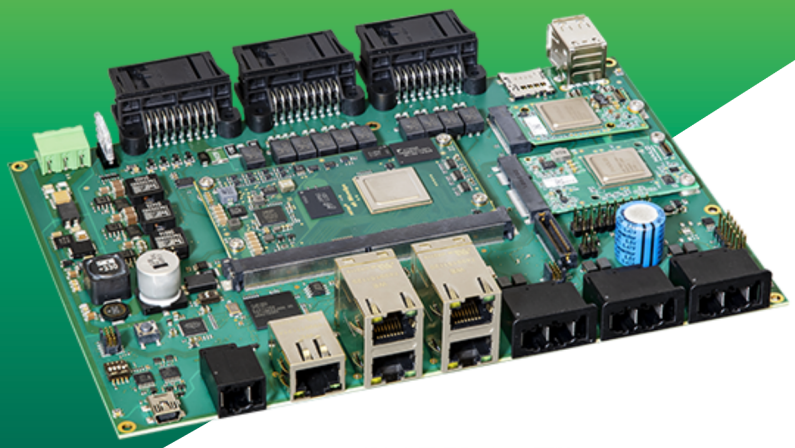
MicroSys
Creating Embedded Systems

miriac® AIP-S32G399A

Third application-ready building block based on the NXP® S32G399A vehicle network processor.

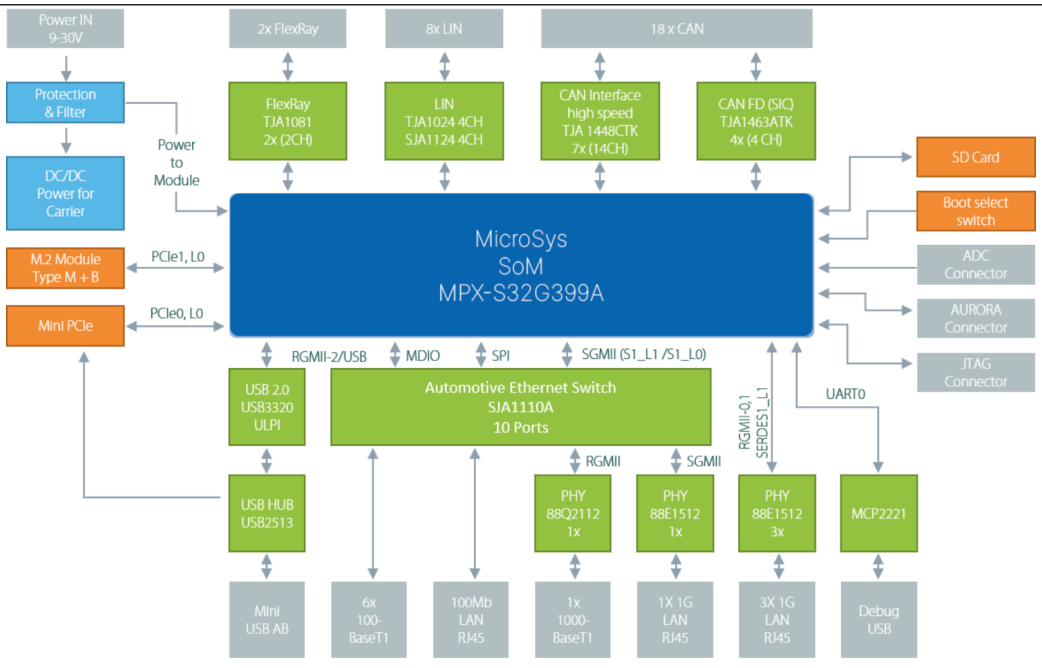
- Up to 2 parallel Hailo-8™ AI processors for massive processing performance up to 52 TOPS
- Full Hailo-8™ performance combined with maximum power efficiency (FPS / W ratio) compared to other solutions from competition
- Up to 382 YOLOv5m / 2458 Resnet_v1_50 / 2080 Ssd_mobilenet_v1 object detection frames (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



High-performance embedded AI platform

This AI platform enables industrial smart gateways with AI features for smart manufacturing, smart grids, industrial automation and more.

Block Diagrams



Features

CPU	
Architecture	Arm® Cortex®-A53
Processor	NXP® S32G399A CPU: 8 Arm® Cortex®-A53 64-bit cores, 4 Arm® Cortex®-M7 dual-cores
DRAM	4 GB 32-bit soldered LPDDR4 RAM at 1600MT/s
Optional Power Supply Voltage	Single DC power input (+6 V to +36 V)
Extensions	1x Hailo-8™ M.2 AI Acceleration Module (NGFF M.2 2242/2260/2280 Key M Card)
Memory	
Flash	64 MB QSPI Flash
Flash Card	Yes
Boot Flash	Boot select: XSPI, eMMC or external SD card
eMMC	Up to 32 GB
Ethernet	
1GbE	1x
1000BASE-T1	1x
100 Mb	1x
100BASE-T1	6x
TSN / IEEE 1588	Yes
High Speed IO	
USB 2.0	1x
miniUSB	1x
IO	
CAN FD	18x
FlexRay	2x
LIN	8x
Analog Inputs (ADCs)	12x
GPIOs	Yes

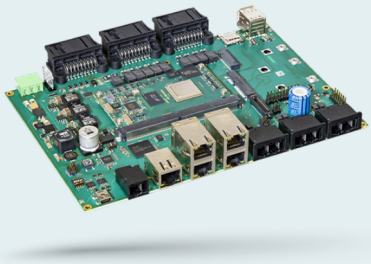
JTAG Debug Interface	Yes
Aurora Interface	Yes
miniPCIe	1x
M.2	1x (type M)
Operating Condition	
Power Supply Voltage	Single +12 V DC power input (+9 V to +15 V)
RTC	Yes
RTC-Buffer	Supercap
Temperature	0 °C to 70 °C
Mechanical	
Dimensions	200 mm x 140 mm
Software / Additional	
Software Support	• Linux • VxWorks (on request) • Others (on request)
Additional	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.

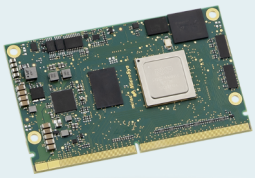
Order Info

Name	Code	Description	Status
AIP-S32G399A Development Kit basic for miriac® MPX-S32G399A + 1x Hailo-8™	TBD	• miriac® MPX-S32G399A • CRX-S32G • 1x 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® SBC-S32G274A



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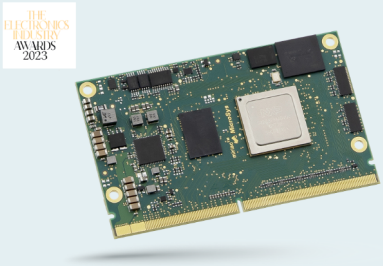

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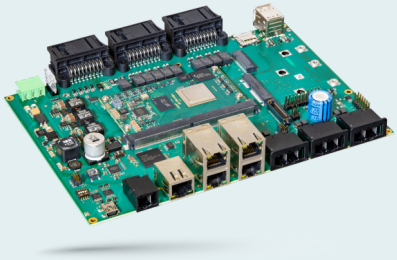

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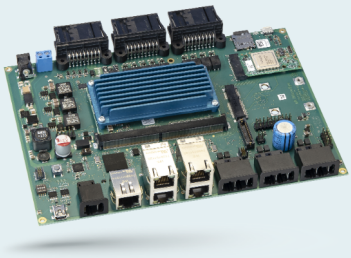

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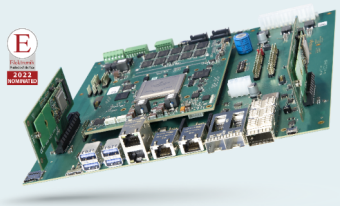
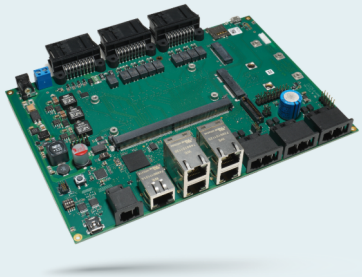


miriac® AIP-LX2160A



CRX-S32G

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