

SOM-A2558 Series System On Module

Intel® XScale® PXA255+Advantech EVA-C210+
Microsoft® Windows® CE .NET 4.2



Features

- 68 mm x 68 mm x 6.8 mm compact size module
- Power management ready support with Normal, Idle, Suspend, Off mode utilities.
- OS-ready package for Windows CE .NET 4.2/Linux Installation
- Local bus(AMI Bus), comprehensive I/O interfaces as PS/2 port, Ethernet, USB Host and PCI interface support
- Boot option by onboard Flash or CFC makes easy maintenance and cost savings
- Provide a variety of reconfiguration options to fulfill specific requirements
- Design-in Kit package is available for complete design-in support
- Optional RISC CE-Builder assists for customer own image development

Introduction

Ultra low power, I/O intensive SOM

Using a dual-chip design principle, SOM-A2558 series System On Module integrates both an Intel XScale PXA255 ultra low power CPU with Advantech's EVA-C210 companion chip. This offers the advantage of integrated controllers, but with multiple I/Os, such as CF, PCMCIA, USB Host, USB Client, RS-232/UART, PCI Bus Rev. 2.2, 10/100Base-T Ethernet, PS/2 ports and RS-485.

Design-in package ensures fast, low-risk project implementation

The comprehensive design-in package provides developers with not only a completed reference kit and detailed design guide documentations, but also a testing tool set and Windows CE Board Support Package (BSP) for customer target platform image building.

Five support mechanisms are included in the design-in package:

- **Design-in kit:** Provides developers a complete reference design-in suit for application evaluation/development and customer Customer Solution Board (CSB) development.
- **LCD Kit:** Supplies a full range of certified LCD kits in different sizes and types for customers to fit into their target CSB and application.
- **Windows CE builder:** Optional Software Support Platform that allows customers to create/customize/Integrate their own target image
- **Design-in Zone:** Assist Customers with their own CSB development by providing direct and professional technique support in an efficient way.
- **Design-in Forum:** Conducts a series worldwide SOM Design-in Forums/Seminars/Conferences thru various types of activities/formats, giving developers an opportunity/channels to receive and share the most updated information.

Applications

Ideal for power critical & I/O intensive required base Applications

- Mobile, battery-powered device platform with multi-I/O I/F demands
- Compact diagnostic, monitoring, control equipment or HMI terminals
- Outdoor, fully enclosed, Intelligent remote I/O controllers
- LCD-based vehicle/telemetric platforms for navigation & communication

Specifications

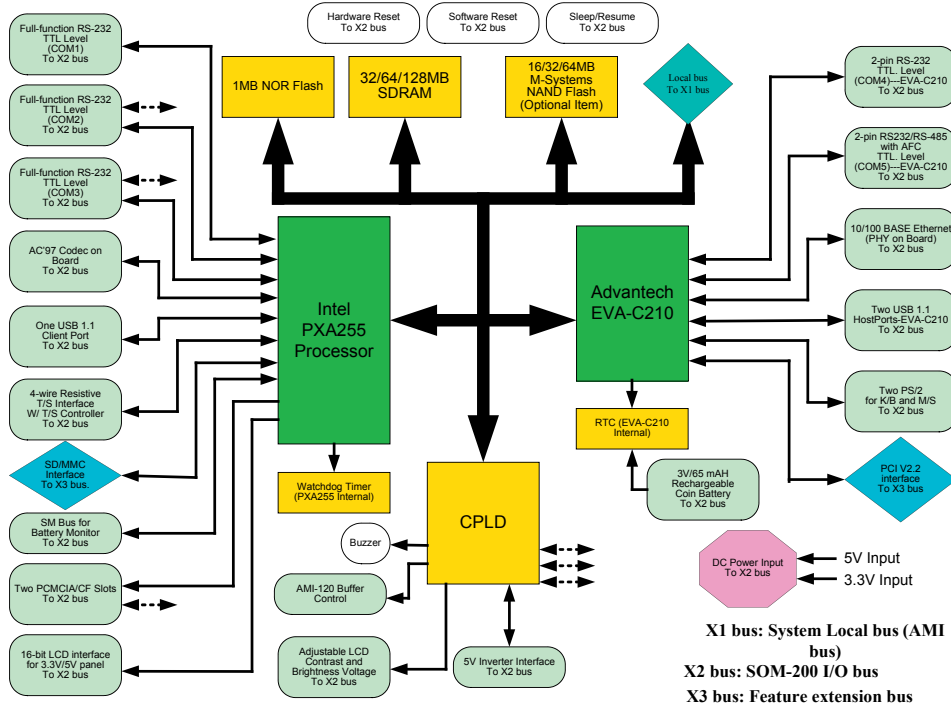
Func.	Model	SOM-A2558-440B0	Reconfiguration Option
CPU		PXA255- 400 MHz	200/300/400 MHz
I/O Enhance Chip		Advantech EVA-C210	-
Graphic Chip		PXA255 built-in	-
System Memory(SDRAM)		64 MB SDRAM	32/64/128 MB
Boot loader Flash		1 MB NOR Flash	-
On-board Flash (Image & Storage)		0 MB	0/16/32/64 MB
OS Image Storage		Thru CFC	-
AMI Bus(X1 bus)		100-pin B2B conn w/ buffer drive	Yes
Feature Extension Bus (x3 Bus)		100-pin B2B conn (the conn. Include PCI,ZV & SD/MMC I/F)	Yes
Watch Dog		PXA255 Built-in	-
RTC		EVA-C210 Built-in	-
System Backup battery		For RTC/SDRAM	-

Serial Ports	3 x Full RS-232 (TTL); 1 x 2-wires RS-232 (TTL); 1 x 3-wires for RS-232 or RS-485	-
Ethernet	1x 10/100Base-T	-
PCMCIA/ CompactFlash	2 Slots PCMCIA/CF or 1 x PCMCIA & 1 x CF	-
USB Host	2 x USB 1.1 Host	-
USB Client	1 x USB 1.1 Client	-
SD/MMC	1 x Ch (support 1 bit memory mode)	-
PS/2	2 x Ch for K/B & MS	-
LCD(TTL level)	Up to VGA LCD-16-bit TFT/STN/DSTN	-
T/S	4-wire resistive	Yes
Audio Codec	AC'97 codec output. Supports Mic-in, Line-in, Line-out, Speaker-out	Yes
Buzzer control	Yes	-
SM Bus	Yes	-
Hardware Reset	Yes	-
Software Reset	Yes	-
Resume	Yes	-
OS support	Windows CE .NET 4.2	Linux (By customer request)
Power input	3.3 V/5 V	-
Operating temperature	0 ~ 60° C	Optional -10 ~ 70° C & -20 ~ 80° C capability
Operating humidity	0% ~ 90%	-
Certification	FCC/CE	-
Form factor	68 mm x 68 mm x 6.8 mm	-

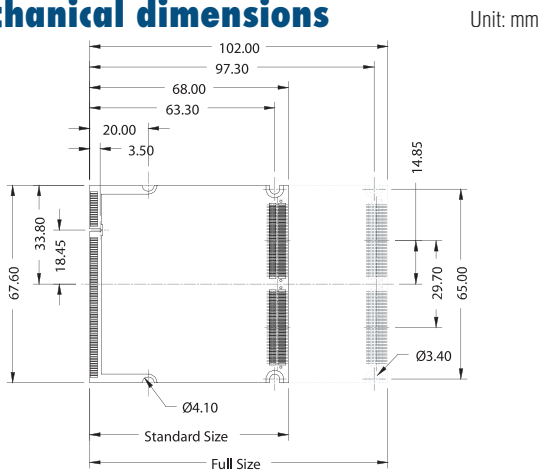
Note:"Reconfiguration Option" column provide users many choices. "-": means no option.
If standard product SOM-A2558-440B0's specification doesn't fit developer's requirement, developer could contact with Advantech for SOM-A2558 reconfiguration.

SOM-A2558 Series System On Module

Board Diagram



Mechanical dimensions



Packing list

- Bulk packing with 20 pcs in one box
- SOM comes with bootloader pre-installed only

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

**SOM does not include Microsoft Windows CE .Net License.

Ordering Information

SOM-A2558 Design-in Package

- **SOM-ADK2558-B00 (Must order for design-in)** SOM-A2558 Series Design-in Kit (** without panel bundle, please order designated LCD kit)
- **LCD-A057-STQ1-0 (Optional item)** 5.7" STN QVGA LCD kit. The kit includes 4-wire resistive T/S, inverter, cables and installation guide
- **LCD-A064-TTV1-0 (Optional item)** 6.4" TFT VGA LCD kit. The kit includes 4-wire resistive T/S, inverter, cables and installation guide (** only recommended for PXA255-400 MHz/not recommended for systems under constant heavy loading)
- **RSW-ACEBW1-042 (Optional item)** RISC CE-Builder Windows CE .Net 4.2 version 1

SOM-A2558 Series SOM alone (Minimum 20 pcs/per order)

- **SOM-A2558-440B0** PXA255-400 MHz, 64 MB SDRAM, 1 MB boot flash, both X1 and X3 bus on board.
- **SOM-A2558-230A0** PXA255-200 MHz, 32 MB SDRAM, Boot from CF, with AMI connector on board.
- **SOM-A2558-240N1** PXA255-200 MHz, 64 MB SDRAM, no EVA-C210, Boot from CF, without AMI connector and feature extension connector on board.
- **Order your own reconfigured SOM** Developers can check the reconfigure option of the above specification table to order a customized SOM-A2558 series product. If a customer has reconfiguration demands, please contact a local