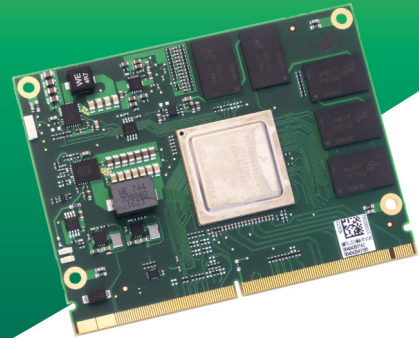


## miriac® MPX-LS1046A

Low energy class server module with quad Arm® Cortex®-A72 cores and up to two 10 GbE

- 4 Arm® Cortex®-A72 64-bit cores at up to 1.6 GHz core frequency
- Up to 8 GB 64-bit DDR4 ECC RAM at 2100 MTps
- On-board QSPI NOR flash for a reliable boot process
- Temperature sensor
- All on board supply voltages are monitored by a separate  $\mu$ -controller
- Control of on board voltages and the reset logic offer a wide spectrum of custom functionality, even low level safety functions

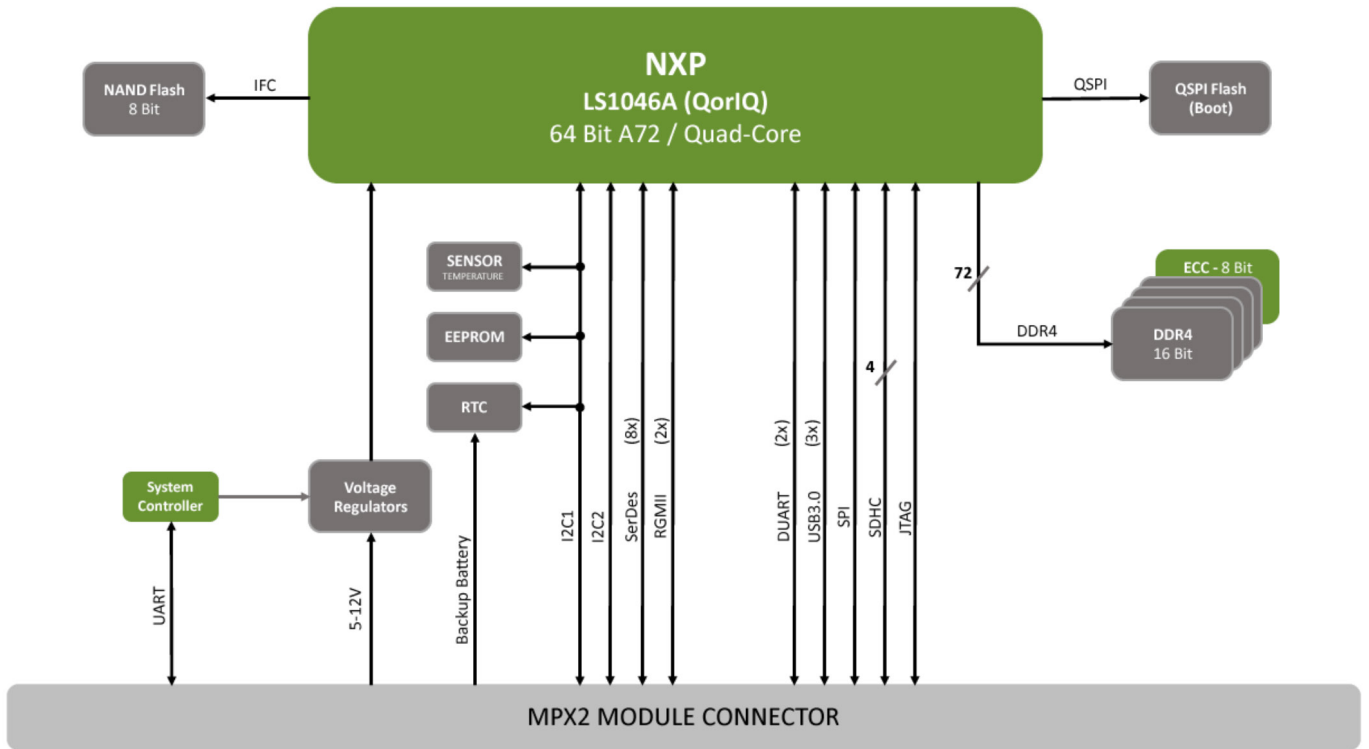


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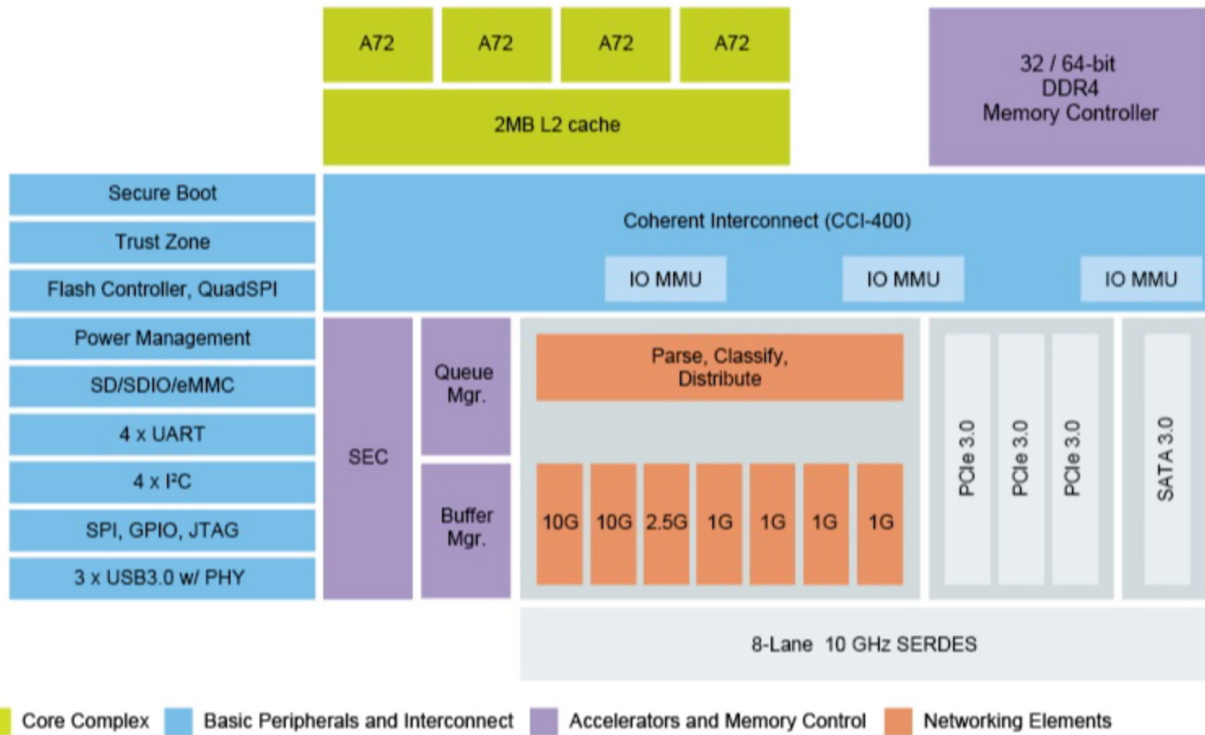
### Mid-class communication module

New cost effective MPX-2 System on Module form factor, connecting to a standard edge connector (MXM3.0 socket).





### QorIQ LS1046A PROCESSOR BLOCK DIAGRAM



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	SDHC
Boot Flash	QSPI, SD/MMC, NAND Flash
eMMC	8-bit
EEPROM	Yes
Ethernet	
10GbE	2x XFI
RGMII	2x
SGMII	5x 1 Gbps, 3x 2.5 Gbps
QSGMII	1x 5 Gbs
TSN / IEEE 1588	Yes
High Speed IO	
SerDes lanes	8x SerDes lanes at 10 Gbps
USB 3.0	3x (Host / Client / OTG)
PCIe	3x PCIe Gen3 (x4lane support)
SATA	1x GEN3
IO	
FlexSPI	1x
UART	2x DUART
I2C	2x
GPIOs	Yes
JTAG Debug Interface	Yes

## Security / Safety

Security Security Engine (SEC) SFP, CSU

## Operating Condition

Power Supply Voltage Single 5 to 12 V DC input supply voltage range

Typical Power Consumption 7W

Power Management Yes

RTC Epson RX-8803LC

Temperature 0 °C to 70 °C

Optional Extended Temperature -40 °C to +85 °C

## Mechanical

Dimensions 62 mm x 82 mm

Connector Type MPX-2 for MXM3.0 socket

## Software / Additional

Software Support

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

Additional

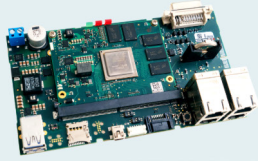
- Compatible variants available with QorIQ LS1023A, LS1043A, LS1048A, LS1088A
- Temperature sensor
- Dev Kit available for immediate start, includes power supply, cables. Linux on SD card

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.

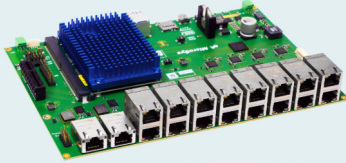
## Order Info

Name	Code	Description	Status
miriac® MPX-LS1046A	855615	4 Arm® Cortex®-A72, 1.6 GHz, 4 GB DDR4 w ECC, 16 MB NOR Flash, 512 MB NAND Flash, 0 °C to 70 °C, w/o SEC, MCU 10 Gbit/s	active
Development Kit basic for miriac® MPX-LS1046A	8559	<ul style="list-style-type: none"><li>• miriac® MPX-LS1046A</li><li>• CRX05</li><li>• incl. BSP and accessories</li></ul>	active
Development Kit basic for miriac® MPX-LS1043A2	8564	<ul style="list-style-type: none"><li>• miriac® MPX-LS1043A2</li><li>• CRX05</li><li>• incl. BSP and accessories</li></ul>	active

## Take a look at related products



miriac® SBC-LS1046A



miriac® SBC-LS1046A-TSN