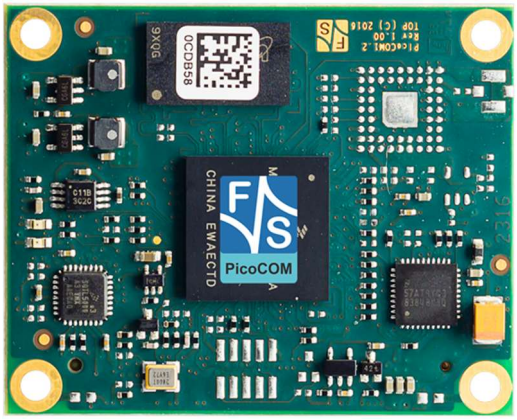
PicoCOM™1.2

Computer on Module with NXP i.MX 6UL Processor

Characteristics

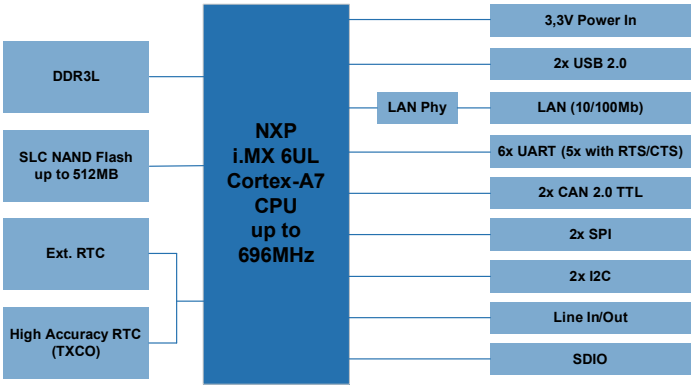
- NXP i.MX 6UltraLite applications processor Cortex®-A7 – 528MHz
- Up to 1GB SLC NAND Flash, 512MB RAM
- Ethernet 10/ 100MBit
- Up to 6x Serial (5x RTS/CTS, 1x RXD/TXD)
- 1x USB2.0 Host, 1x USB2.0 Device
- 2x CAN2.0
- 2x I²C, 2x SPI
- external SD-Card-Slot
- Audio (In/Out, analog)
- WEC 2013 or Linux
- 3,3V Low Power Design (1W typ.)
- Extended temperature range (-25°C - +85°C)



Description

PicoCOM™1.2 is another compact and inexpensive module in PicoCOM™ form factor.
It is (as far as possible) pin compatible to PicoCOM™1. The PicoCOM™ form factor is perfectly suited for applications without display but many communication interfaces.
PicoCOM™1.2 is based on a NXP Single Core applications processor of the very successful i.MX 6 series and includes a Cortex®-A7 core with 528MHz and security features.
A large number of standardized interfaces enables a diverse application field to the user.
The integrated operating system (WEC 2013 or Linux) supports all interfaces, so the user can easily realize his software application without deeper hardware knowledge
A simple 3,3V power supply makes an easy design-in possible. Module and user hardware are connected via an 80poles plug connector.
PicoCOM™1.2 is shipped with a pre-installed bootloader.

Block Diagram



On-Board Operating System

Windows Embedded Partner

The customized WEC 2013 (Bootloader, Kernel, interface drivers) is a high-performance real-time operating system. It is the perfect base for your software development. Under WEC 2013 one can use Visual Studio for development.

The F&S Linux BSP (uboot, Yocto, QT, GStreamer) includes the customized kernel and all interface drivers incl. source. A Cross Compiler Toolchain for creating own bootloaders, kernels or additional software, is available. Android is planned.

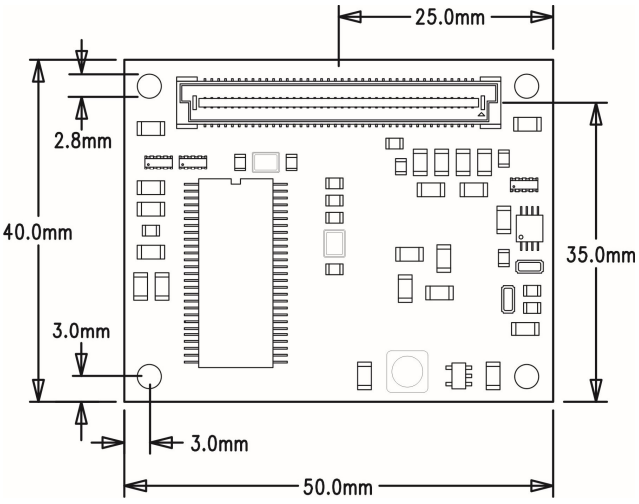
Starterkit

The PicoCOM™1.2 starterkit consists of a base board with standard connectors and pin headers for the offered interfaces.
It also includes a cable kit and access data to our download area, documentations, current software, drivers and example applications.
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.

F&S Elektronik Systeme GmbH · Untere Waldplätze 23 · 70569 Stuttgart
☎ +49 (0) 711 123 722 0 · 🖷 +49 (0) 711 123 722 99
www.fs-net.de · info@fs-net.de

Connector Assignment

J1 – System-Connector (Standard Assignment)									
1	TX- (Ethernet)	17	IO4 / TxD3 (Serial Port1)	33	IO13 / I2C2_SCL	49	IO28/ RTS3	65	IO42/ RTS5
2	RX- (Ethernet)	18	IO5 / RxD3 (Serial Port 1)	34	IO14 / DAT0 (SD-Card)	50	IO29/ CTS3	66	IO43/ CTS5
3	TX+ (Ethernet)	19	HDPA (USB Host)	35	IO15 / DAT1 (SD-Card)	51	CAN1TX	67	IO44/ TxD6
4	RX+ (Ethernet)	20	HDMA (USB Host)	36	IO16 / DAT2 (SD-Card)	52	CAN1RX	68	IO45/ RxD6
5	+3,3V (Power Supply)	21	DDP (USB Device)	37	IO17 / DAT3 (SD-Card)	53	CAN2TX	69	IO46
6	+3,3V (Power Supply)	22	DDM (USB Device)	38	IO18 / CLK (SD-Card)	54	CAN2RX	70	IO47/ PWM3
7	GND (System Ground)	23	USB device VBUS In (5V)	39	IO19 / CMD (SD-Card)	55	SPI_MISO	71	ELED0 (Ethernet)
8	GND (System Ground)	24	IO7 / USB PWR (USB Device)	40	IO20/ CTS1	56	SPI_MOSI	72	GND (System Ground)
9	VBAT (+3V…3,3V/RTC Supply)	25	GND (System Ground)	41	IO21/ RTS1	57	SPI_CLK	73	GND (System Ground)
10	nRES (Reset Input)	26	nTRST/ GPIO	42	GND (System Ground)	58	SPI_CS0	74	IO48/ PWM1
11	SHDN/ I2C1_SCL	27	TMS/ GPIO	43	IO22/ TxD1	59	SPI_CS1	75	IO49/ PWM4
12	WKUP/ I2C1_SDA	28	TDI/ GPIO	44	IO23/ RxD1	60	SPI_CS2	76	IO50/ PWM2
13	IO0 / TxD2 (Serial Port 2)	29	TDO/ GPIO	45	IO24/ TxD4	61	GND (System Ground)	77	LOUT (Line Out Left)
14	IO1 / RxD2 (Serial Port 2)	30	TCK/ GPIO	46	IO25/ RxD4	62	GND (System Ground)	78	ROUT (Line Out Right)
15	IO2 /RTS2 (Serial Port 2)	31	N:C:/ BOOTSEL	47	IO26/ RTS4	63	IO40/ TxD5	79	LIN (Line In Left)
16	IO3 /CTS2 (Serial Port 2)	32	IO12 / I2C2_SDA	48	IO27/ CTS4	64	IO41/ RxD5	80	RIN (Line In Right)



Technical Data

Power Supply:	+3,3V_{DC}/ ±5%
Power Consumption:	1W (typ.)
Interfaces:	1x Ethernet 10/100Mb 6x Serial 1x USB2.0 Host 1x USB2.0 Device 2x CAN2.0 2x I^2C 2x SPI 1x Audio (Line in/out, analog) 1x SDIO (SD-Card, extern)
RAM:	128 up to 512MB
Program Memory:	SLC NAND 256MB up to 512MB
Processor:	ARM Cortex®-A7 Single-Core 528MHz
Temperature Range:	-25°C - +85°C
Size:	50mm x 40mm x 11mm (LxBxH)
Weight:	~15g

Standard Versions/ Order Notations

PicoCOM1.2-V1I-W13
NXP CortexA7UL – 528MHz, 256MB DDR RAM, 256MB Flash, Ethernet, CAN2.0, Audio, -25°C - +85°C, WEC 2013

PicoCOM1.2-V1I-LIN
NXP CortexA7UL – 528MHz, 256MB DDR RAM, 256MB Flash, Ethernet, CAN2.0, Audio, -25°C - +85°C, Linux

Standardversionen/ Bestellbezeichnung

Starterkit PicoCOM1.2 Linux
PicoCOM1.2-V1I-LIN, base board, cable kit, access data to documentation and software

Starterkit PicoCOM1.2 Windows
PicoCOM1.2-V1I-W13, base board, cable kit, access data to documentation and software

Minimum Order Quantity for Custom Versions

Customer-specific Software	**500 pieces**
Assembly Versions	**1000 pieces**

F&S Elektronik Systeme GmbH · Untere Waldplätze 23 · 70569 Stuttgart
☎ +49 (0) 711 123 722 0 · 🖷 +49 (0) 711 123 722 99
www.fs-net.de · info@fs-net.de