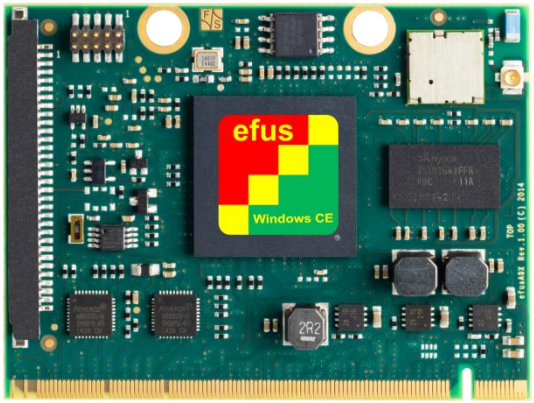
efus™A9X

Computer On Module with NXP i.MX 6SoloX

Characteristics

- NXP i.MX 6SoloX applications processor
  Cortex®-A9 – 1GHz and Cortex®-M4 -200MHz
- 1GB NAND Flash, 2GB DDR3 RAM, 32GB eMMC
- LCD interface for TFT:
  RGB up to XGA resolution, 18Bit
  LVDS up to WXGA resolution, 24Bit
- 2x Ethernet 10/ 100/ 1000Mbit, PCIe
- 1x USB 2.0 Host, 1x USB 2.0 Host/Device
- 4x UART, 2x CAN 2.0, 2x I^2C, 2x SPI
- 2x SD Card Slot (external), Audio (I2S), GPIO, PWM
- Touch (4-wire and PCAP via I^2C, external)
- Camera (Analog & Digital), WLAN/BT (opt.)
- High Precision TXCO (opt.)
- Android, Linux, WEC 2013/ WEC 7
- 5V (2W typ.), 230Pin MXM2, 47 x 62mm
- 0°C - +70°C (-20°C - +85°C opt.)



Description

efus™A9X is another compact and inexpensive module in efus™ form factor. It is perfectly suited for applications with numerous interfaces in medicine and industry. Along with the attribute of an easy baseboard (EasyLayout), efus™ has a size of 47x62mm only and is therefore suitable for compact housings. The low power loss of only 2 Watt (typ.) makes it easy to cool the module.
efus™A9X is based on a NXP single-core applications processor from the very successful i.MX 6 series and has a Cortex®-A9, as well as a Cortex®-M4 core. Cortex®-M4 can be used for fast control and regulation functions or for processing fast interface protocols.
SoloX is the second processor in NXP's portfolio which supports Asymmetric Multiprocessing. Both cores (A9+M4) are connected to the internal bus fabric and have the possibility to access all peripherals.
In addition to Vybrid, SoloX comes with Resource Domain Controller which makes it easier to protect memory or other peripherals from each other.
Compared to other i.MX 6 application processors, SoloX offers much more bandwidth on the two GBit LAN interfaces.
2D, 3D, NEON, FPU and OpenGL are available, ensuring software compatibility to other i.MX 6 applications processors. Another characteristic is the long-time availability to at least 2025. The customized operating system (WEC 2013/ WEC7 or Linux) supports all interfaces, guaranteeing an easy software development without a deeper understanding of hardware.
Audio Codec as well as touch controller are found on the base board. WLAN and BT with chip antenna or antenna socket can be offered as well. Of course, efus™A9X is pin compatible to efus™A9.

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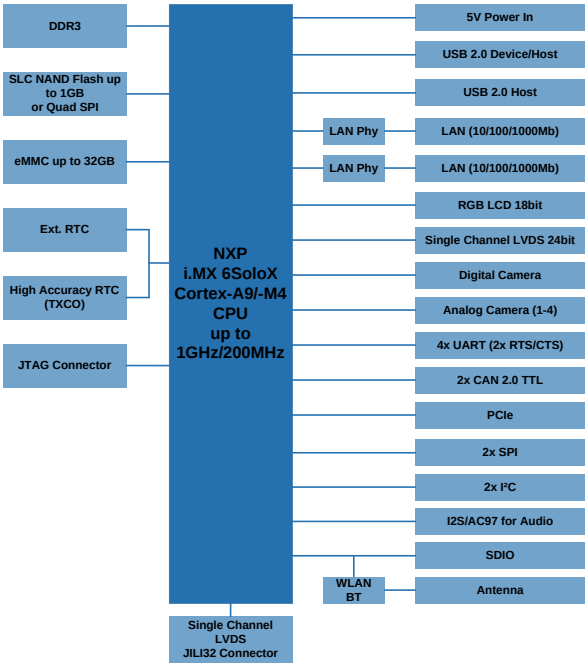
Block Diagram



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. With Compact 2013 you can use Visual Studio 2013 for development.

The F&S Linux BSP (uboot, Yocto, 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. Android is available as well.

Starterkit

efus™A9X-SKIT is available in a WEC 2013 (WEC7 can be installed subsequently) and a Linux version. The SKIT includes a base board with a plugged on efus™A9X-V4, a cable kit, access data to the download section (documentation and software) and a 7" WVGA display with 4-wire touch panel. Audio Codec and touch controller are available on the base board. Schematic and EAGLE data are ready to download.
Our forum with 2000+ registered customers offers example programs and it is always online for your support requests. For a fast and easy start of development, you also have the possibility to book a workshop.

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efus™ Form Factor

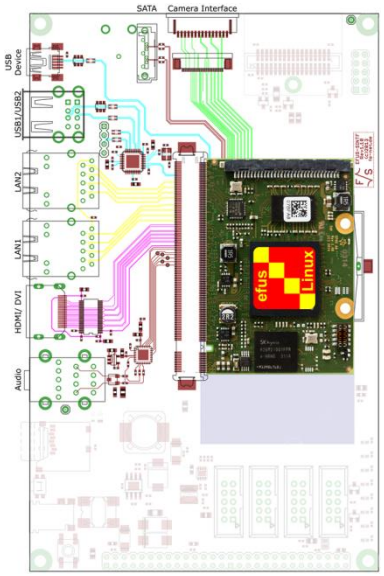
efus™ stands for 20 years of experience in the RISC boards sector.

easy
starterkits
customized operating systems
(Linux, Android, WEC 7, WEC2013)
F&S Support, free of charge

functional
many interfaces
expandable with wireless modules (ReDesign)
easy base board
based on "EasyLayout" standard

universal
visualization
communication
control

small
47 x 62mm only
5V supply



Accessories

Failsafe Flash Filesystem (F3S)
Order no. WCE-F3S
Offers transaction safety on file level and therefore guarantees the consistency of the data, even in case of a blackout or other interferences while writing.

Displaykit RGB
Order no. aSt-RGBKIT
7“ WVGA display with RGB interface and touch panel, connection cable (40poles film cable), display adapter and touch cable

Workshop
Order no. NDCU-WS1
Four-hour workshop at F&S in Stuttgart. Our workshop will help you start working with Windows CE/ Linux and the F&S products easier.

Technical Data

Power Supply:	+5V_{DC}/ ±5%
Power Consumption:	2W (typ.)
Interfaces:	2x Ethernet 10/100/1000MB 4x Serial 1x USB2.0 Host 1x USB2.0 Device 2x CAN2.0 2x I^2C 2x SPI 1x I2S (Audio Codec, extern) 2x SDIO (SD-Card, extern) PCIe (2.0) Camera Interface (Analog/ Digital) /YUV4:2:2 CCIR-656 [4x 12Bit ADC]
RTC	Yes [high accurancy RTC (TXCO)]
TFT LCD-Interface:	18bit RGB up to XGA 24bit LVDS up to WXGA
RAM:	DDR3L 256MB up to 1GB
Program Memory:	SLC NAND 256MB up to 1GB [eMMC 2GB up to 32GB] [QSPI]
Processor:	ARM Cortex®-A9 Single-Core 1GHz ARM Cortex®-M4-200MHz
WLAN/BT	IEEE802.11b/g/n standard conformity BT3.0,2.1+EDR with chip antenna antenna socket (option)
Temperature Range:	0°C - +70°C , (-20°C - +85°C option)
Size:	47mm x 62.1mm x 11mm (l x b x d)
Weight:	about 15g

Standard Versions/ Order Notations

efusA9X-V2-W13
Cortex®-A9 – 1GHz + Cortex®-M4 – 200MHz, 512MB DDR RAM, 256MB Flash, 2x Ethernet, 2x CAN2.0, RGB+LVDS, WEC 2013

efusA9X-V2-LIN
Cortex®-A9 – 1GHz + Cortex®-M4 – 200MHz, 512MB DDR RAM, 256MB Flash, 2x Ethernet, 2x CAN2.0, RGB+LVDS, Linux

efusA9X-V4-W13
Cortex®-A9 – 1GHz + Cortex®-M4 – 200MHz, 1GB DDR RAM, 256MB Flash, 4GB eMMC, WLAN+BT, 2x Ethernet, 2x CAN2.0, RGB+LVDS, WEC 2013

efusA9X-V4-LIN
Cortex®-A9 – 1GHz + Cortex®-M4 – 200MHz, 1GB DDR RAM, 256MB Flash, 4GB eMMC, WLAN+BT, 2x Ethernet, 2x CAN2.0, RGB+LVDS, Linux

efusA9X-SKIT-WCE
Starterkit with efusA9X-V4-W13, base board, cable kit, 7“ TFT-LCD, access data to SDK and documentation

efusA9X-SKIT-LIN
Starterkit with efusA9X-V4-LIN, base board, cable kit, 7“ TFT-LCD, access data to BSP and documentation

Custom versions possible, MOQ 500pcs

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