EN - For pricing and availability in your local country please visit one of the below links:

DE - Informationen zu Preisen und Verfügbarkeit in Ihrem Land erhalten Sie über die unten aufgeführten Links:

FR - Pour connaître les tarifs et la disponibilité dans votre pays, cliquez sur l'un des liens suivants:

[SBC8118 WITH 4.3"LCD](#)   [SBC8118 WITHOUT LCD](#)

EN
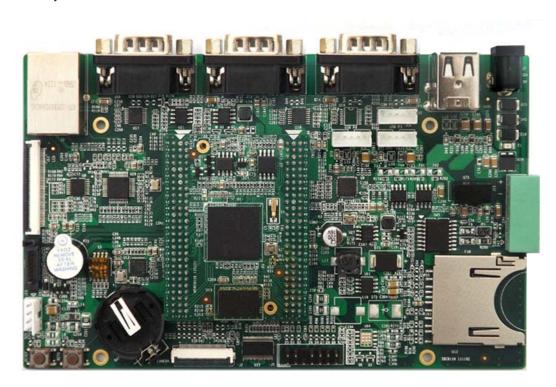This Datasheet is presented by the manufacturer

DE
Dieses Datenblatt wird vom Hersteller bereitgestellt

FR
Cette fiche technique est présentée par le fabricant

SBC8118 Single Board Computer

- *375MHz TI AM1808 ARM926 Microprocessor*
- *Onboard 128MByte Mobile DDR2 and 128MByte NAND Flash*
- *UARTs, RS485, USB Host, Ethernet, LCD/TSP, SATA, Camera, Buzzer, SD, JTAG...*
- *Optional WiFi, Camera and 3G Modules*
- *Ready-to-Run Linux2.6.33 and WinCE 6.0 OS*

SBC8118 Single Board Computer

Overview

The SBC8118 Single Board Computer is an industrial board based on TI's AM1808 ARM9 processor and well-suited for medical, industrial automation and control, communication products and more other applications which are cost-sensitive and require high-speed data transfer and high-capacity storage. It has a flexible design with one tiny core board Mini8118 interfacing to an expansion board through two 2.0mm pitch 3*27-pin dip header connectors.

The core board Mini8118 integrates the AM1808 processor, 128MB Mobile DDR2, 128MB Nand Flash and 8MB SPI Flash on board. The SBC8118 expansion board offers features in additional to those provided by the Mini8118 to further expose the features of AM1808. It has a SATA interface as well as an SD card interface to allow large storage capabilities. Up to four serial ports have been brought out by three DB9 connectors. The board also has four USB hosts, Ethernet, LCD/Touch screen, Buzzer, Camera and supports RS485 networking. It has one 14-pin JTAG interface which can be used with XDS100v2 emulator available from Embest. Embest also offers 4.3" and 7" LCD display with touch screen as optional modules for this board.

The board is a ready-to-run solution which is provided with Linux 2.6.33 and WinCE 6.0 BSP. One CD is delivered along with the goods which includes the software driver source code and relative documents to help customer better understand this board and start their reference design.

Additionally, Embest offers various optional modules for SBC8118 which greatly enhanced the functions of this board.

Optional Module	Description	Interface to Board	Linux	WinCE
CAM8000-A	Analog Camera Module	Camera	Support*	Support*
WF8000-U	WiFi Module	USB Host	Not Support	Support#
CDMA8000-U	3G Module (CDMA2000 standard)	USB Host	Not Support	Support#
WCDMA8000-U	3G Module (WCDMA standard)	USB Host	Not Support	Support#

* = Provided with Source Code
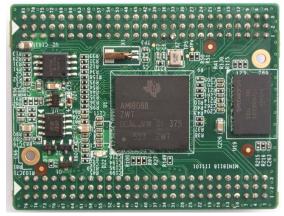
 # = Not Provided with Source Code

Hardware Features

The AM1808 ARM microprocessor contains an ARM RISC CPU for general-purpose processing and systems control. The AM1808 ARM microprocessor consists of the following primary components:
• ARM926 RISC CPU core and associated memories
• A set of I/O peripherals
• A powerful DMA subsystem and SDRAM EMIF interface

The SBC8118 Single Board Computer is based on AM1808 processor and designed with a tiny processor card Mini8118 mounted directly onto an expansion board. The SBC8118 is characterized as follows:

CPU Board Mini8118

Top-View   Bottom-View

Mechanical Parameters
- Dimensions: 58.0 mm x 45.0 mm (6 layer PCB design)
- Working temperature: -45~80 Celsius
- Humidity Range: 20% ~ 90%
- Power Consumption: 125mA @ 12V

Processor
- 375MHz TI AM1808 ARM926EJ-S Microcontroller, also supports 456MHz operation

Memory
- 128MByte Mobile DDR2
- 128MByte NAND Flash (on the rear of the board)
- 8Mbytes SPI Flash

Expansion Interfaces and Signals Routed to Pins
- Two 2.0mm space 3*27-pin dip connectors
- TFT LCD Interface (support 16-bpp parallel RGB Interface LCD)
- Two 8-bit Camera interfaces
- JTAG Debugger Interface
- USB 1.1 OHCI (Host) With Integrated PHY (USB1)
- USB 2.0 OTG Port With Integrated PHY (USB0, Support High-/Full-/Low-Speed)
- Two SPI interfaces (SPI0 multiplexed with MII);
- Two inter-integrated circuit (I2C) Bus interfaces (I2C1 multiplexed with UART2)
- Five UART interfaces;
- A 10/100 Mb/s Ethernet MAC (EMAC) with a Management Data Input/Output (MDIO) module;

- A multichannel buffered serial ports (McBSP) with FIFO buffers;
- Four 64-bit general-purpose timers each configurable (one configurable as watchdog);
- Two 4-line SD/MMC card interfaces;
- GPIO (Up to 9 banks of 16 pins of general-purpose input/output with programmable interrupt/event generation modes, multiplexed with other peripherals)

Expansion Board of SBC8118

Mechanical Parameters
- Dimensions: 160 mm x 100 mm
- Input Voltage: +12V
- Temperature Range: -45 ℃ ~ 80 ℃
- Humidity Range: 20% ~ 90%

Audio/Video Interfaces
- A TFT LCD interface (50-pin FPC connector, RGB565)
- 4 line resistive Touch Screen interface
- Camera interface (30-pin FPC connector, supports CCD and CMOS cameras)
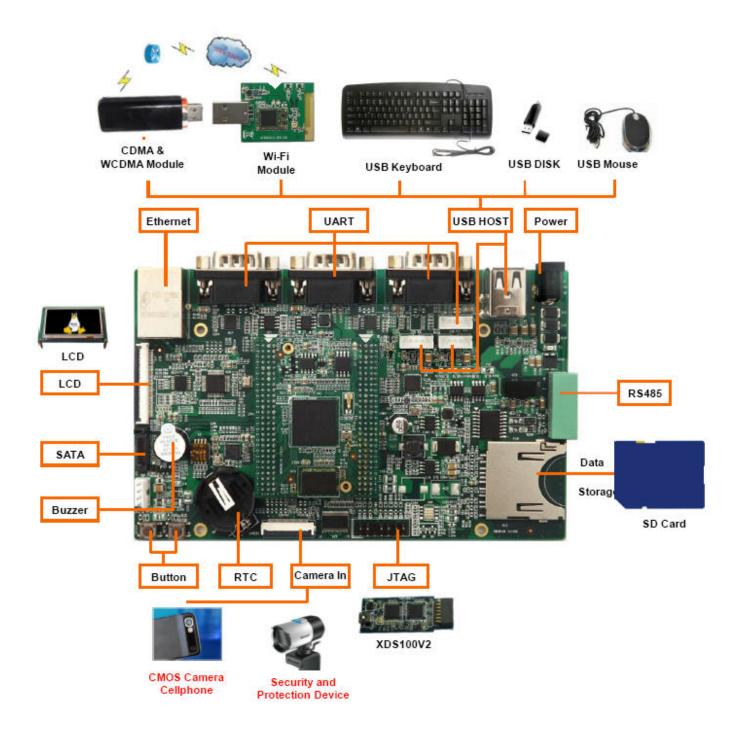- Buzzer

Data Transfer Interface
- Serial port:
  1 x 5 line Debug serial port, RS232 voltage
  2 x 3 line serial ports, RS232 voltage
  1 x 3 line serial port, TTL voltage (2.0mm pitch 5-pin connector)
- USB Host ports:
  2 x USB2.0 (USB-A Type)
  2 x USB2.0 (2.0mm pitch 5-pin connector)
- SD card slot
- Ethernet: 10/100Mbps, RJ45 connector
- RS485 interface
- 1 x Serial ATA connector, supports both SATA I (1.5 Gbps) and SATA II (3.0 Gbps)
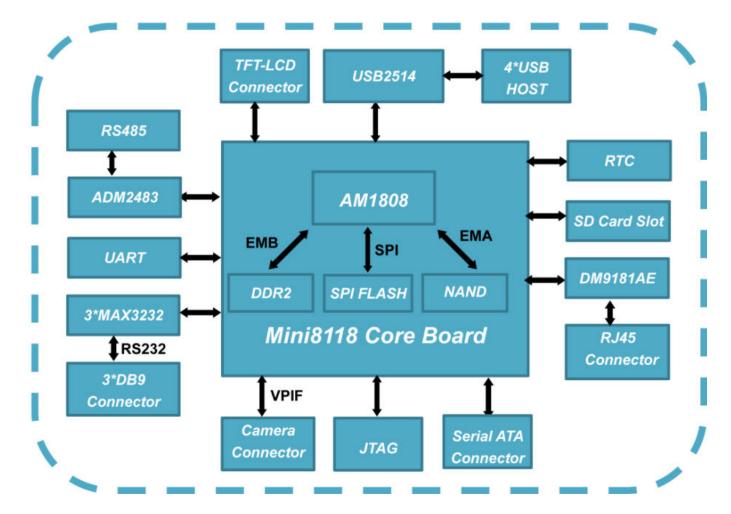- 14-pin JTAG interface

Input Interface
- One 4-pin SATA power interface (supports 2.5-inch hard disk)
- One 4-bit DIP switch (supports boot mode selection)
- One RESET button
- One User button
- One Power indicator
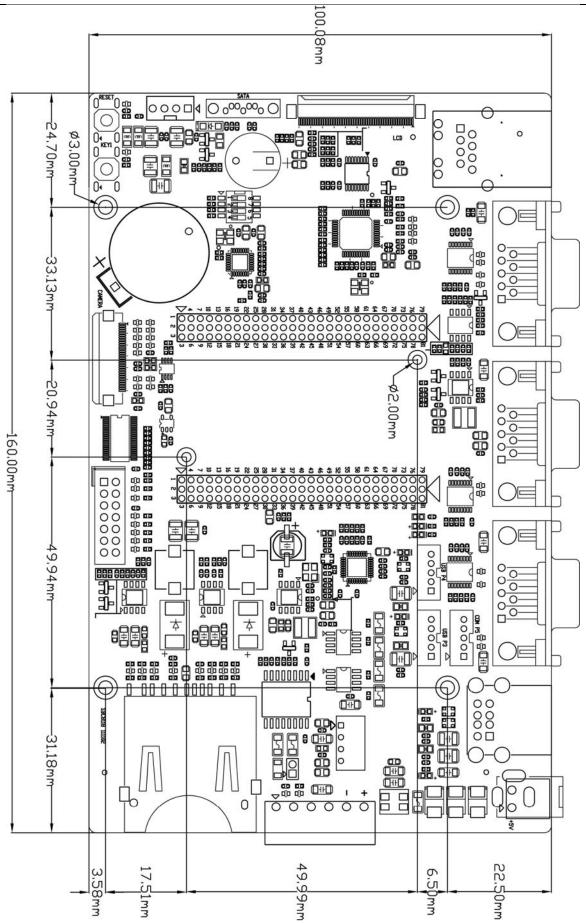- One User LED

Interface Introduction

Function Block Diagram

SBC8118 Function Block Diagram

Dimensions

Dimension Chart of SBC8118 Single Board Computer

Software

The SBC8118 Single Board Computer is provided with Window CE 6.0.net and Linux 2.6.33 BSP, with steady-going drivers, many of which are all in source code. Please refer to below table.

OS	Item		Remark
Linux	BIOS	u-boot	NAND/SPI Flash
			MMC/SD
			FAT
			NET
	Kernel	Linux-2.6.33	Supports ROM/CRAM/EXT2/EXT3/FAT/NFS/ JFFS2/UBIFS file systems
	Device Driver	Serial port, RTC, Ethernet, Nand Flash, SPI Flash, LCD, Touch screen, TF card, USB Host, SATA, key, LED, buzzer, Camera, RS485, PRU SUART	
WinCE	BIOS	u-boot	NAND/NOR/SPI Flash
			MMC / SD
			FAT
			NET
	Device Driver	Serial port, RTC, Ethernet, Nand Flash, SPI Flash, LCD, Touch screen, TF card, USB Host, RS485, Camera, PRU SUART, Buzzer, SATA, key, LED	
		Power Management (Sleep/Wakeup, PWM, ADC)	
	APP	application module	Flash Player plug-in and Flash player

Order Information

Order No.	T6010217
Item	SBC8118 Single Board Computer
Deliveries	• One SBC8118 Single Board Computer • One 12V power adapter • One cross serial cable • One Product CD (including user manual, schematic in PDF format, datasheet, Linux 2.6.33 and WinCE 6.0 BSP)
Options	• CAM8000-A Analog Camera Module • WF8000-U WiFi Module • CDMA8000-U USB 3G Module (CDMA2000 Standard) • WCDMA8000-U USB 3G Module (WCDMA Standard) • XDS100v2 USB JTAG Emulator • 4.3" or 7" TFT LCD (including touch screen)
Price	Please contact us.

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http://www.embedinfo.com/english   http://www.armkits.com