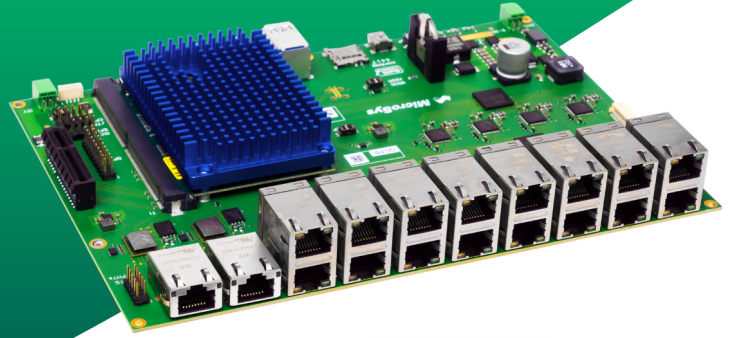# miriac® SBC-LS1088A-TSN

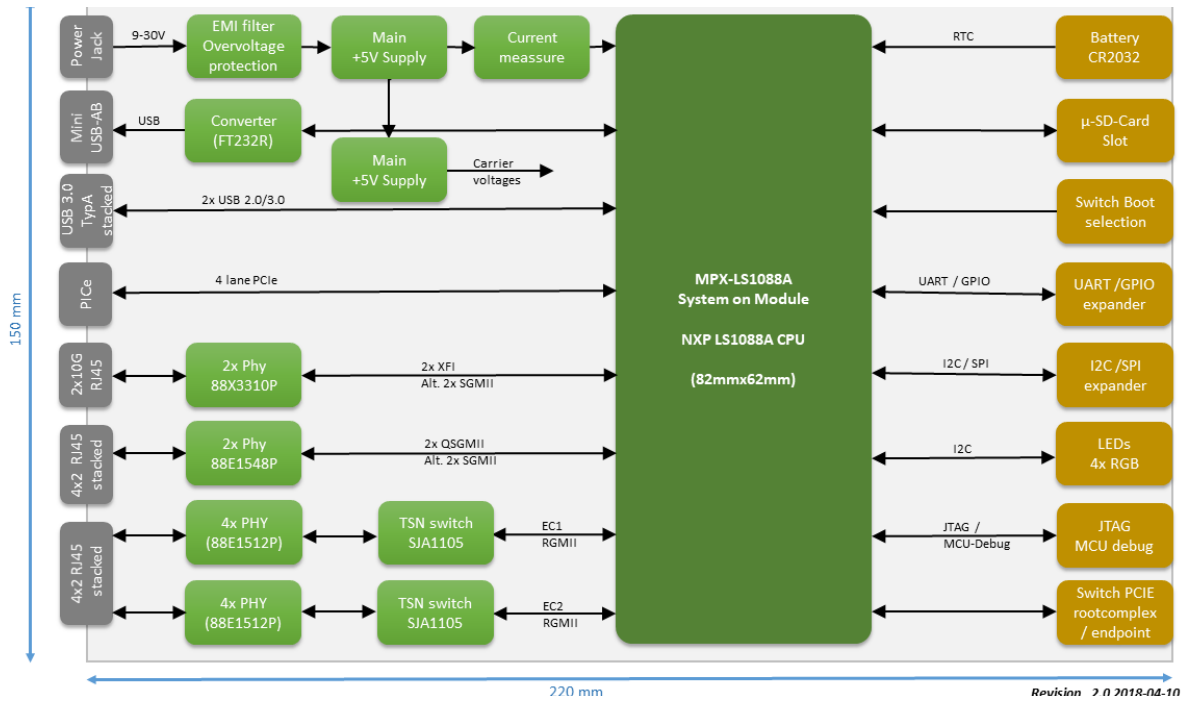Single Board Computer based on NXP® QorIQ® LS1088A CPU

- 2x 10 Gb Interfaces for High Speed Ethernet
- 8x 1 Gb TSN connectors (driven by 2 switches) for reliable real time communication over Ethernet
- NXP® QorIQ® LS1088A octal core Arm® Cortex®-A53 CPU
- All on board supply voltages are monitored by a separate μ-controller
- ECC Memory, Encryption (optional)

The miriac® SBC-LS1088A-TSN platform is part of a system family to address the increasing communication demand in industrial applications. For that the carrier offers the support of the Time Sensitive Networking Standard (TSN) and holds a high-performance networking infrastructure. It integrates for example 2x 10 Gb and up to 8x 1 Gb Ethernet ports, 1x PCIe x4 port and 8x 1 Gb TSN connectors (driven by 2 switches) for reliable real time communication over Ethernet.

Block Diagrams

Revision 2.0 2018-04-10

Features

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 64 MB QuadSPI Flash
Flash Card	Yes
Boot Flash	QSPI, SD/MMC, NAND Flash

Ethernet

10GbE	2x
1GbE	8x
TSN / IEEE 1588	8x 1 Gbit TSN

High Speed IO

USB 3.0	2x
miniUSB	1x debug
PCIe	1x PCIe x4/x1 via edge card connector

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IO		
FlexSPI	1x	
UART	3x	
I2C	1x	
JTAG Debug Interface	Yes	

Operating Condition		
Power Supply Voltage	Single 9 to 36 V DC input supply voltage range	
RTC	Yes	
RTC-Buffer	CR2032 battery	
Temperature	0 °C to 70 °C	

Mechanical		
Dimensions	220 mm x 150 mm	

Software / Additional		
Software Support	• Linux • VxWorks (on request) • Others (on request)	
Additional	• 4x RGB LED • Compatible variants available with QorIQ® LS1023A, LS1043A, LS1046A, LS1048A • Temperature sensor • PCIe rootcomplex or endpoint switchable • Overvoltage protection • Dev Kit for immediate start up, e.g. power supply, cables (optional)	

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
miriac® SBC-LS1088A-TSN	856403	includes MPX-LS1088A SoM (order # 855606) with 1.6 GH, 4 GB DDR4 RAM (64 Bit), ECC, 512 MB Flash	active
miriac® SBC-LS1088A-TSN Development Kit	856412	for MPX-LS1088A SoM, includes order # 856403, Linux BSP, accessories	active

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