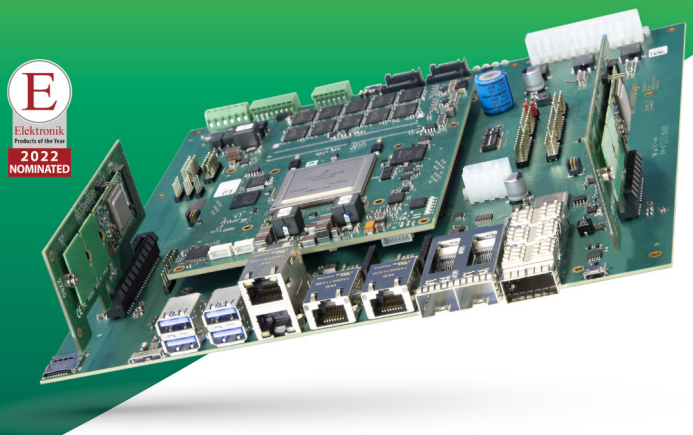
MicroSys
Creating Embedded Systems

miriac® AIP-LX2160A

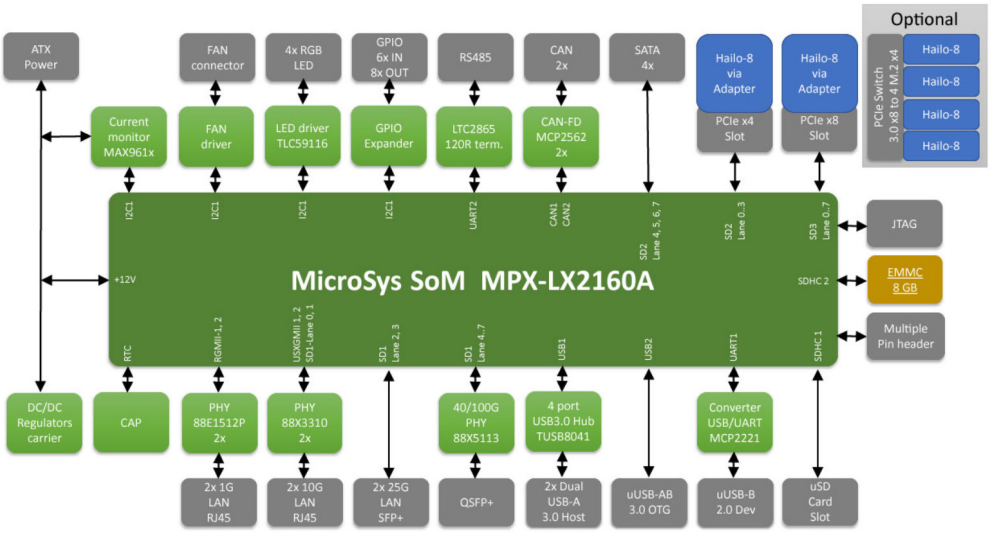
First application-ready building block based on the NXP® QorIQ® Layerscape® LX2160A processor

- 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 x 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



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.

Block Diagrams



Features

CPU	
Architecture	Arm® Cortex®-A72
Processor	NXP® Layerscape® LX2160A with 16 Arm® Cortex®-A72 64-bit cores up to 2.2 GHz
DRAM	• Up to 128 GB DDR4 RAM & optional ECC, up to 3200MT/sec • Up to 4 ranks using a combined design: discrete & SODIMM
Extensions	2x Hailo-8™ M.2 AI Acceleration Modules, opt. up to 5 Modules (NGFF M.2 2242 / 2260 / 2280 Key M Card) 52 TOPS (up to 130 TOPS)
Memory	
Flash	Up to 2 Gb Octal SPI Flash at up to 200 MHz, double operation / golden image
Flash Card	Yes
Boot Flash	Boot select: XSPI, eMMC or external SD card
eMMC	8 GB
Ethernet	
100GbE	1x QSFP+
40GbE	1x QSFP+
25GbE	2x (SFP+)
10GbE	2x
1GbE	2x
High Speed IO	
USB 3.0	4x
µUSB	2x
PCIe	PCIe x8 & PCIe x4 (Gen3)
SATA	4x
IO	
UART	RS485
CAN FD	2x
GPIOs	6x in / 8x out
JTAG Debug Interface	Yes

Operating Condition	
Power Supply Voltage	Single +12 V DC power input ATX
RTC	Yes
RTC-Buffer	Supercap
Temperature	0 °C to 70 °C

Mechanical	
Dimensions	244 mm x 244 mm

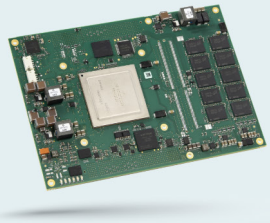
Software / Additional	
Software Support	• Linux • VxWorks (on request) • Others (on request)
Additional	• Board is powered by an ATX power supply with separate 12 V line, delivering 200 W minimum • 4x RGB LED • FAN Driverc • Current Monitor • Development Kit for immediate start up; includes power supply, Linux pre-installed

Our standard product versions offer what we consider to be the optimum configuration in terms of performance, price, usage and TDP. The product features lists specify the maximum range of functions per interface. However, not all interfaces or functions are always available in parallel. Flexible SERDES multiplexing is one of the reasons for this. In addition, we provide multiple memory expansion options and are also happy to accommodate specific customer wishes. So do not hesitate to contact us directly to discuss your desired configuration.

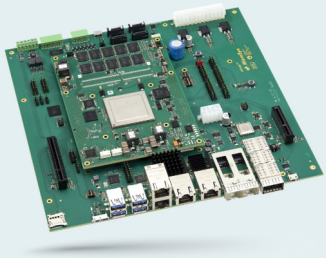
Order Info

Name	Code	Description	Status
AIP-LX2160A Development Kit for miriac® MPX-LX2160A with 2x Hailo-8™	8597	• miriac® MPX-LX2160A • CRX08 • 2x Hailo-8™ M.2 AI Acceleration Module (NGFF M.2 2242/2260/2280 Key M Card) • incl. BSP and accessories	active

Take a look at related products

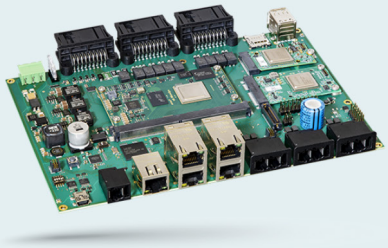


miriac® MPX-LX2160A

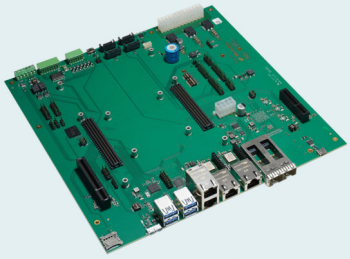


miriac® SBC-LX2160A

miriac® AIP-S32G274A



miriac® AIP-S32G399A



CRX08

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