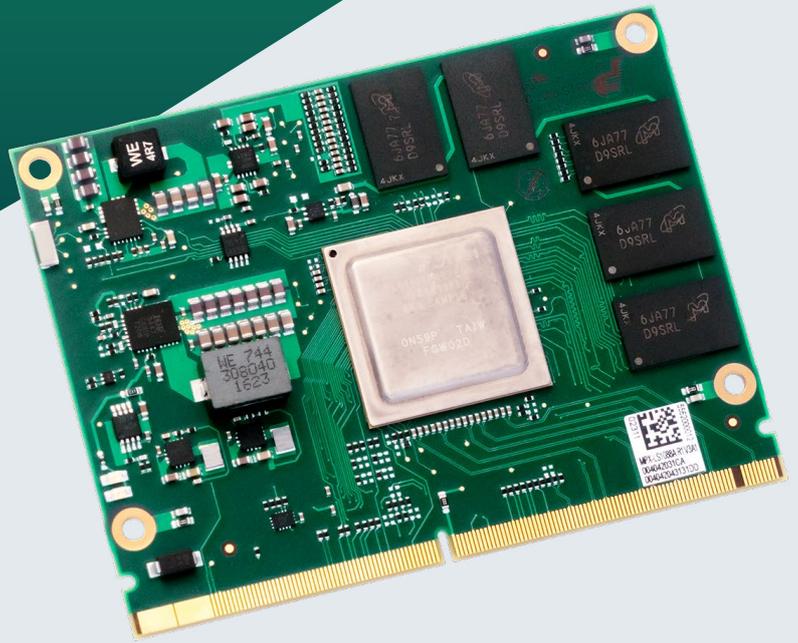


Arm® Architecture

miriac® MPX-LS1088A

Multicore networking processor for high-performance communication



System-On-Modules at a glance

- 8 Arm® Cortex®-A53 64-bit cores at up to 1.6 GHz core frequency
- Up to 8 GB 64-bit DDR4 ECC RAM at 2100 MTps
- All on board supply voltages are monitored by a separate μ -controller
- Control of on-board voltages and the reset logic offer a wide spectrum of custom functionality, even low-level safety functions



Product Description

New cost effective MPX-2 System on Module form factor, connecting to a standard edge connector (MXM3.0 socket). Includes NXP® QorIQ® LS1088A CPU: 8 Arm® Cortex®-A53 64-bit cores at up to 1.6 GHz core frequency.

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 64 MB QuadSPI Flash
Flash Card	SDHC
Boot Flash	QSPI, SD/MMC, NAND Flash
eMMC	8-bit
EEPROM	Yes

Ethernet

10GbE	2x XFI
RGMII	2x
SGMII	8x 1 Gbps, 2x 2.5 Gbps
QSGMII	2x 5Gbps
TSN / IEEE 1588	Yes

High Speed IO

SerDes lanes	8x at 10 Gbps
USB 3.0	3x (Host / Client / OTG)
PCIe	3x PCIe Gen3 (x4lane support)
SATA	1x Gen3

IO

Flex SPI	1x
UART	2x DUART
I ² C	2x
GPIOs	Yes
JTAG Debug Interface	Yes
other I/O Interfaces	TDM

Security / Safety

Security	Security Engine (SEC) SFP, CSU
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Operating Condition

Power Supply Voltage	Single 5 to 12 V DC input supply voltage range
Typical Power Consumption	8.5 W
Power Management	Yes
RTC	Epson RX-8803LC
Temperature	0 °C to 70 °C
Optional Extended Temperature:	-40 °C to +85 °C



Specifications

Mechanical

Dimensions	62 mm x 82 mm
Connector Type	MPX-2 for MXM3.0 socket

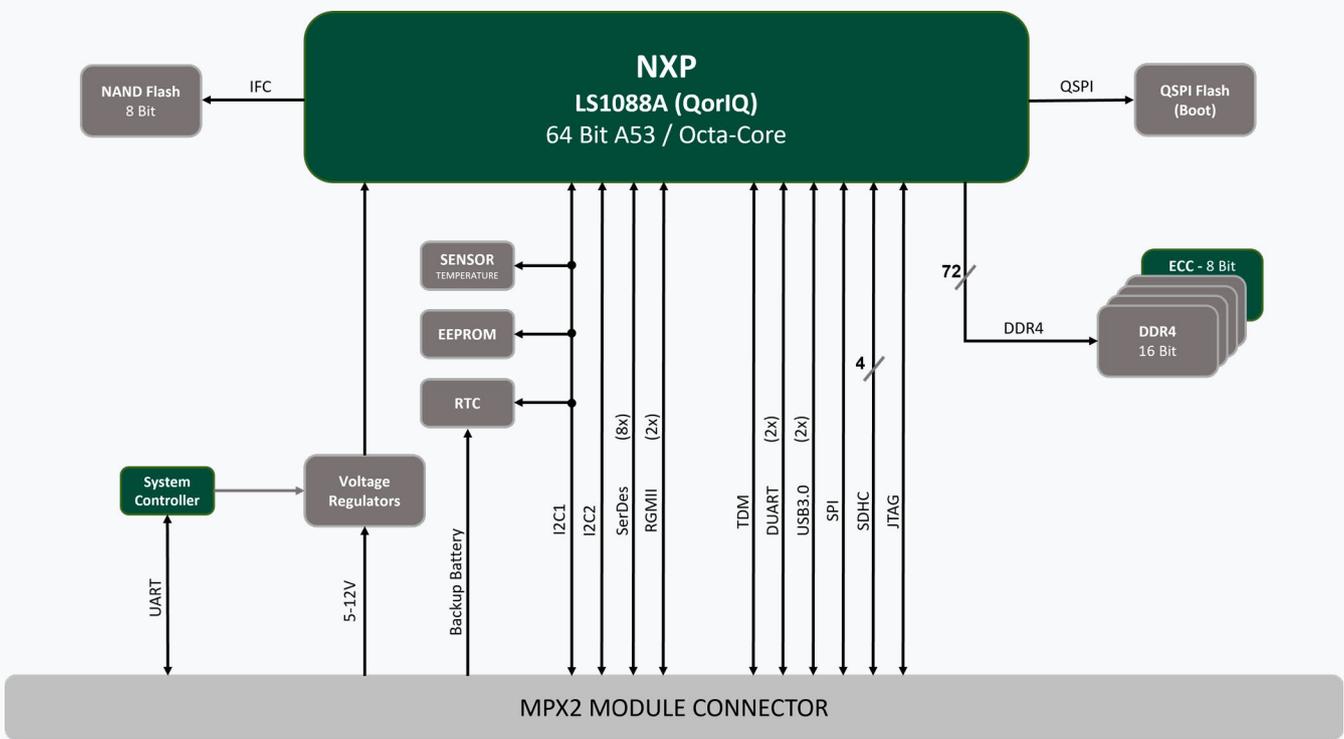
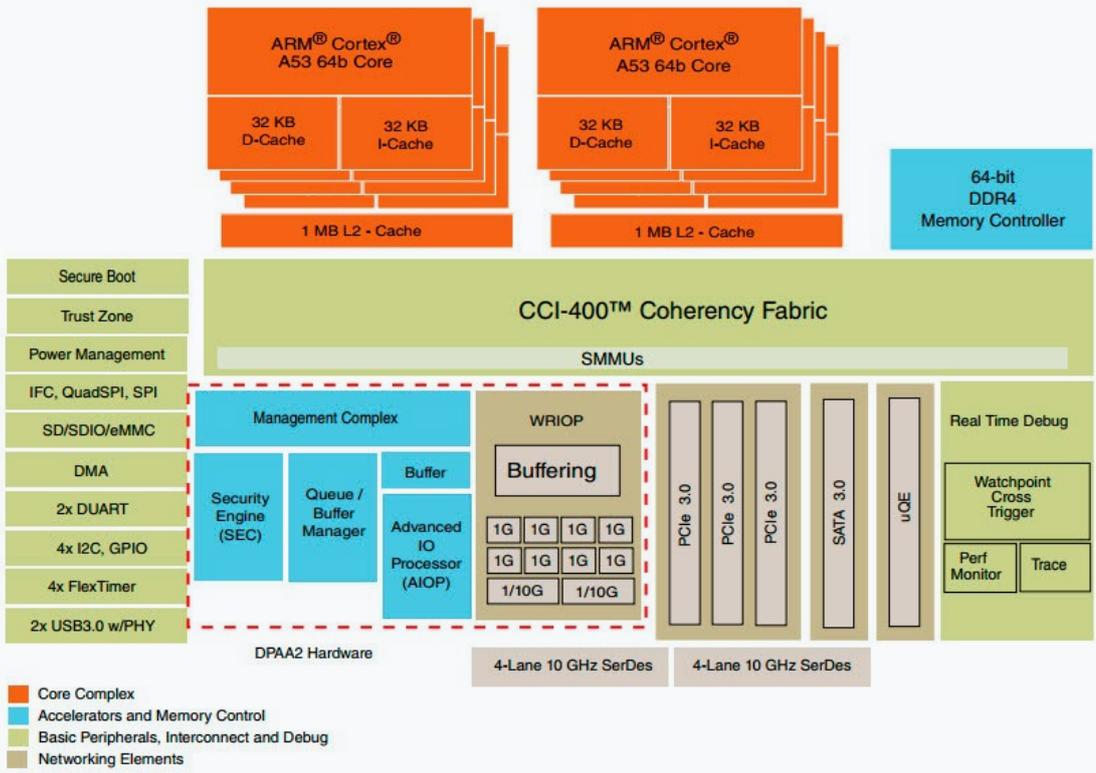
Software / Additional

Software Support	<ul style="list-style-type: none">■ Linux■ VxWorks (on request)■ Others (on request)
Additional	<ul style="list-style-type: none">■ Compatible variants available with QorIQ® LS1023A, LS1043A, LS1046A, LS1048A,■ Temperature sensor■ Dev Kit available for immediate start, includes power supply, cables. Linux on SD card

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





Order Information

Name	Code	Description	Status
miriac® MPX-LS1088A	855606	8 Arm® Cortex®-A53, 1.6 GHz, 4 GB DDR4 w ECC, 16 MB NOR Flash, 512 MB Flash, 0 °C to 70 °C, w SEC	active
Development Kit basic for miriac® MPX-LS1088A	855911	8 Arm® Cortex®-A53, 1.4 GHz, 4 GB DDR4 w ECC, 16 MB NOR Flash, 512 MB Flash, 0 °C to 70 °C, w SEC	active
Development Kit pro for miriac® MPX-LS1088A	856412	8 Arm® Cortex®-A53, 1.6 GHz, 4 GB DDR4 w ECC, 16 MB NOR Flash, 512 MB Flash, 0 °C to 70 °C, w SEC	active



Related Products

Name	Code	Description	Status
miriac® SBC-LS1088A	855902	Single Board Computer based on NXP® QorIQ® LS1088A CPU	active

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