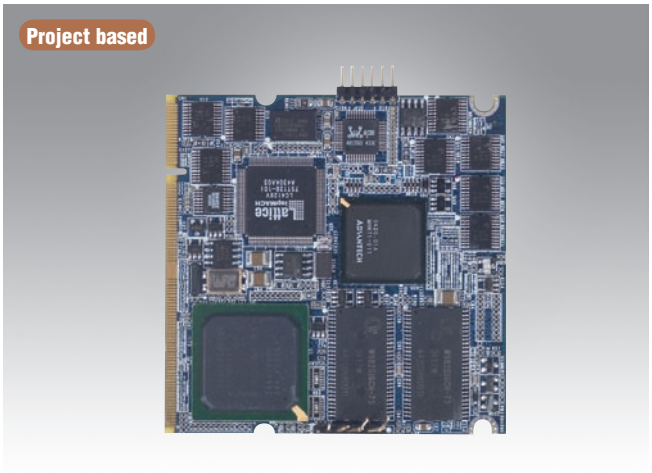
SOM-A2709

SOM with Marvell XScale PXA270 processor + Windows CE 5.0



Features

- Form factor & pin definition are compatible w/ Advantech SOM-A2558 series
- Marvell XScale PXA270 processor + Win CE 5.0 OS ready solution for battery-powered/mobile applications
- Power management mechanism for sleep mode support and CPU Speedstep power-saving feature
- Rich I/O support: USB, COM, CF/PCMCIA. SDIO, LAN
- Multi source boot-up from on board flash, CF, PCMCIA & SD
- SOM-ADK2709 Design-in kit package is available for efficient evaluation, application development and design-in support
- Supports Adobe Flash Player 7.0 & Java virtual machine on project basis

Introduction

Mobile computing, I/O Intensive SOM

SOM-A2709 series System On Module (SOM) integrates the Marvell XScale PXA270 ultra low power SoC and I/O solution chips together with Windows CE OS support. SOM-A2709 supports rich I/O such as CF/PCMCIA, SD, USB, LAN, multi-COMs, LCD and audio. SOM-A2709 is designed for portable/handheld applications, it supports deep sleep mode and CPU power Speedstep mechanism for power saving and better power management.

Design-in Package ensures efficent evaluation/implementation

The Design-in Package not only includes all the necessary H/W boards, fixtures and LCD related cables, but also includes the Advantech-customized API, utility & reference codes. And of course, it includes all design related documentation including, a white paper for detailed technical know-how.

Three supporting mechanisms are included in the Design-in Package:

Reference Kit: Includes the Advantech reference Customer Solution Board (CSB) and all documentation relating to CSB design and manufacture. ex : BOM, placement, gerber file, layout etc. file.

LCD Kit: Includes the LCD, inverter, T/S and related cables. All goods are pre-verified and supported in Advantech's reference S/W package.

Design-in Zone: The web portal for customers to download design-related documentation, SOPs and sample code, also provides end-to-end technical support. (http://risc-designin.advantech.com.tw/)

Specifications

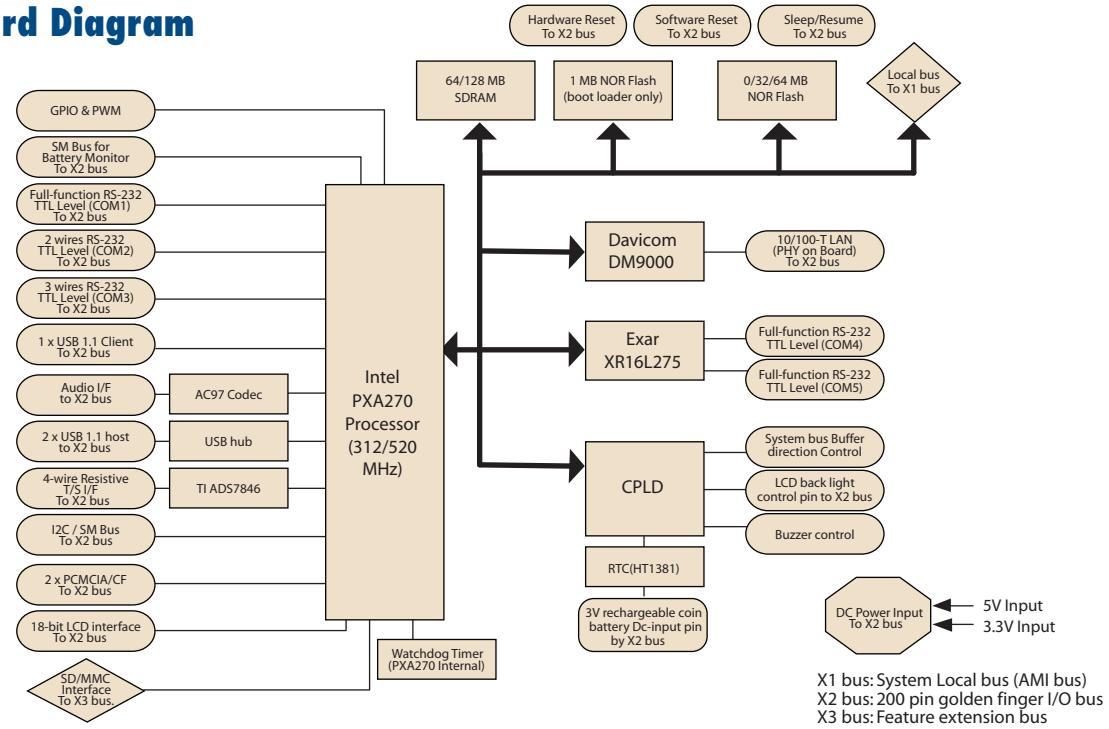
Kernel	O.S.	Microsoft WinCE 5.0 English professional ver.
	SoC	Marvell XScale PXA270 520 MHz (default)/ 312 MHz
	SDRAM	64 MB (default) / 128 MB
	Boot Flash	1 MB NOR type
	Storage Flash	NOR type Flash 0 MB/32 MB /64 MB (default)
	Watchdog	PXA270 buit-in
	RTC	HT1381
	System Control	H/W reset & S/W reset
	Power Management	Supports normal, idle and sleep mode Supports CPU Speedstep mechanism
	JTAG	Yes
	System Bus (ARM bus) Expansion	Yes (2 chip select pins reserve for CSB to use)
IO	COM	5 x RS232 (3 x FF, 1 x 2 wires, 1 x 3 wires)
	USB Host	2 x USB host 1.1
	USB Client	1 x USB client 1.1
	PS/2	N/A
	PCI	N/A
	T/S	4 wires resistive
	LAN	1 x 10/100-T (by Davicom)
	PCMCIA/CF	2 x (supports IO & memory mode, bootable I/F)
	SD/MMC	1 x (supports SDIO & memory mode, bootable I/F)
	SM bus/I2C	1 x (default SM bus support)
IO	PWM	2 x
	GPIO	12 x
	SPI	1 x
Multimedia	Graphic Chip	PXA270 buit-in 18-bit LCD controller
	LCD I/F	18 bits 3.3V TTL level
	LCD Resolution Support	320 x 240, 640 x 480 (default) & 800 x 600*
	Audio	AC97 Codec
	Inverter I/F	Backlight on/off & dimming control
Power	DC-input	3.3 V + -3% & 5.0 V + -3%
	SOM Power Consumption	Normal mode: 2.3 ~ 2.5 watt** Sleep mode: 15 mW ~ 30 mW**
Others	External Connector	1 x JTAG conn. by 6 x12 mm pin header 2 x 100 pin molex board to board conn. 1 x 200 pin golden fingers
	Temperature	Operation: 0° C ~ 60° C
	Humidity	10% ~ 90%
	Certification	CE/FCC
	Form Factor	68 x 68 x 6.8 mm (6.7" x 6.7" x 0.27") (Advantech standard RISC SOM RTX architecture)

Notes:

* - CPU will spend more resources handling LCD-output at 800 x 600 resolution which will impact other I/O performance. If customers choose 800 x 600 resolution, they need to double check the whole platform performance first.

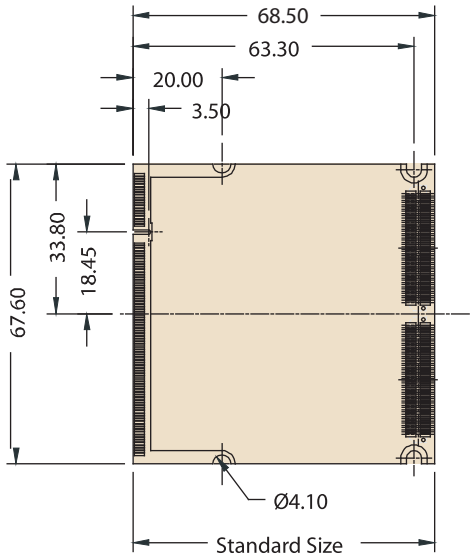
** - Different CSB design and peripehral connections will cause different power consumption. The value is only for reference.

Board Diagram



Mechanical dimensions

Unit: mm



Ordering Information

SOM-A2709 Design-in Package

Part No.	Description
SOM-ADK2709-B00E (SOM & carrier board kit)	SOM-A2709 Series design-in kit. (Include LCD kit)

SOM-A2709 Series SOM (Module only)

Part No.	Description
SOM-A2709-546B0E	SOM XScale PXA270 520 MHz, 64 MB SDRAM, 64 MB Flash, 5 COMs & Win CE5.0
Order your own reconfigured SOM	After Developers have evaluated the kit and decided to order a reconfigured sample run SOM, they can check the reconfiguration options in the above specification table to order their customized SOM-A2709 product. Contact local Advantech sales or distributor for reconfiguration requests.

Packing List

Bulk packing with 20 pcs in one box
SOM only comes with the bootloader pre-installed and Win CE professional version license sticker

**Sample image and related documentation included with Design-in kit only.

Applications

Mobile, battery-powered device
Medical & outdoor HMI terminal
Car navigation & fleet management