

# efus™ A9

## Computer On Module with NXP i.MX 6 Processor

### Characteristics

- NXP i.MX 6 ARM Cortex®-A9 with up to 1.2GHz
- up to 1GB SLC NAND Flash, 32GB eMMC, 2GB RAM
- RGB, 2-Channel TFT LVDS
- DVI Interface
- Ethernet 10/ 100/ 1000MBit
- 1x USB2.0 Host/Device, 1x USB2.0 Host
- 2x CAN2.0, 2x I<sup>2</sup>C, 2x SPI
- 2x SD-Card
- 1x I2S Audio
- 1x PCIeexpress (2.0)
- 1x SATA (Quad-Core)
- WLAN, Bluetooth, Z-Wave, ZigBee, EnOcean (Redesign)
- Digital Camera Interface (optional)
- Windows Embedded Compact 7/2013, Linux, Android
- 5V Design

### Description

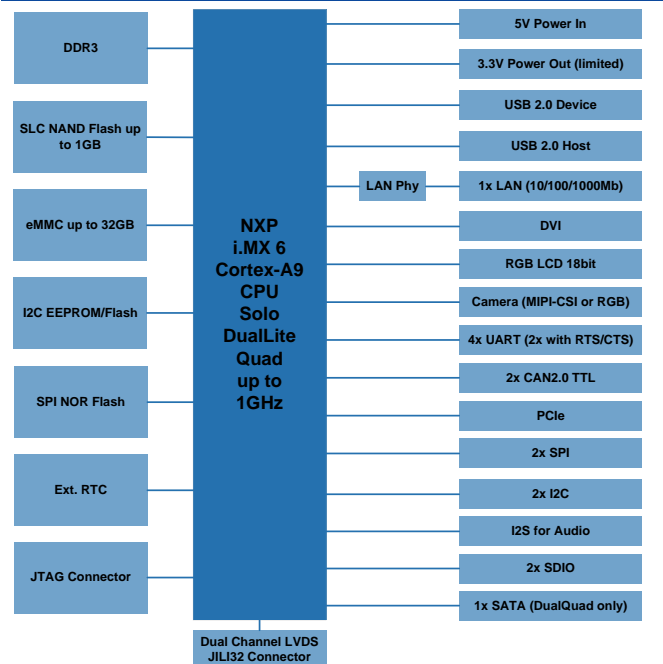
The i.MX 6 Cortex®-A9 CPU has high processing power and excellent multimedia features (3D graphics, 1080p Decoder, H.264 HP, ARMv7, NEON and VFPv3). NXP's chip design sets special focus on low power consumption.

The ARM Cortex®-A9 CPU constitutes an adequate compromise between performance/MHz and power consumption/MHz (0.35mW/MHz). Other special characteristics are the long-time availability of up to 15 years and a temperature range of -40°C - +85°C.

The module provides numerous interfaces like USB Host/Device, CAN, UART, I<sup>2</sup>C, SPI, I2C Audio, Touch Panel, digital Camera, PCIe and SATA. efus™ A9 also has interfaces for RGB, 2x LVDS and DVI.



### Block Diagram



### On-Board Operating System



The customized WEC 7/2013 (bootloader, kernel, interface drivers, Silverlight, MediaPlayer, IE) is a powerful real-time operating system.

Along with .NET and XAML it is the ideal base for software development.



The F&S Linux BSP (3.10, uboot, Buildroot, Yocto, QT, GStreamer) contains the customized kernel with all interface drivers, including source.

A Cross Compiler Toolchain for the creation of own bootloaders, kernels and further software is available.

### Starterkit

The efusA9 starterkit consists of a base board with standard connectors and pin headers for the offered interfaces. It also includes a cable kit, access data to download documentations, current software, drivers and example programs.

The starterkit is available with or without LVDS display kit. For an easy start of development, we offer a four-hour workshop.

Aim is to get an introduction to the efusA9 starterkit and the development environment. You will be able to start your own development with a running system (efusA9, display and touch panel).

Our support forum with more than 2000 registered customers is always online for help.



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

**easy**

starterkits  
 customized operating systems  
 (Linux, Android, WEC 7/2013)  
 F&S Support, free of charge

**functional**

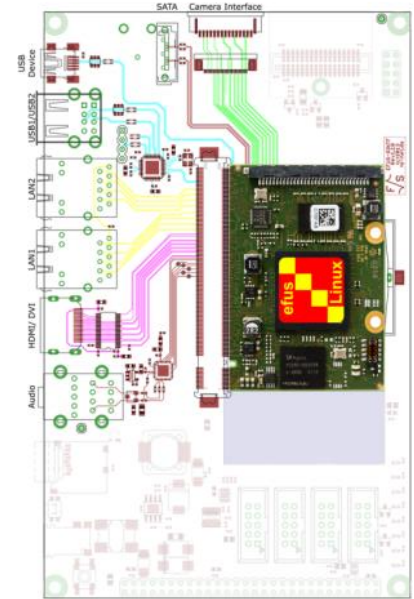
many interfaces  
 expandable with wireless modules (ReDesign)  
 easy base board  
 based on "EasyLayout" standard

**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 <sub>DC</sub> / ±5%
Power Consumption:	3W typ.
Interfaces:	1x Ethernet 10/ 100/ 1000 MBit 4x Serial 1x USB2.0 Host 1x USB2.0 Device 2x CAN2.0 2x I <sup>2</sup> C 2x SPI 1x I2S Audio 1x SATA PCIe (2.0) WLAN/ Bluetooth/ Z-Wave/ Zig-Bee/ EnOcean (optional) Camera Interface
TFT LCD-Interface:	18Bit RGB up to XGA 2x 24bit LVDS up to FullHD DVI up to FullHD up to 1GB RAM
RAM:	up to 1GB RAM
Program Memory:	up to 1GB Flash + 32GB eMMC
Processor:	ARM Cortex® A9 Solo/ DualLite/ Quad-Core 1.2GHz
Temperature Range:	0°C - +70°C , (-20°C - +85°C/ -40°C - +85°C optional)
Size:	47mm x 62.1mm x 11mm (l x b x h)
Weight:	15g

**Standard Versions / Order Notations**

**efusA9-V2-LIN**

Solo-1GHz, 512MB RAM, 256MB Flash, RGB, LVDS, DVI, Linux

**efusA9-V2-WEC7**

Solo-1GHz, 512MB RAM, 256MB Flash, RGB, LVDS, DVI, WEC 7

**efusA9-V2-W13**

Solo-1GHz, 512MB RAM, 256MB Flash, RGB, LVDS, DVI, WEC 2013

**efusA9-V3-LIN**

DualLite - 1GHz, 512MB RAM, 256MB Flash + 2GB eMMC, RGB, LVDS, DVI, Linux

**efusA9-V3-WEC7**

DualLite - 1GHz, 512MB RAM, 256MB Flash + 2GB eMMC, RGB, LVDS, DVI, WEC 7

**efusA9-V3-W13**

DualLite - 1GHz, 512MB RAM, 256MB Flash + 2GB eMMC, RGB, LVDS, DVI, WEC 2013

Custom versions possible, MOQ 500pcs

**Standard Versions / Order Notations**

**efusA9-SKIT-LIN/ W13**

efusA9-V3-LIN or -W13, base board, cable kit, display kit, access to documentation and software

**efusA9-SKIT2-LIN/ W13**

efusA9-V2-LIN or -W13, base board, cable kit, access to documentation and software

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 Cortex is a registered trademark of ARM.  
 State: February 2016

