.5, 5 or 8 Gbps)</li> </ul>
SATA	4x (1.5, 3 or 6 Gbps)
Ethernet	<ul style="list-style-type: none"> <li>■ 2x 1 Gbps RGMII</li> <li>■ 2x 10 Gbps</li> <li>■ 2x 25 Gbps</li> <li>■ (1x 40 Gbps configuration option)</li> <li>■ (1x 100 Gbps configuration option)</li> </ul>
UART	3x (1x UART/USB console, 1x TTL, 1x RS485)
UART-µC	1x UART to management microcontroller
I2C	2x
FlexSPI:	1x
Power	Adequate ATX power supply with separate 12 V line, delivering 200 W minimum
Additional	<ul style="list-style-type: none"> <li>■ Temperature sensors, fan controller, RTC, Management Engine, CPLD</li> <li>■ All I/O pins available on SEARAY™ connectors</li> <li>■ 4x RGB LED</li> <li>■ 6x SPS Input (24 V)</li> <li>■ 6x SPS Output (12 V internal or 24 V external)</li> <li>■ JTAG debug interfaces for processor and microcontroller</li> <li>■ Development Kit available for immediate start, includes power supply, cables, Linux on microSD card</li> </ul>
Software Support	U-Boot. Linux
Temperature	0 °C to 80 °C

## Block diagram



## Related Products

Name	Description
miriac® MPX-LX2160A SoM	Rugged edge server class SoM for high-end communication applications
miriac® SBC-LX2160A	Single Board Computer based on NXP® Layerscape® LX2160A Processor