

SOM-A2558 Series System On Module

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



CE FCC

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 touch screen, CompactFlash®, 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 a complete design-in kit, detailed design guide documentation, as well as the Windows CE Board Support Package (BSP) by project request and a set of testing tools for custom target platform image building.

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

- **Design-in Kit:** Provides developers with a complete design-in suite reference for application evaluation/development and Customer Solution Board (CSB) development
- **LCD Kit:** A full range of certified LCD kits in different sizes and types for custom fit target CSB and applications
- **Design-in Zone:** Assists customers with their own CSB development by providing direct and professional support
- **Design-in Forum:** A series of worldwide SOM Design-in Forums/Seminars/Conferences through various types of activities/formats, giving developers an opportunity and channels to receive and share the most updated information

Specifications

Func.	Model	SOM-A2558-440B0	Reconfiguration Option
CPU		Intel XScale 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	-
Onboard 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		1 x 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	-

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 such as PS/2 port, Ethernet, USB Host and PCI interface support
- Boot option by onboard Flash or CFC offers low maintenance and cost savings
- Provides a variety of reconfiguration options to fulfill specific requirements
- Design-in Kit package is available for complete design-in support

T/S	4-wire resistive	5-wire/SPI interface (design reserve)
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 provides the user with many choices. "-": means no option. If standard product SOM-A2558-440B1's specification does not fit developer's requirement, developer could contact with Advantech for SOM-A2558 reconfiguration.

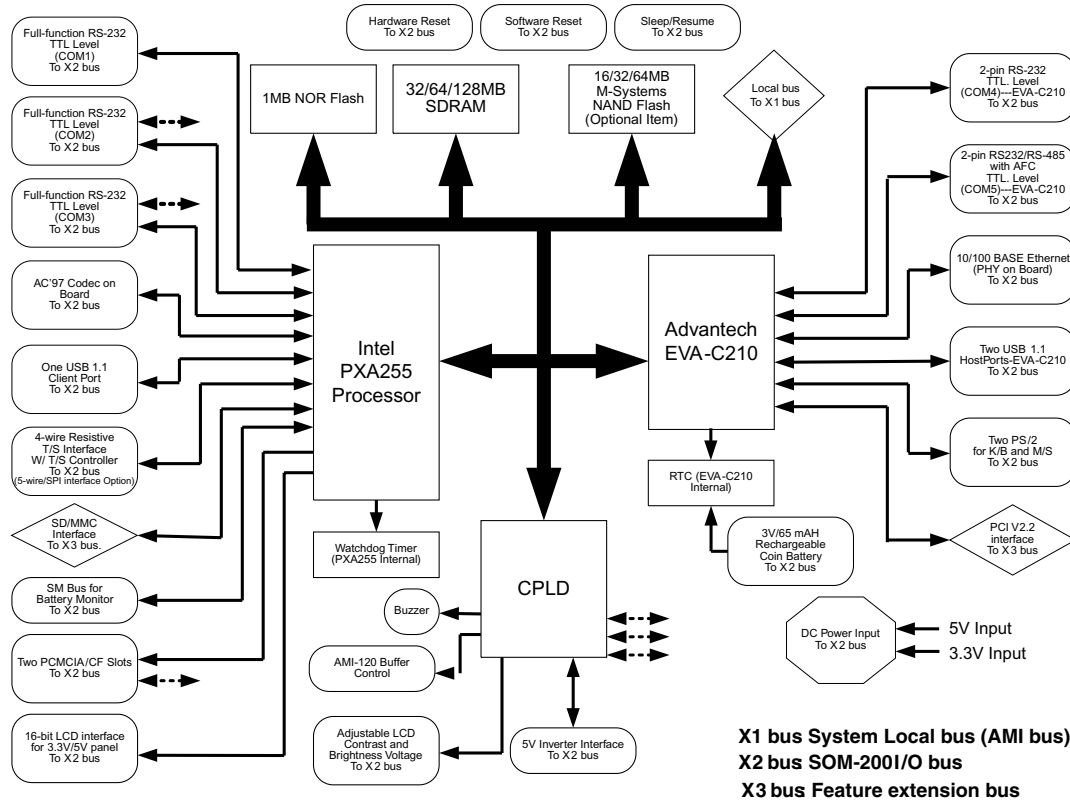
Applications

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

SOM-A2558 Series System On Module

Board Diagram



Ordering Information

SOM-A2558 Design-in Package

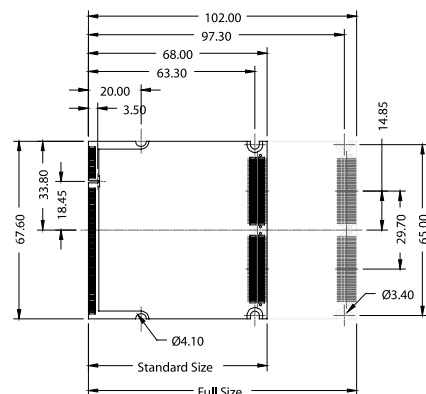
- **SOM-ADK2558-B01** (Must order for design-in) SOM-A2558 Series Design-in Kit (** without panel bundle, please order designated LCD kit)
- **LCD-A057-STQ1-0** (Optional item) 5.7" STN QVGA LCD kit. The kit includes 4-wire resistive T/S, inverter, cables and installation guide
- **LCD-A064-TTV1-0** (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 load)

SOM-A2558 Series SOM alone

- **SOM-A2558-440B1** PXA255-400 MHz, 64 MB SDRAM, 1 MB boot flash, both X1 and X3 bus on board (Minimum 20 pcs/per order)
- **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 request, please contact a local Advantech RBU or distributor

Mechanical dimensions

Unit: mm



Packing list

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

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

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