



piA-AM3505



Features

- OMAP Singleboard-Computer
- Super-scalar ARMv7 Cortex™-A8
- up to 600MHz
- Top-hat rail housing
- Ethernet, µSD, USB, RS232/485, CAN
- GSM/UMTS (optional)
- DC 10-24V
- Power consumption <3W
- Ångström Linux
- Kernel 2.6.37 and 3.2.x
- Open-Source SDK



Overview

The piA-AM3505 is a single board computer based on ARM®'s Cortex™ A8 architecture enclosed in industry standard top-hat rail housing. Its combination of above-average performance combined with high power efficiency makes the piA-AM3505 a good choice for mobile communication as well as stationary controller applications. Due to its small size it is the ideal solution, when there is not enough space for a full-sized PC system.

In addition to Ethernet, RS485 and USB, the piA-AM3505 allows data exchange via CAN and GSM / GPRS. Additional features such as Wi-Fi, RFID, Bluetooth, LCD displays, cameras, IO-Ports can be added via customer-specific expansion boards.

The sustainability of the system is underlined through the use of state of the art operating systems (embedded Linux, Windows CE and Android). In addition to interpreters for Python, Perl etc. included the base system, the piA-AM3505 comes with an open-source Linux based C/C++ cross compiler SDK for native application development.

Since the piA-AM3505 is based on the wide-spread Beagle-/Craneboard designs, there is a large and actively supporting open-source development community.

Details

Basics

CPU	OMAP AM3505 Sitara™ ARMv7 microprocessor (MPU) 600 MHz Cortex™-A8 Core NEON™ FPU 1200 DMIPS
RAM	2 x 1Gbit DDR2 SDRAM (256 MB)
Flash	2Gbit NAND Flash (256 MB)

Interfaces

Ethernet	10/100 Mbps Ethernet with RJ-45 connector
µSD	SD/MMC/SDIO
CAN	CAN Transceiver, isolated, 5V
RS232/485	±25V RX / ±5V TX
Terminal/Debug	±25V RX / ±5V TX
HS USB 2.0	Micro-USB
GPIO	1 x TTL GPIO

Special Functions

Sensors	3D-Acceleration Temperature
RTC	Real Time Clock with NTP synchronization incl. rechargeable battery
Watchdog	1 x Watchdog Timer, 1 x Power Supervisor
GSM/UMTS (optional)	GC864-Quad-V2 GSM/GPRS UC864-E UMTS / HSDPA
Expansion Header (2x 40-pin) *	MMC/SDIO GPIOs UART SPI I ² C
Debug	1 x JTAG, 1 x RS232

Other Features

Board Size	96.2mm x 99mm
Power	USB 5V DC 10-24V 2A max
Typical Power Consumption	<3W
Temperature Range	-10°C - +70°C
Enclosure	Top-rail housing, CH20M22, IP20, 1u

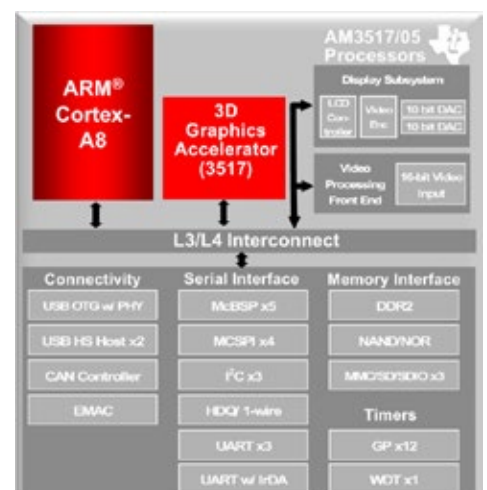
Software & Documentation

Ångström Linux with kernel 2.6.37 and 3.2.x
Open-Source SDK with board-specific libraries
Hardware Documentation
Software Documentation

* Available expansion cards:

- piA-Wireless (WLAN, BT, RFID)
- piA-LCD (RGB-LCD)
- piA-Amplifier
- piA-Motor
- piA-IO-Expander

* Customized development of expansion cards



Functional Block Diagram for AM3517/05
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