

# miriac™ MPX1013

## System on Module

### Product Description



#### Introduction

The miriac™MPX1013 CPU Module is the third of a series of QorIQ™ based SoMs by MicroSys and functional compatible to the MPX2020 products. The devices in these two platforms are software compatible, sharing the e500 Power Architecture core and peripherals, as well as being fully software compatible with the existing PowerQUICC processors. This enables you to create a product with multiple performance points from a single board design.

The MPX1013 SoM supports the CPUs audio visual and two SATA interfaces as main benefit over the QorIQ P1011 family.

The QorIQ P1xxx CPUs offer the value of extensive integration and extreme power smarts for a wide variety of applications in the networking, telecom, defense and industrial markets. Based on 45 nm technology for low power implementation, the P1013 processor provides single core solutions for the 600 MHz to 1055 MHz performance range, along with

advanced security and a rich set of interfaces. Providing a migration path from Freescale's popular PowerQUICC II Pro processor family, the P1xxx series offers a performance upgrade in the same power envelope, which enables low power consumption, fan-less system designs on small form factor solutions.

The physical dimensions of the MPX modules are 66 x 77 mm<sup>2</sup>. The MicroSys standard includes the definition of the 2 x 208 pads to connect the SoMs to peripherals and system extensions. The innovative elastomeric connector technology offers an easy means to stack extension modules on the front and back side of the SoM. Rapid prototype designs can be done easily and turned into production systems rapidly by that.

The MPX SoM-family features a rugged design with the aim to withstand extreme and harsh environments in embedded applications.

## Feature summary

- Freescale QorIQ P1013 CPU, single 500v2 core @ 600 - 1055 MHz
- 256 KB L2 Cache with ECC, also configurable as SRAM and stashing memory
- up to 1 GB soldered DDR2 memory
- LCD interface supporting a display of 1280 x 1024P @ 60 MHz, 24 bits per pixel
- I<sup>2</sup>S interface with maximum sampling frequency of 192 kHz
- up to 512 MB NAND Flash
- 2x 10/100/1000 Mbps Ethernet controllers (eTSECs) with IEEE® 1588 support
- 2x high speed USB 2.0, SPI, GPIO, 2x I<sup>2</sup>C, DUART, timers, SD/MMC
- high speed interfaces supporting various multiplexing options
  - five SerDes to 3.125 GHz multiplexed across controllers
  - three PCI Express interfaces
  - two SATA interfaces
- two 208 Pin Zero Force Connectors, that make all I/O and bus signals available to the carrier board

**Fig. 1 MPX1013 SoM on Carrier Board**



**Software-Support:** Linux, VxWorks, Microware OS-9; MicroC/OS-II, QNX and others are available on request.

Order number	Description	Status
840202	miriac MPX1013 System on Module P1013@ 1,0 GHz, 1 GB DDR2 ECC & 256 MB Flash memory	StI
839605	miriac SBC1013 Development Kit for MPX1013 SoM based designs, includes order number 840202, Linux BSP, accessories	BoO
831501	MPE03 MPX Header Pin Adapter Board, 208 Lines	StI

StI: 'Stock Item' – normally available ex stock

BoO: Build on Order – will be built after order received

**You are interested in a different variant?**

**You are very welcome to contact us!**

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