

efus™ A7UL

Computer On Module with NXP i.MX 6UltraLite/ULL

Characteristics

- NXP i.MX 6 UltraLite/ULL applications processor ARM® Cortex®-A7 – up to 900MHz
- 512MB SLC NAND Flash, 1GB RAM, 32GB eMMC
- LCD Interface for TFT:
18/ 24 Bit RGB up to WXGA Resolution
Optional 18 Bit LVDS on MXM2
- 2x Ethernet 10/ 100Mbit
- 2x USB 2.0, Camera 8 Bit parallel
- 4x UART, 2x CAN, 4x I²C, 4x SPI
- 2x SD Card Slot (external), Audio (via I2S external)
- Touch (resistive and PCAP Touch via I²C)
- WLAN IEEE802.11b/g/n, BT2.1 + EDR, 4.1LE
- Linux (Buildroot/ Yocto),
Windows Embedded Compact 2013 / 7
- 5V (from 0,7W typ.), 230Pin MXM2, 47 x 62mm
- 0°C - +70°C (-40°C +85°C opt.)



Description

efus™ A7UL is another compact and inexpensive module in efus™ form factor. It is perfectly suited for applications with numerous interfaces in medical and industrial engineering. 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 1 Watt (typ.) makes it easy to cool the module.

efus™ A7UL is based on a NXP single-core applications processor from the very successful i.MX 6 series. The i.MX 6UL/ i.MX 6ULL has an ARM® Cortex®-A7 core with up to 900MHz.

This very inexpensive CPU consumes far less power compared to i.MX 6 CPUs with Cortex®-A9 core.

The board comes with NEON Security but cannot offer OpenGL or Video Decoding.

Just like every other efus™ module, efus™ A7UL comes with adequate RAM, NAND Flash and eMMC.

efus™ A7UL offers 2x Ethernet and optional WLAN/BT as well as a 18/24bit RGB interface for display connection.

18bit LVDS on MXM2 is an option for special versions of efus™ A7UL (different from efus™ standard).

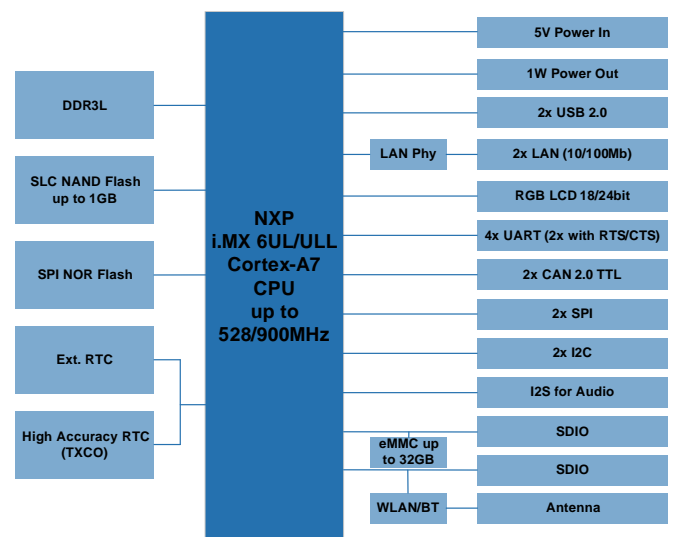
Software compatibility to the other i.MX 6 applications processors is assured.

The customized operating system (Windows Embedded Compact 2013 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.

Of course, efus™ A7UL is pin compatible (as far as possible) to all efus™ series members.

efus™ A7UL is available until 2030.

Block Diagram



On-Board Operating System



The customized WEC 2013 / 7 (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 / 7 you can use Visual Studio for development.



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 bootloaders, kernels or other software.

Starterkit

efus™ A7UL-SKIT is available in a WEC 2013 (WEC 7 can be installed subsequently) and a Linux version. The SKIT includes a base board with a plugged on efus™ A7UL-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 more than 3000 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.



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

easy

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

functional

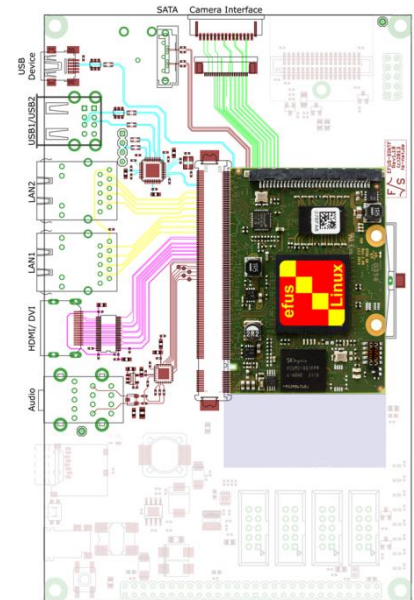
many interfaces
 expandable with wireless modules (ReDesign)
 easy baseboard
 based on "EasyLayout" standard

universal

visualization
 communication
 control

small

47 x 62mm only
 5V supply



Accessories

Failsafe Flash Filesystem (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

7" WVGA display with RGB interface and touch panel, connection cable (40poles film cable), display adapter and touch cable

Workshop

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.

Detailed information on our accessories is available on our homepage.

Technical Data

Power Supply:	+5V _{DC} / ±5%
Power Consumption:	0,7W – 2,5W (typ.)
Interfaces:	2x Ethernet 10/100Mb 4-6x Serial 1x USB2.0 Host 1x USB2.0 Host/ Device 2x CAN2.0 2-4x I ² C 2-4x SPI 1x I2S (Audio Codec, external) 2x SDIO (SD-Card, external) Camera (8 Bit parallel)
TFT LCD Interface:	18/ 24 Bit RGB (18 Bit LVDS opt. on MXM2)
RAM:	256MB up to 1GB
Program Memory:	SLC NAND 256MB up to 512MB eMMC 4GB up to 32GB (opt.) SPI NOR (opt.)
Processor:	ARM® Cortex®-A7-528/ 900MHz
WLAN/BT	IEEE802.11b/g/n with BT2.1 + EDR/ 4.1 LE (opt.)
Temperature Range:	0°C - +70°C (-20°C - +70°C, -40°C + 85°C opt.)
Size:	47mm x 62.1mm x 11mm (LxBxD)
Weight:	~15g

Standard Versions/ Order Notations

efusA7UL-V1-W13/-LIN

i.MX6 ULL Cortex®-A7 – 528MHz, 256MB RAM, 256MB SLC NAND Flash, USB, I2C, SPI, 1x Ethernet, 2x CAN2.0, RGB, Audio, WEC 2013/ Linux

efusA7UL-V11-W13/-LIN

i.MX6 ULL Cortex®-A7 – 800MHz, 256MB RAM, 256MB SLC NAND Flash, USB, I2C, SPI, 1x Ethernet, 2x CAN2.0, RGB, Audio, WEC 2013/ Linux

efusA7UL-V2-W13/-LIN

i.MX6 UL Cortex®-A7 – 528MHz, 256MB RAM, 256MB SLC NAND Flash, USB, I2C, SPI, 1x Ethernet, 2x CAN2.0, RTC, RGB, WEC 2013/ Linux

efusA7UL-V3-W13/-LIN

i.MX6 ULL Cortex®-A7 – 900MHz, 256MB RAM, 256MB SLC NAND Flash, USB, I2C, SPI, 1x Ethernet, 2x CAN2.0, RGB, Audio, WLAN/ BT, WEC 2013/ Linux

Standard Versions/ Order Notations

efusA7UL-V4-W13/ -LIN

i.MX6 ULL Cortex®-A7 – 900MHz, 512MB RAM, 512MB SLC NAND Flash, USB, I2C, SPI, 4 GB eMMC, WLAN/BT, 2x Ethernet, 2x CAN, RTC, Audio, RGB, WEC 2013/ Linux

efusA7UL-SKIT-W13

Starterkit with efusA7UL-V4-W13, base board, cable kit, 7" TFT-LCD, access data to SDK and documentation

efusA7UL-SKIT-LIN

Starterkit with efusA7UL-V4-LIN, base board, cable kit, 7" TFT-LCD, access data to BSP and documentation

Minimum Order Quantity for Special Versions

Customer-Specific Software	500 pieces
Assembly Variant	1000 pieces

