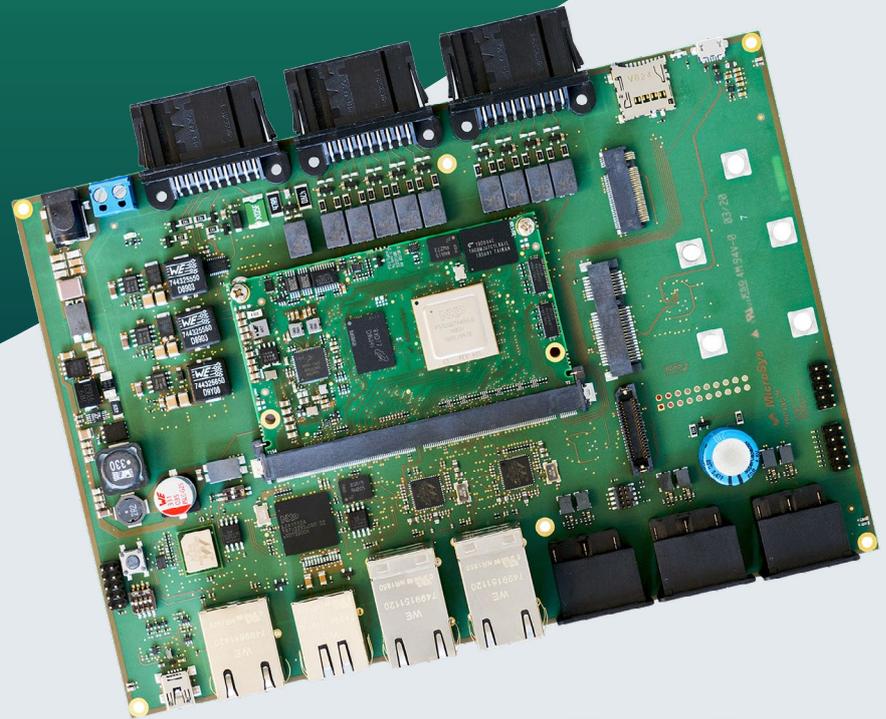


Arm® Architecture

# miriac® SBC-S32G274A

NXP® S32G274A processor based SBCs  
for vehicle network computing



## Single Board Computer at a glance

- Quad Arm® Cortex®-A53 cores
- Triple Arm® Cortex®-M7 lockstep cores for real-time applications
- Automotive Ethernet Switch SJA1110
- Time Sensitive Networking (TSN)
- Automotive Buses: CAN, FlexRay, LIN



## Product Description

The miriac® SBC-S32G274A Single Board Computer is based on NXP's S32G274A vehicle network processor. It integrates a miriac® MPX-S32G274 System on Module designed by MicroSys. The system combines numerous high speed Ethernet interfaces for automotive networking - provided by the SJA1110 automotive switch - with standard automotive busses like Flexray (2x), LIN (4x) or CAN (16x plus 2x CAN FD). It is a communication and compute thoroughbred for innovative automotive and industrial sensor fusion applications.

## Specifications

### CPU

Architecture	Arm® Cortex®-A53
Processor	NXP® S32G274A CPU: 4 Arm® Cortex®-A53 64-bit cores, 3 Arm® Cortex®-M7 dual-cores
DRAM	4 GB 32-bit soldered LPDDR4 RAM at 1600MT/s

### Memory

Flash	64 MB QSPI Flash
Flash Card	Yes
Boot Flash	Boot select: XSPI, eMMC or external SD card
eMMC	16 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	4x
analog inputs (ADCs)	12x
GPIOs	Yes
JTAG Debug Interface	Yes
Aurora Interface	Yes

### Extension Card Modules

miniPCIe	1x
m.2	1x (type M)

# Specifications

## Operating Condition

Power Supply Voltage	Single +12 V DC power input (+9 to +15 V)
RTC	Yes
RTC-Buffer	Supercap
Temperature	0 °C to 70 °C

## Mechanical

Dimensions	200 mm x 140 mm
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## Software / Additional

Software Support	<ul style="list-style-type: none"> <li>Linux</li> <li>VxWorks (on request)</li> <li>Others (on request)</li> </ul>
Additional	<ul style="list-style-type: none"> <li>Development Kit for immediate start up; includes power supply, Linux pre-installed</li> </ul>

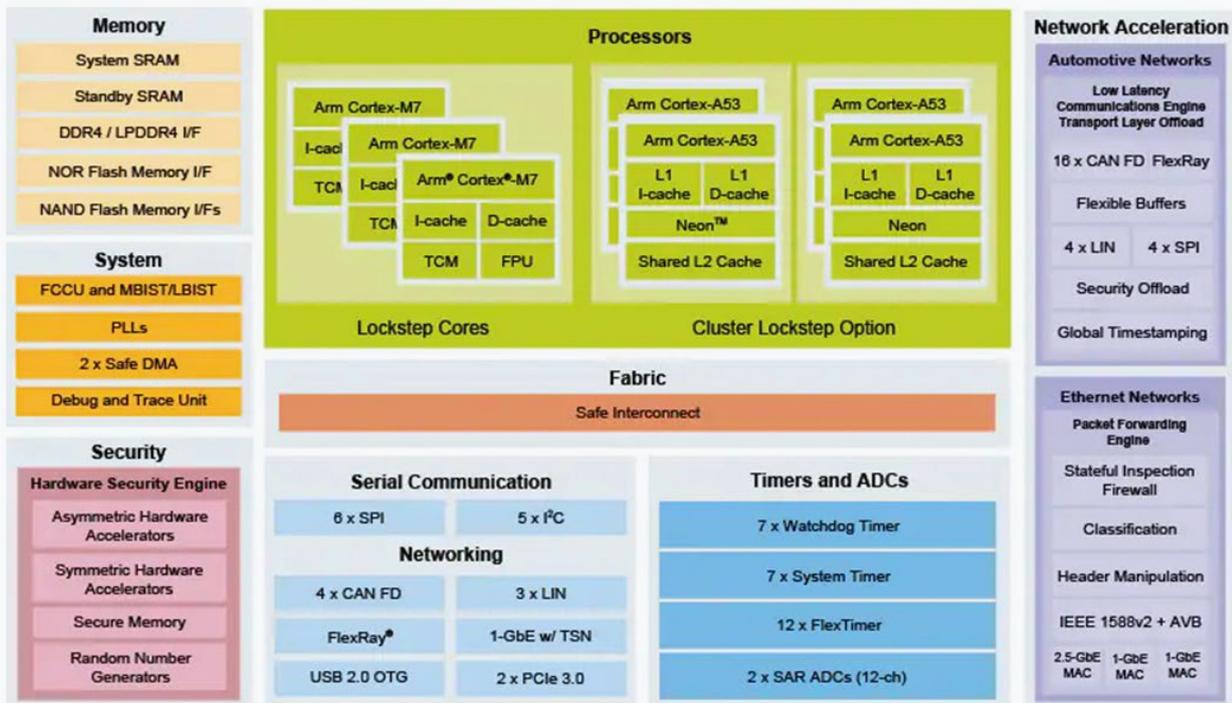
### General note:

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.

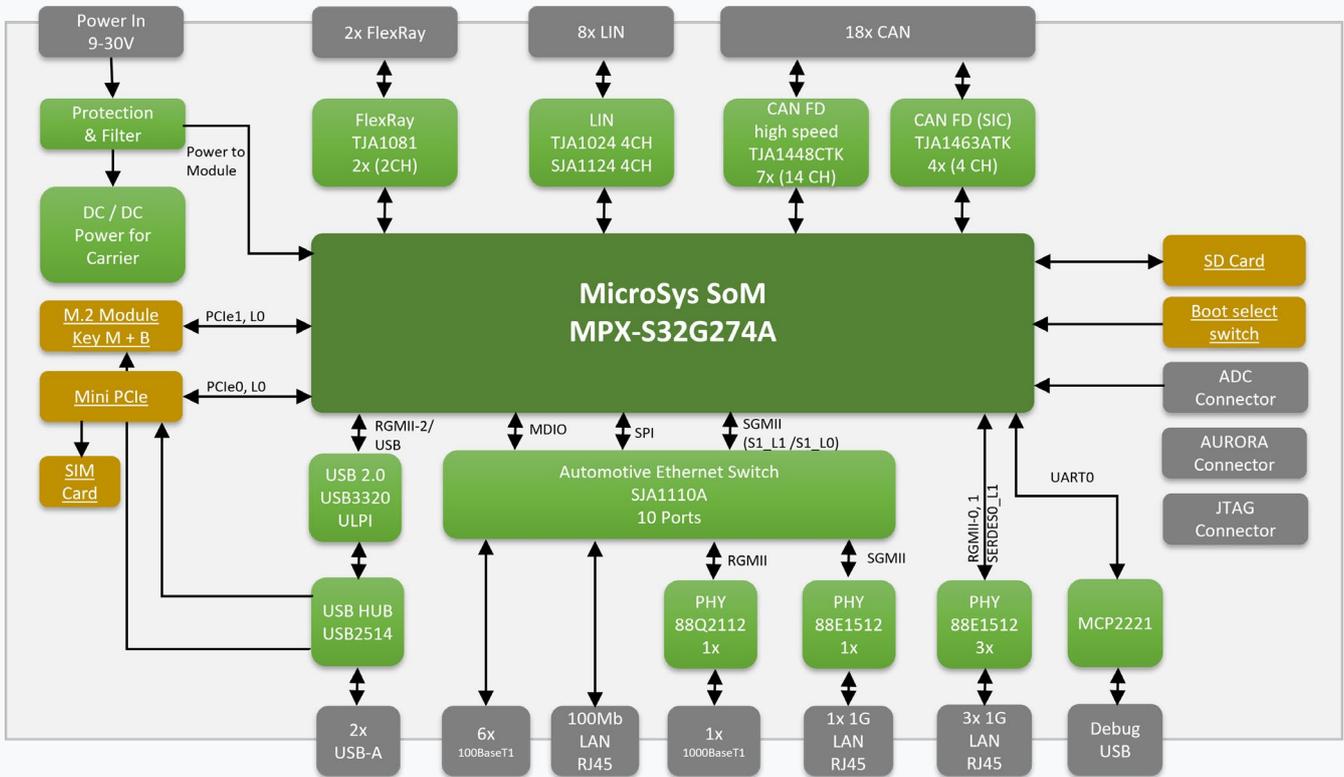
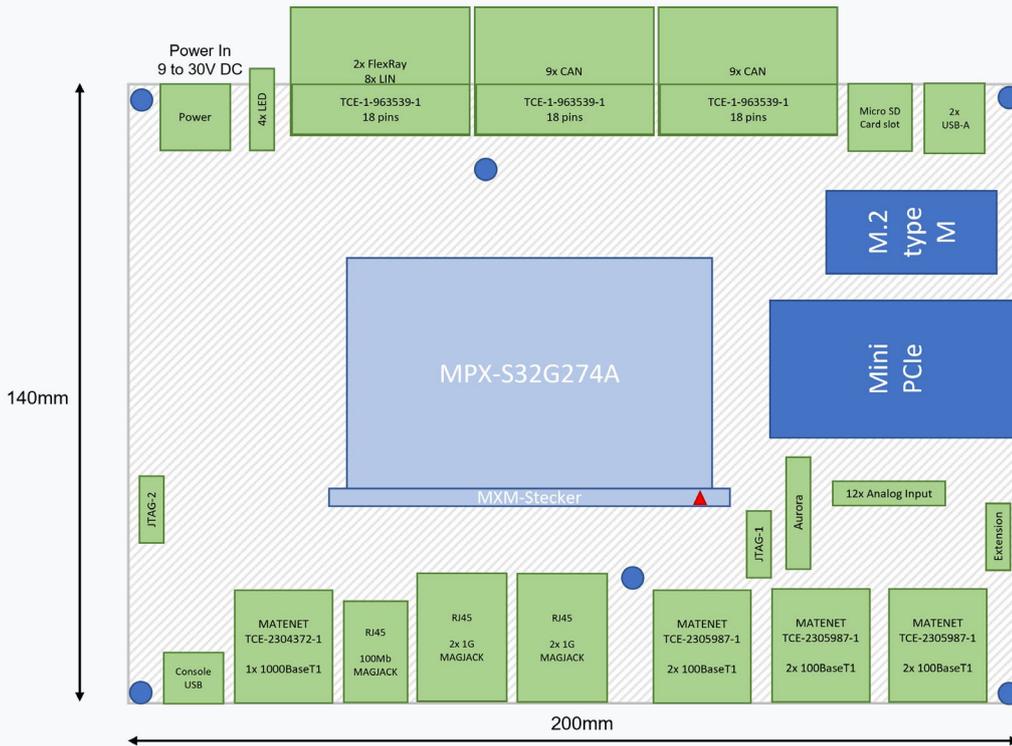
# Block diagram



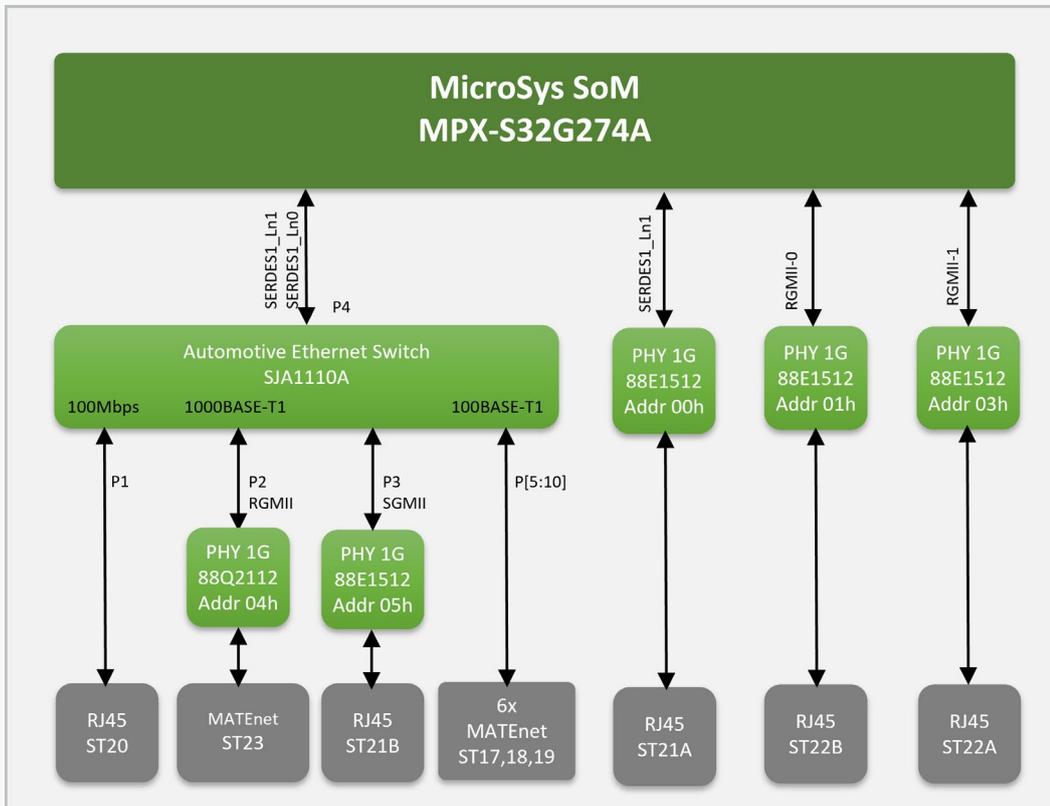
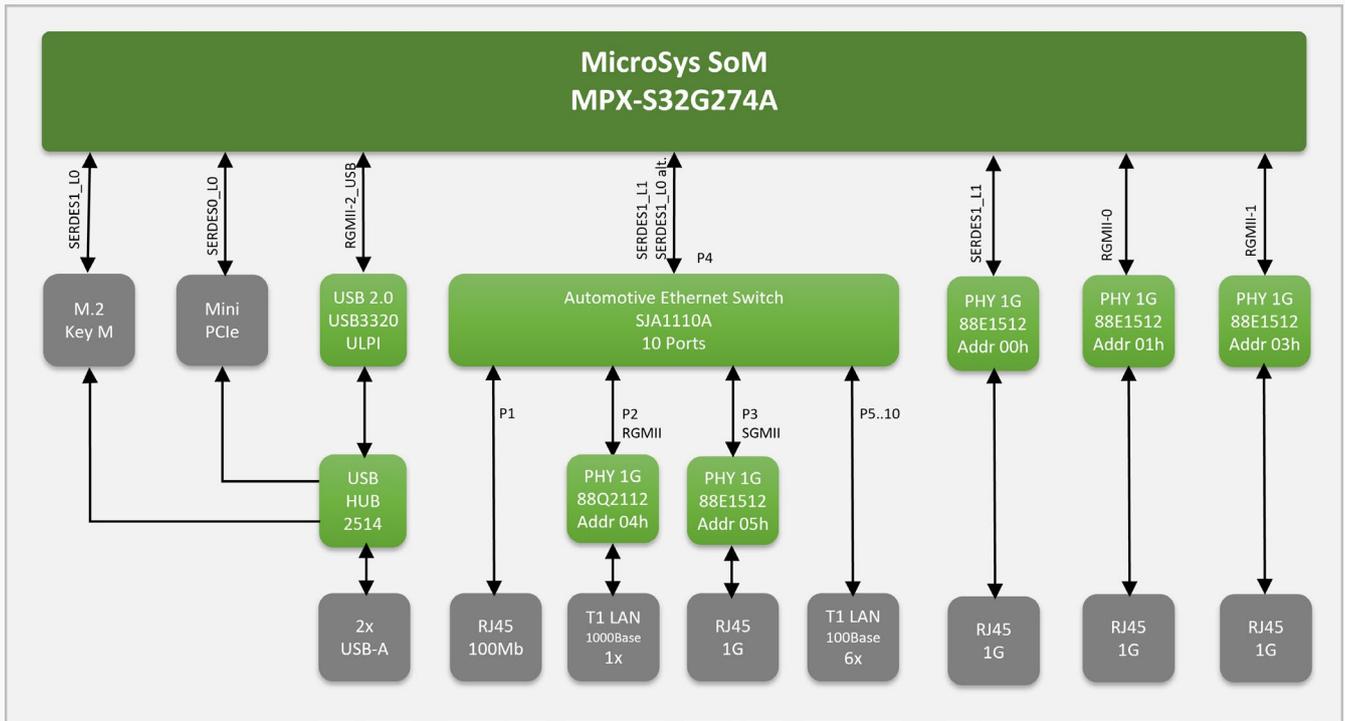
## S32G Vehicle Network Processor - S32G274A



# Block diagram



# Block diagram





## Order Information

Name	Code	Description	Status
Development Kit basic for miriac® MPX-S32G274	859011	44 Arm® Cortex®-A53, 1.0 GHz, 4 GB LPDDR4 w ECC, 64 MB NOR Flash, 16 GB eMMC, 0 °C to 70 °C, w/o SEC	active



## Related Products

Name	Code	Description	Status
miriac® MPX-S32G274A	858103	Vehicle gateway platform with massive native CAN support	active
miriac® AIP-S32G274A	859013	High-performance embedded AI platforms	active
miriac® MPX-S32G399A	TBD	The 2nd Gen System-on-Module based on the NXP® S32G399A vehicle network processor	coming 2023
miriac® SBC-S32G399A	TBD	NXP® S32G399A processor based SBCs for vehicle network computing	coming 2023
miriac® AIP-S32G399A	TBD	High-performance embedded AI platforms	coming 2023



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