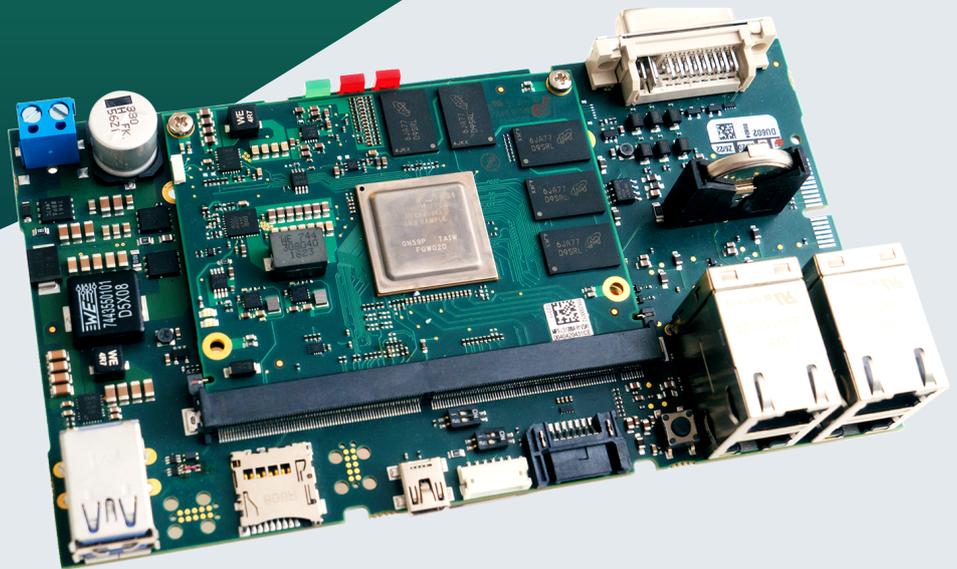


Arm® Architecture

# miriac® SBC-LS1046A

Single Board Computer based on  
NXP® QorIQ® LS1046A CPU



## Single Board Computer at a glance

- Up to 8 GB 64-bit soldered DDR4 ECC RAM at 2100 MTp/s
- Hybrid 32-bit mode to support legacy software
- Temperature sensor
- All on board supply voltages are monitored by a separate  $\mu$ -controller





# Product Description

The miriac SBC-LS1046A Single Board Computer is a NXP® QorIQ® LS1046A quad core Arm® Cortex®-A72 based complete system solution by MicroSys. NXP's LS1046A and LS1026A (two cores) 64-bit high performance CPUs offer integrated packet processing acceleration and high speed peripherals including 10 Gb Ethernet, PCIe Gen3, SATA 3.0 and USB 3.0 for a wide range of Industry 4.0 applications.



# Specifications

## CPU

Architecture	Arm® Cortex®-A72
Processor	NXP® QorIQ® LS1046A CPU: 4 Arm® Cortex®-A72 64-bit cores at up to 1.6 GHz core frequency
DRAM	Up to 8 GB 64-bit DDR4 ECC RAM at 2100 MT/s

## Memory

Flash	Up to 2 GB SLC NAND Flash & up to 64 MB QuadSPI Flash
Flash Card	Yes
Boot Flash	QSPI, SD/MMC, NAND Flash

## Ethernet

1GbE	4x
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## High Speed IO

USB 3.0	2x
miniUSB	1x debug
PCIe	1x PCIe via extension connector, optional: 1x PCIe via edge card connector
SATA	1x

## IO

UART	1x TTL
GPIOs	6x in / 6 out
JTAG Debug Interface	Yes

## Extension Card Modules

miniPCIe	1x
mSATA	1x

## Operating Condition

Power Supply Voltage	Single 9-24 V DC input supply voltage range
RTC	Yes
RTC-Buffer	CR2032 battery
Temperature	0 °C to 70 °C



# Specifications

## Mechanical

Dimensions 86 mm x 157 mm

## Software / Additional

### Software Support

- Linux
- VxWorks (on request)
- Others (on request)

### Additional

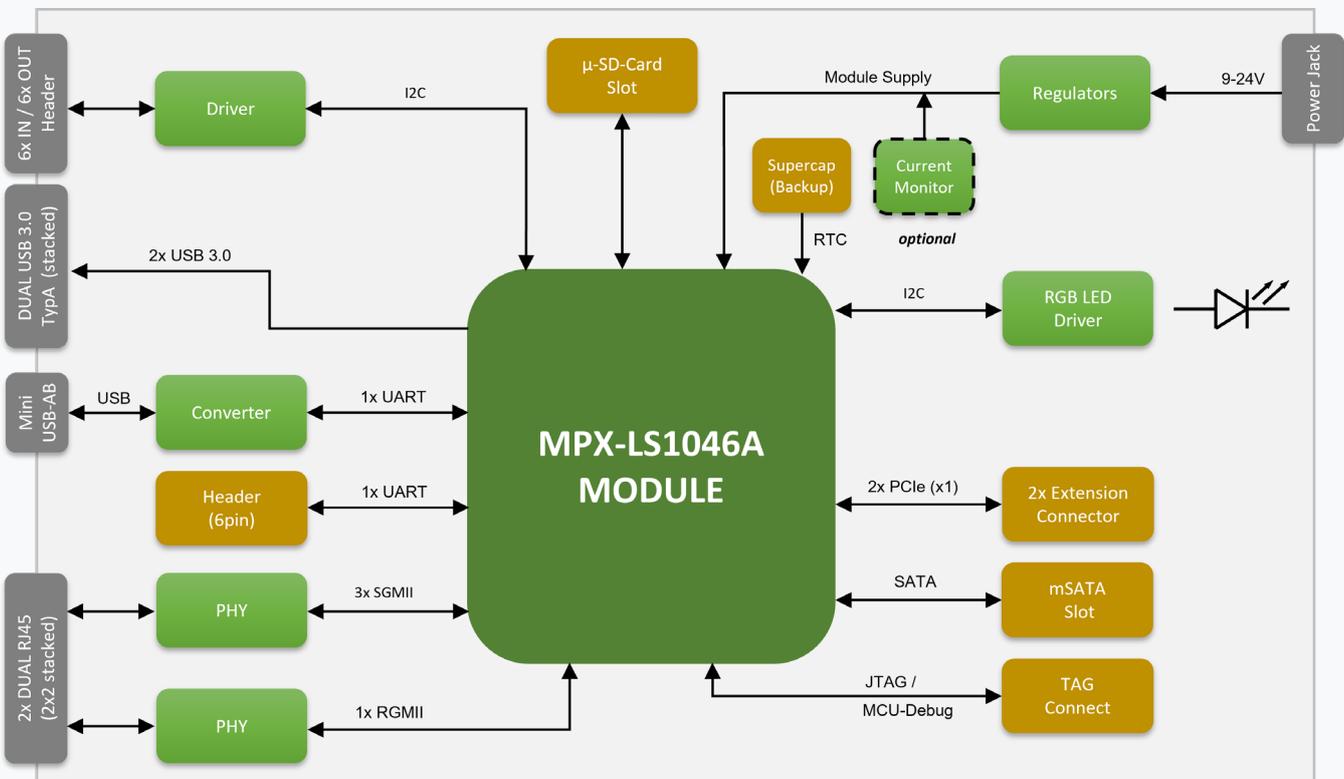
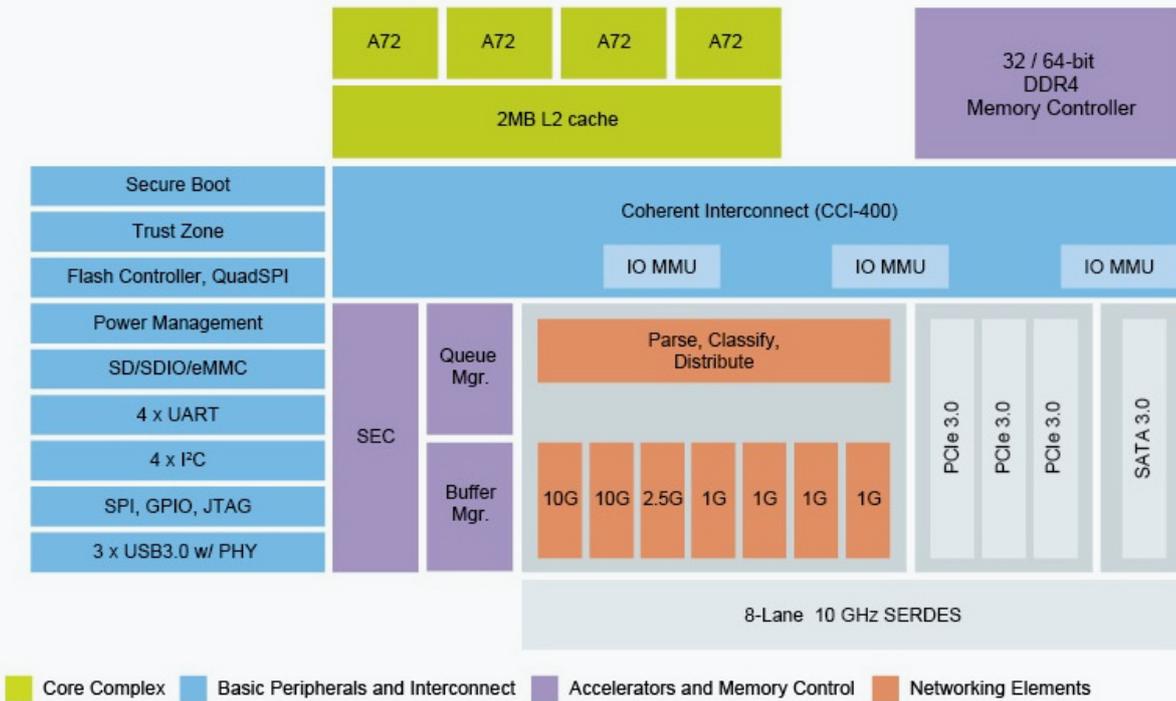
- Compatible variants available with QorIQ® LS1023A, LS1043A, LS1048A, LS1088A
- Temperature sensor
- 4x RGB LED
- Dev Kit for immediate start up, e.g. power supply, cables (optional)

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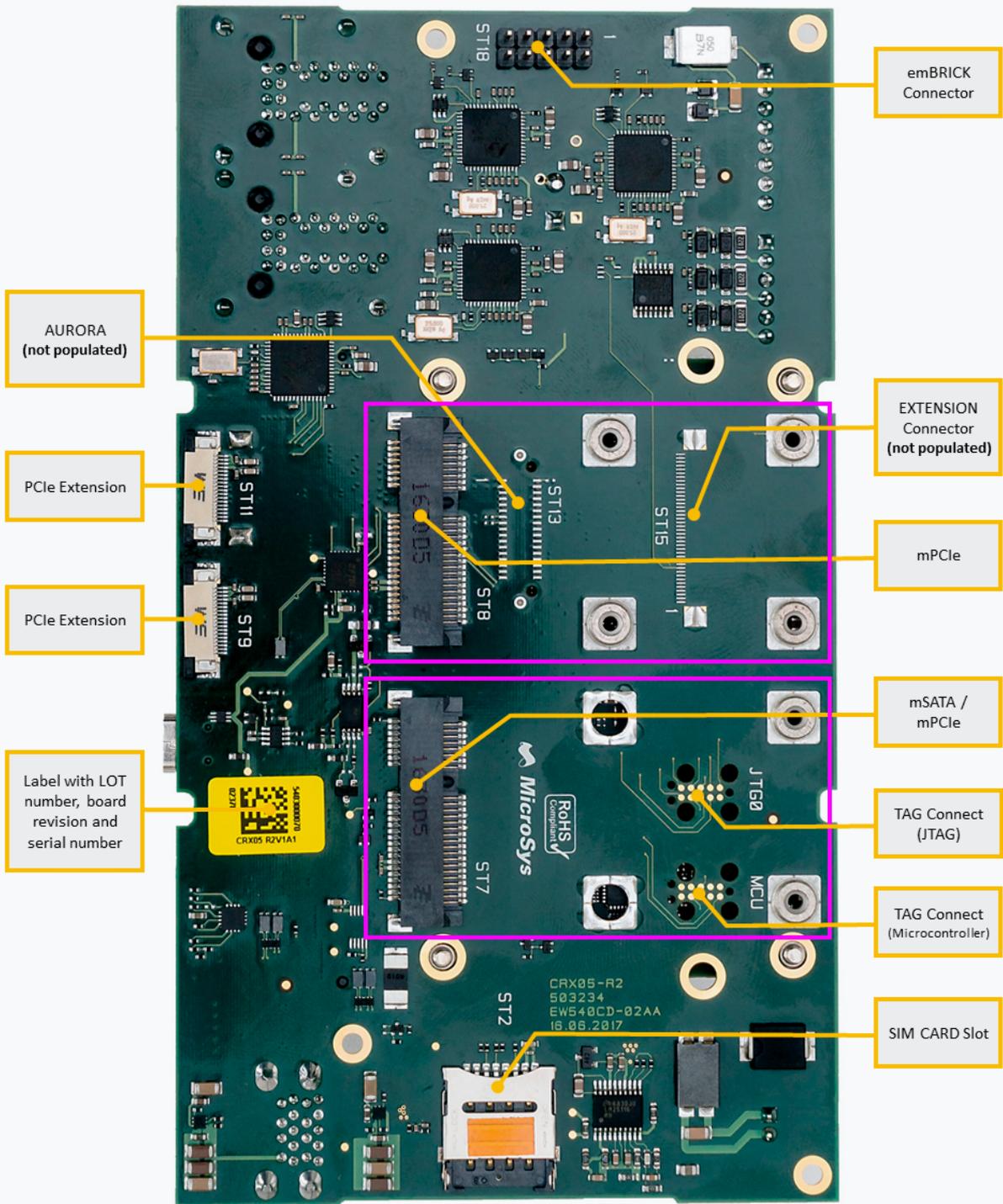
### General note:

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.

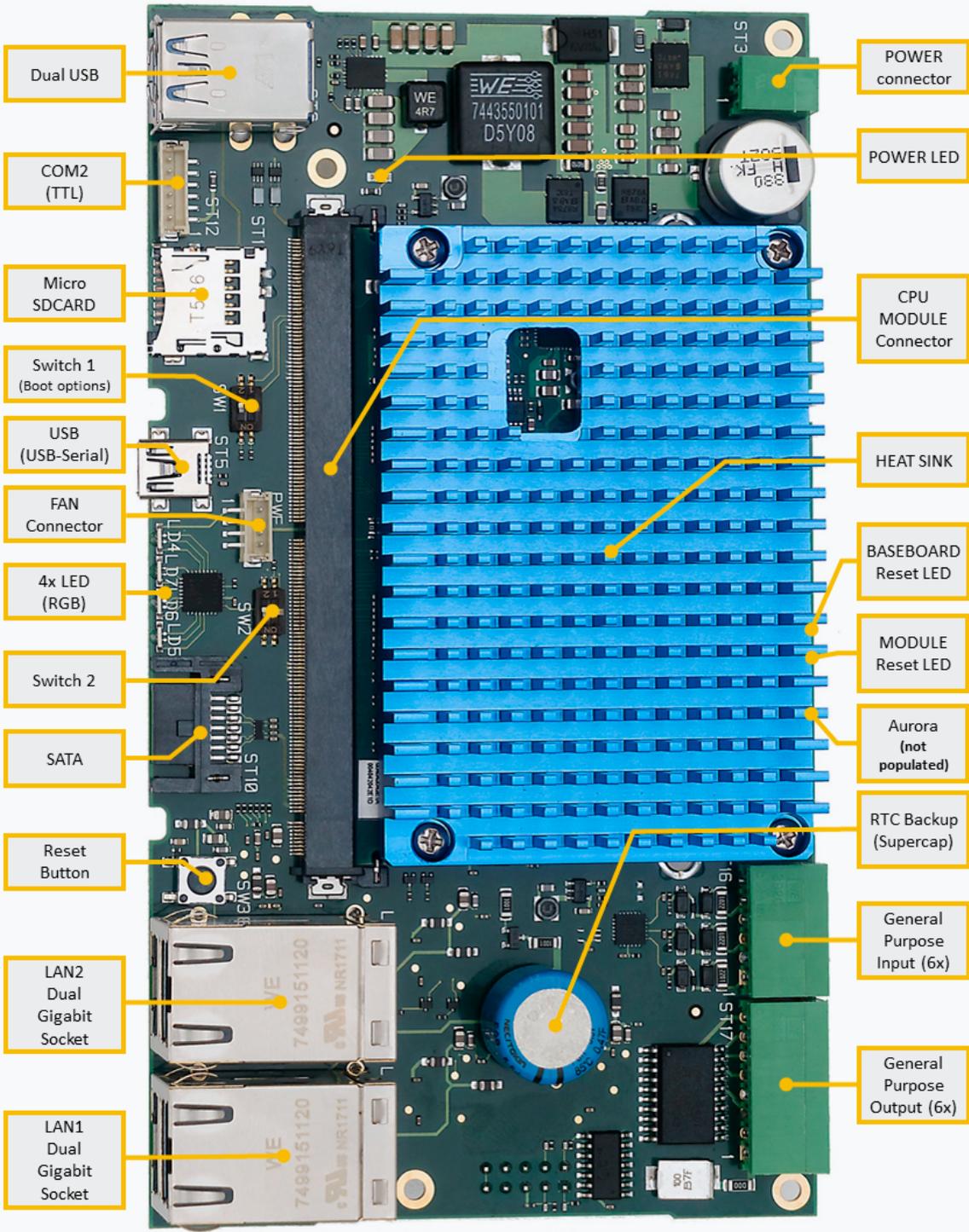
# Block diagram



# Block diagram



# Block diagram





## Order Information

Name	Code	Description	Status
miriac® SBC-LS1046A	855917	miriac® SBC-LS1046A Development Kit for MPX-LS1046A, incl. order# 855610, (1.6 GHz, 4 GB DDR4 (64-bit), ECC, 512 MB Flash)	active



## Related Products

Name	Code	Description	Status
miriac® MPX-LS1046A	855610	Low energy class server module with quad Arm® Cortex®-A72 cores and up to two 10 GbE	active

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