PicoCore™MX6SX

Computer On Module with NXP i.MX 6SoloX

Characteristics

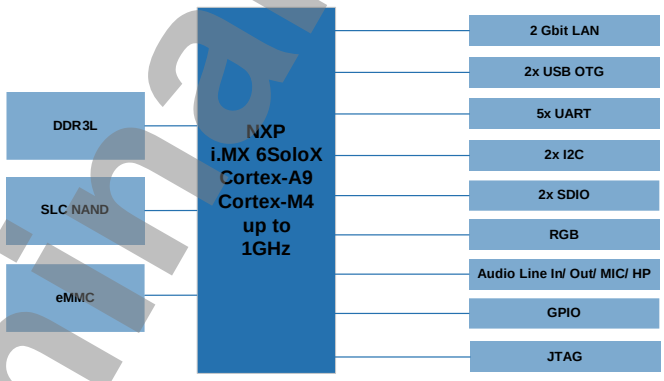
- NXP i.MX 6SoloX applications processor Cortex®-A9 & -M4 – up to 1GHz
- 1GB DDR3L RAM, 512MB SLC NAND or 32GB eMMC
- LCD interface for TFT: 16/24Bit RGB
- Touch (resistive or PCAP via I²C, external)
- Audio IN/ OUT/ MIC/ HP / I2S
- 2x Gigabit Ethernet
- 2x USB 2.0 OTG, 5x UART, 3x I²C, 2x CAN, 2x SPI
- 1x SDIO, 8x PWM, Digital I/O
- Watchdog, RTC
- SPDIF, ESAI, SAI, SSI (Audio)
- ADR/ DATA Bus
- Linux Buildroot/ Yocto (WEC 2013, WEC 7 on request)
- 3.8..5.5V 2x 80 Pin Plug Connector
- 35 x 40mm
- -20°C - +85°C

Original Size

Description

The PicoCore™ COM product family has a new member based on the NXP i.MX 6SoloX ARM® CPU in -20°C - +85°C. Other PicoCore™ COMs will follow.
The used NXP CPU (Dual-Core, heterogeneous processor architecture) comes with a Cortex®-A9 core with 1GHz and a Cortex®-M4 core.
With Linux on the Cortex®-A9 core and FreeRTOS on the Cortex®-M4 core, NXP continues its heterogeneous concept.
The PicoCore™ standard uses two plug connectors (Hirose DF40C) with 80 pins each. This results in compact size and close board-to-board distance.
SLC NAND Flash (high reliability) and eMMC Flash is offered for program memory. An external SD-Card slot is also possible.
Audio Codec on board enables analog and also digital audio signals.
2x Gigabit Ethernet is available for fast networking.
Several security functions are available under the customized F&S Linux. PicoCore™ MX6SX will be available until minimum 2030.

Block Diagram



On-Board Operating System

Windows Embedded Partner

The customized WEC 2013/WEC7 (Bootloader, Kernel, interface drivers, XAML, Mediaplayer, IE) is a real-time operating system. Together with .NET Compact Framework it is ideal for software development under Visual Studio.

The F&S Linux BSP (uboot, Buildroot, QT, GStreamer) contains the customized kernel and all interface drivers, including Source.

A Cross Compiler Toolchain is offered to create own boot-loaders, kernels or other software.

Starterkit

The PicoCore™MX6SX starterkit is available with Linux or – on request - WEC 2013.
The starterkit consists of a base board with plugged on PicoCore™MX6SX, a cable kit and the access data to the F&S download area.
Our support forum with more than 3000 registered customers is always online for help.
Start your development fast and easy by attending one of our workshops.

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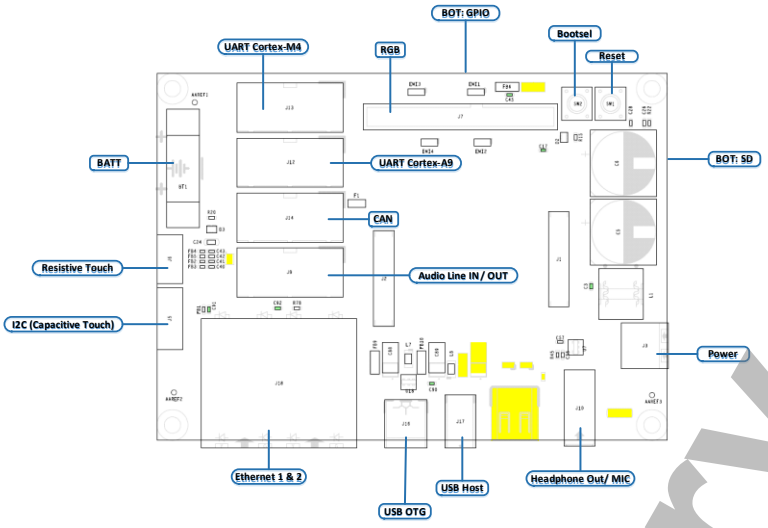
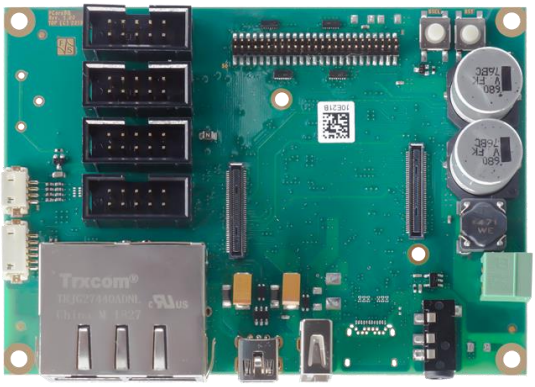
PicoCore™MX6SX Base Board





Workshops

For an easy start of development, F&S offers the following workshops:
WEC 2013 on F&S Modules
Linux on F&S Modules

Additional Workshops:
Linux – Qt5 Workshop
Linux – Asymmetric Multiprocessing
Linux – Secure Boot

Detailed information can be found on our website.

Technical Data

Power Supply:	3.8..5.5V
Power Consumption:	1W
Interfaces Fix:	2x Serial, 2x Ethernet, 1x USB Host, 1x USB Device, 1x CAN, 1x I²C, Audio Line In/ Out/ Mic/ HP
Interfaces Flex: (additional, maximum availability, but cannot be used simultaneously due to multiple occupancy of pins, please refer to list in hardware documentation)	3x Serial, 2x I²C, 1x CAN, 2x SPI, 2x SDIO, 1x RGB 16 + 24 Bit, 8x PWM, Watchdog, 1x SPDIF, 1x ESAI, 1x SAI,1x SSI, 1x ADR/ DATA Bus
RAM:	DDR3L up to 1GB
Program Memory:	SLC NAND up to 512MB or eMMC up to 32GB
Processor:	ARM Cortex®-A9 1GHz & Cortex®-M4
Temperature Range:	-20°C - +85°C
Size:	35mm x 40mm x 8mm (LxBxD)
Plug Connector:	2x 80pol Hirose DF40C
Weight:	ca. 10g

Standard Versions/ Order Notations

PicoCoreMX6SX-V1-LIN
TBD

PicoCoreMX6SX-V3I-LIN
Cortex®-A9 – 800MHz, 512MB RAM, 256MB NAND Flash, Audio, 2x Ethernet, -20°C - +85°C, Linux

PicoCoreMX6SX-V4I-LIN
Cortex®-A9 – 800MHz, 1GB RAM, 4GB eMMC, Audio, 2x Ethernet, -20°C - +85°C, Linux

Standard Versions/ Order Notations

PicoCore™MX6SX-SKIT-LIN
Starterkit with PicoCoreMX6SX-V4-LIN, base board, cable kit, access data to BSP and documentation

WEC2013 on request!

Minimum Order Quantity for Custom Versions:
Customer-specific software 500 pieces
Assembly Versions 1000 pieces

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