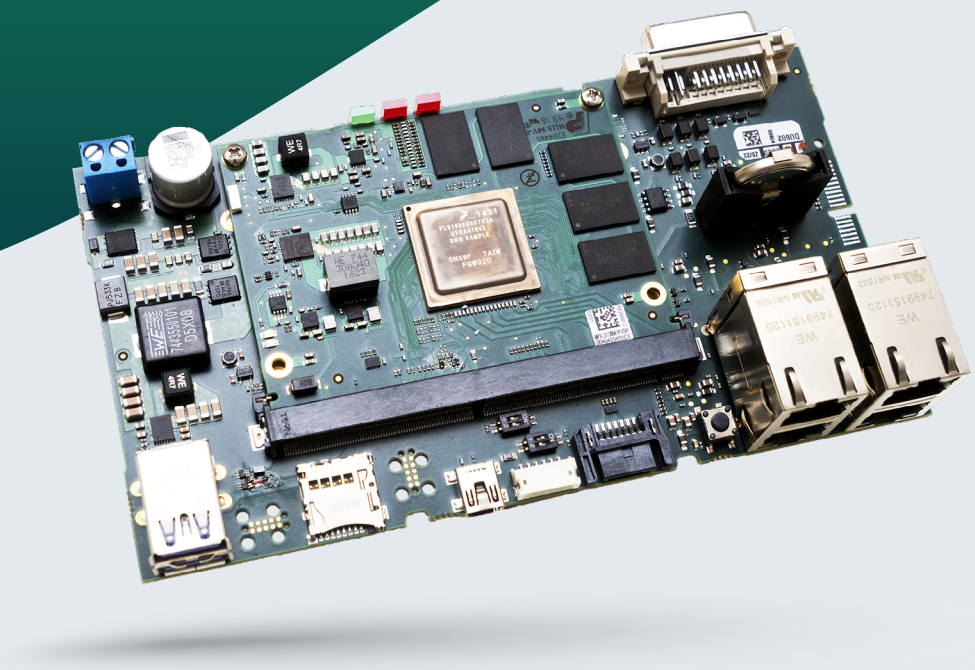
MicroSys
Creating Embedded Systems

Arm® Architecture

miriac® SBC-LS1088A

Single Board Computer based on NXP® QorIQ® LS1088A CPU



Single Board Computer at a glance

- up to 8 GB 64-bit soldered DDR4 ECC RAM at 2100MTp/s
- hybrid 32-bit mode to support legacy software
- temperature sensor
- All on board supply voltages are monitored by a separate µ-controller

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Product Description

The miriac® SBC-LS1088A Single Board Computer is a NXP® QorIQ® LS1088A eight core Arm® Cortex®-A53 based complete system solution by MicroSys. NXP's LS1088A and LS1048A (four cores) 64-bit high perfor-mance CPUs offer integrated packet processing accel-eration 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

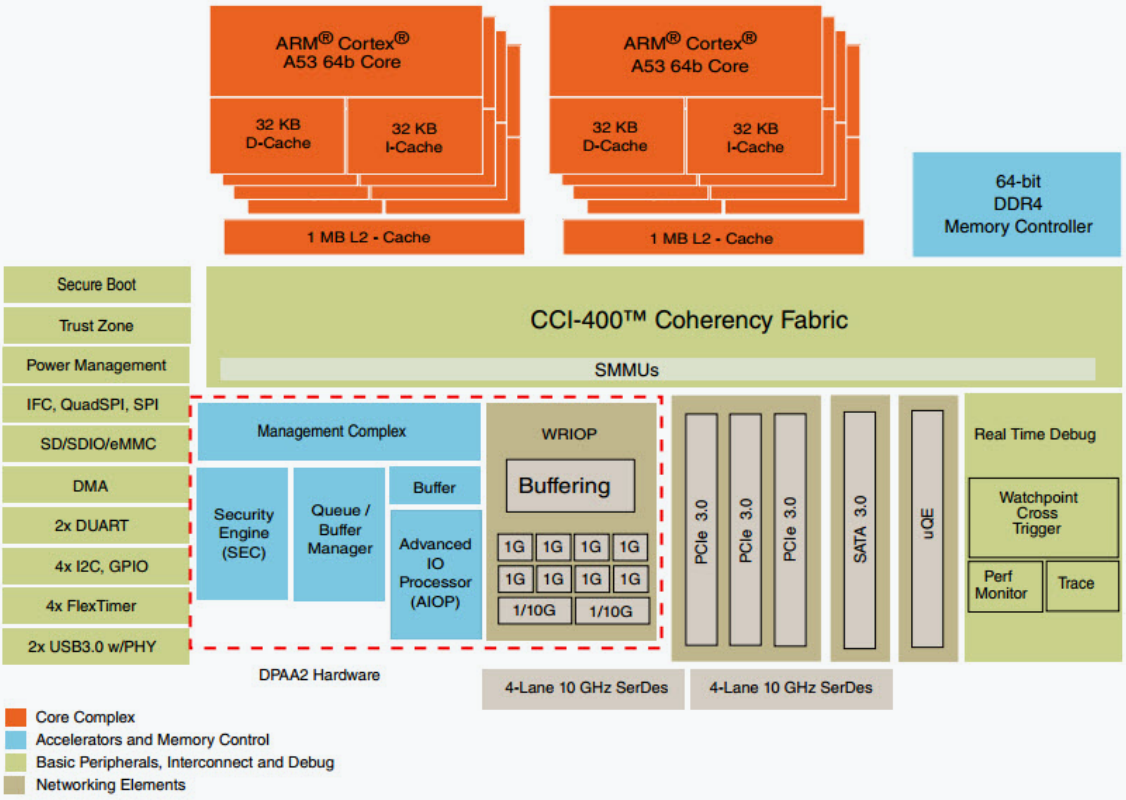
CPU	
Architecture	Arm® Cortex®-A53
Processor	NXP® QorIQ® LS1088A CPU: 8 Arm® Cortex®-A53 64-bit cores at up to 1.6 GHz core frequency
DRAM	Up to 8 GB 32-bit DDR4 ECC RAM at 2100 MT/s
Memory	
Flash	Up to 2 GB SLC NAND Flash & up to 16 MB SPI Flash
Flash Card	Yes
Boot Flash	QSPI, SD/MMC, NAND Flash
Ethernet	
1GbE	4x
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 to 24 V DC input supply voltage range
RTC	Yes
RTC-Buffer	CR2032 battery
Temperature	0 °C to 70 °C

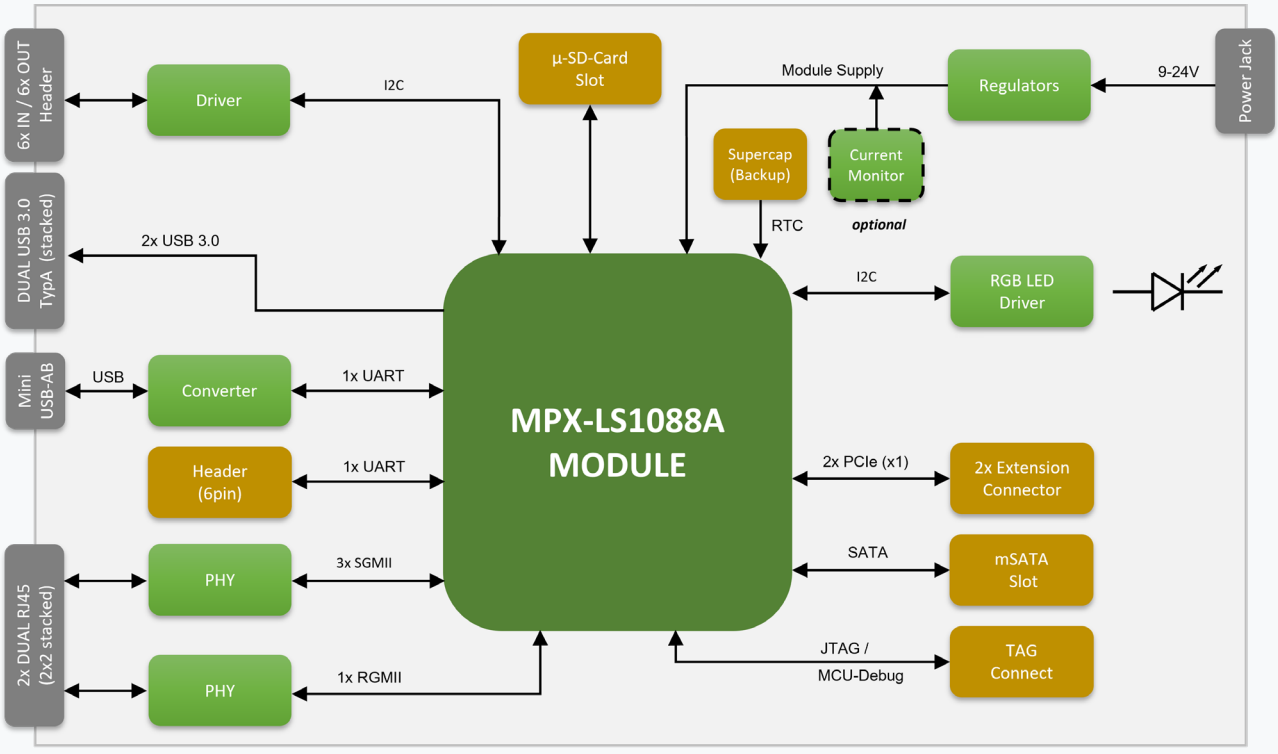
Specifications

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, LS1046A, LS1048A ■ Temperature sensor ■ 4x RGB LED ■ Dev Kit for immediate start up, e.g. power supply, cables (optional)

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.

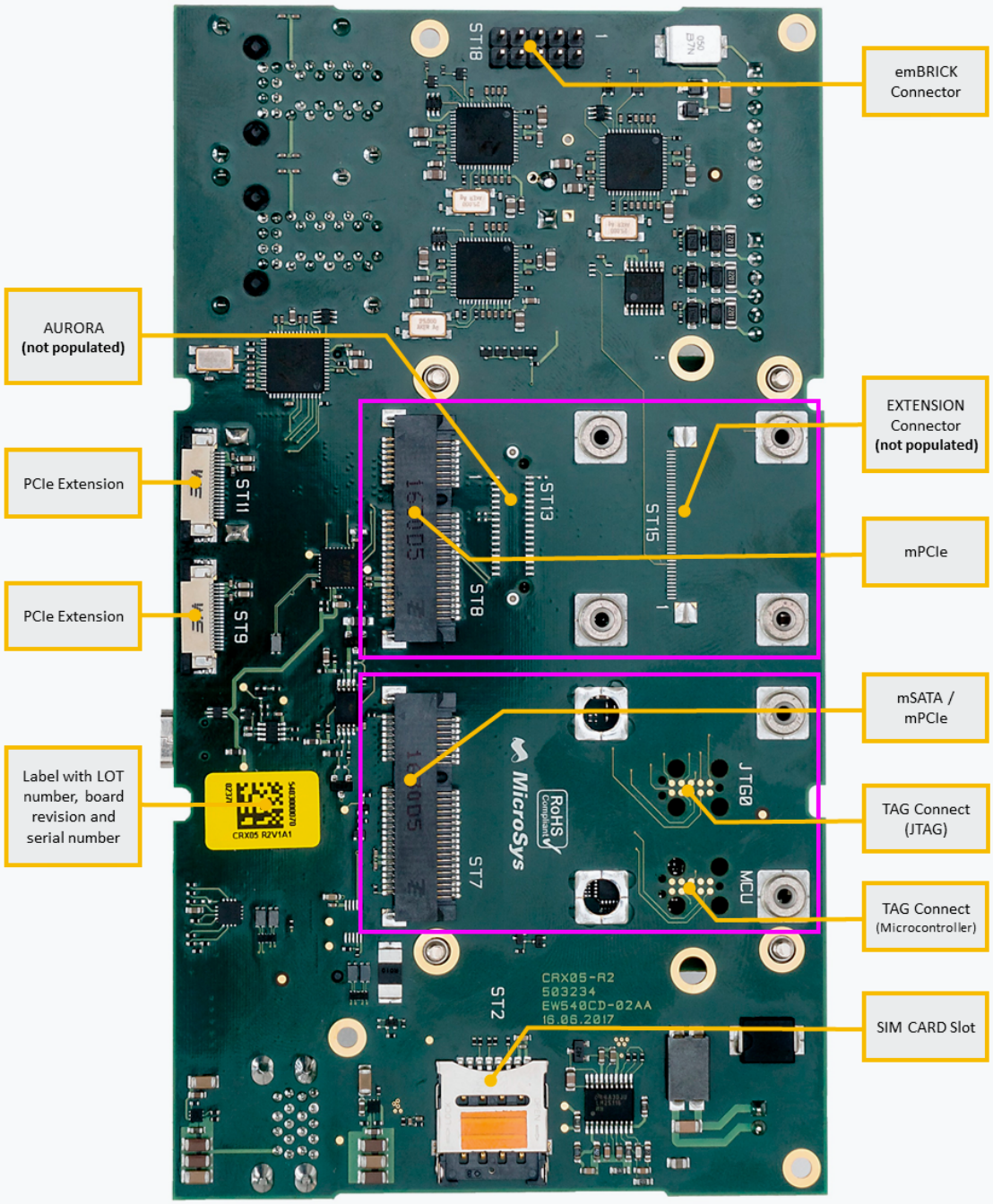
Block diagram





SBC-LS1088A: Version 2.0.0 – 2017-09-29

Block diagram



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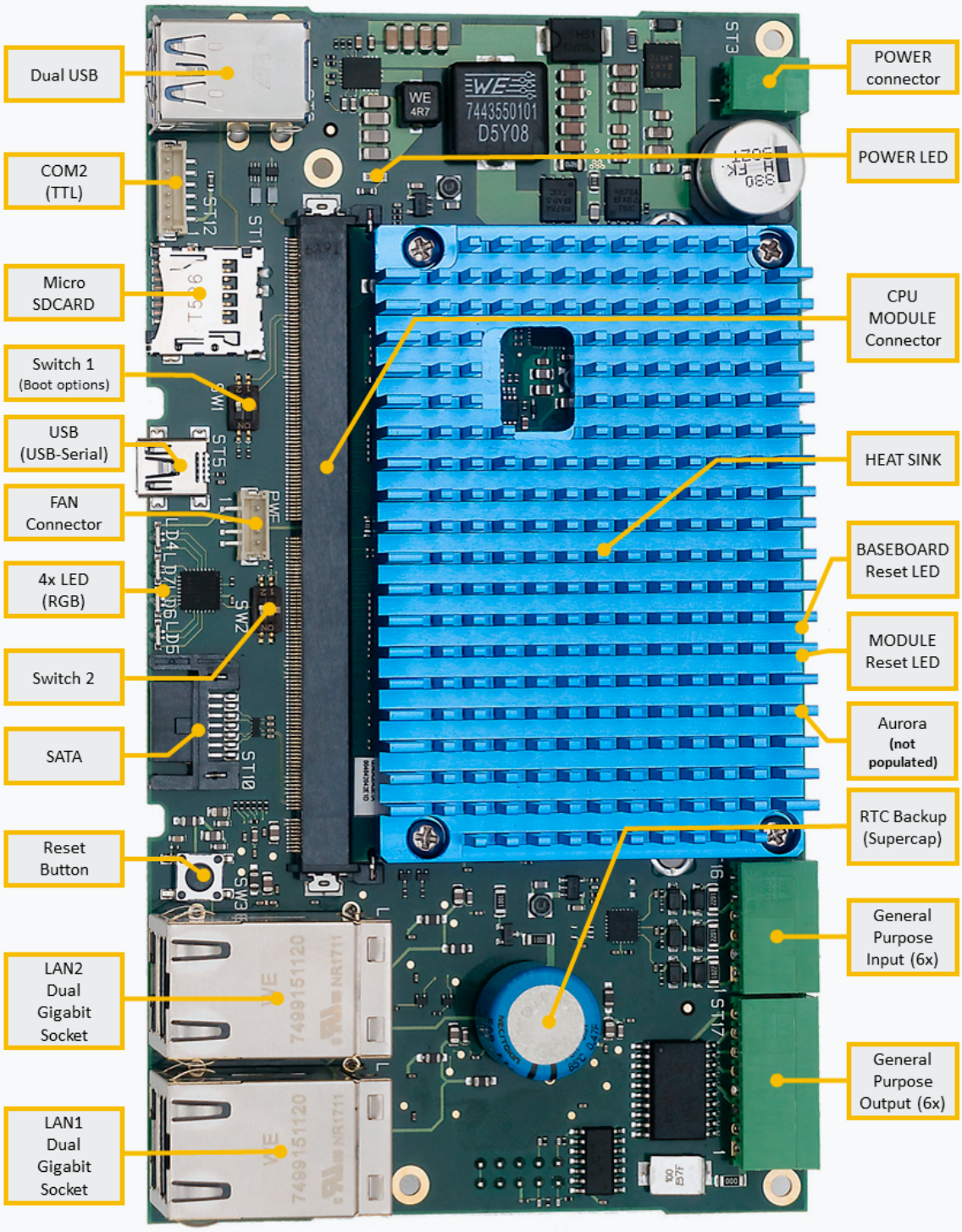

Order Information

Name	Code	Description	Status
miriac® SBC-LS1088A SBC	855902	LS1088A@up to 1.4 GHz, 4 GB DDR4 RAM, 512 MB Flash memory	active
miriac® SBC-LS1088A Starter Kit	855911	for MPX-LS1088A SoM, includes order# 855902, Linux BSP, accessories	active

Related Products

Name	Code	Description	Status
miriac® MPX-LS1088A	855606	Multicore networking processor for high-performance communication	active

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