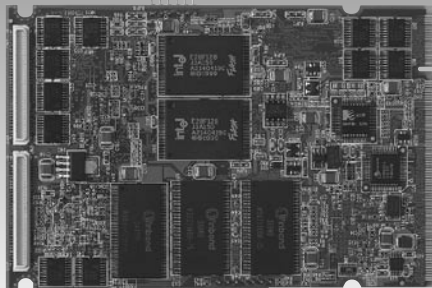


SOM-A255F series System On Module

Intel® PXA255, SMI SM501 Graphic
Chip, Advantech EVA-C210 &
Microsoft® Windows® CE .NET 4.2



CE FCC

Introduction

Ultra Low Power, Multimedia Engine, I/O Intensive, High Multimedia Performance, OS-Ready System On Module

Using a triple-chip design principle, SOM-A255F Series integrates an Intel PXA255 ultra low power CPU, SMI Multimedia graphic chip SM501 & an Advantech EVA-C210 PCI I/O expansion chip as companion chips that offer customers excellent ultra low power use, high graphic performance & rich I/O expansion on a system on module approach.

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 supporting 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 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

Spec.	Model Name	SOM-A255F-440B0	Reconfiguration Option
CPU	Intel XScale PXA255	400 MHz	200/300/400 MHz
I/O Enhance Chip	Advantech EVA-C210		-
Graphic Chip	SMI SM501 (with 8MB external SDRAM)		-
System Memory (SDRAM)	64 MB		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	RTC/SDRAM		-
Serial Port	3 x Full RS-232 (TTL), 1 x 2-wire RS-232 (TTL), 1 x 3-wires for RS-232 or RS-485		-
Ethernet	10/100Base-T		Yes
PCMCIA/Compact Flash Slot	2 slots PCMCIA/CF or 1 x PCMCIA, 1 x CF		-
SD/MMC Slot	1 x Ch (Support 1-bit memory mode)		-
USB Host	2 x USB 1.1 Host		-
USB Client	1 x USB Client		-
PS/2	2 x PS/2 ports for keyboard & mouse		-
T/S	4-wire resistive		SPI interface (design reserve)
CRT-Out	Resolution up to 1024 x 768		-

Features

- Triple-Chip integration offers full SBC-level functionality on a 68 mm x 102 mm x 6.8 mm compact-sized module with 64/128 MB SDRAM/ flash onboard
- Ultra low power platform with additional high performance graphic controller (with external 8MB SDRAM) offers high mobility, fanless operation and multimedia display advantages
- OS-ready package for Windows® CE .NET 4.2 /Linux Installation
- Local bus (AMI Bus), comprehensive I/O interfaces such as Ethernet, PS/2 ports, USB Host and PCI interface support
- Boot option by onboard Flash or CFC makes for easy maintenance and cost savings
- Design-in Kit Package available for complete design-in support

LCD (TTL Level)	SM501 24-bit LCD interface, resolution up to 1024 x 768	-
ZV Port	Yes	-
Audio Codec	AC'97 codec output. Supports Mic-in, Line-in, Line-out speaker-out	Yes
Buzzer Control	Yes	-
SM Bus	Yes	-
System Reset	H/W Reset, S/W Reset, Suspend/Wake I/F	-
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 certification
Operating Humidity	0% ~ 90% relative humidity	-
Certification	FCC/CE	-
PCB Form Factor	68 mm x 102 mm x 6.8 mm	-

Note: "Reconfiguration Option" column provides the user with many choices. "-" means no option. If standard product SOM-A255F-440B1's spec. do not fit user's requirements, users could contact with Advantech for SOM-A255F reconfiguration.

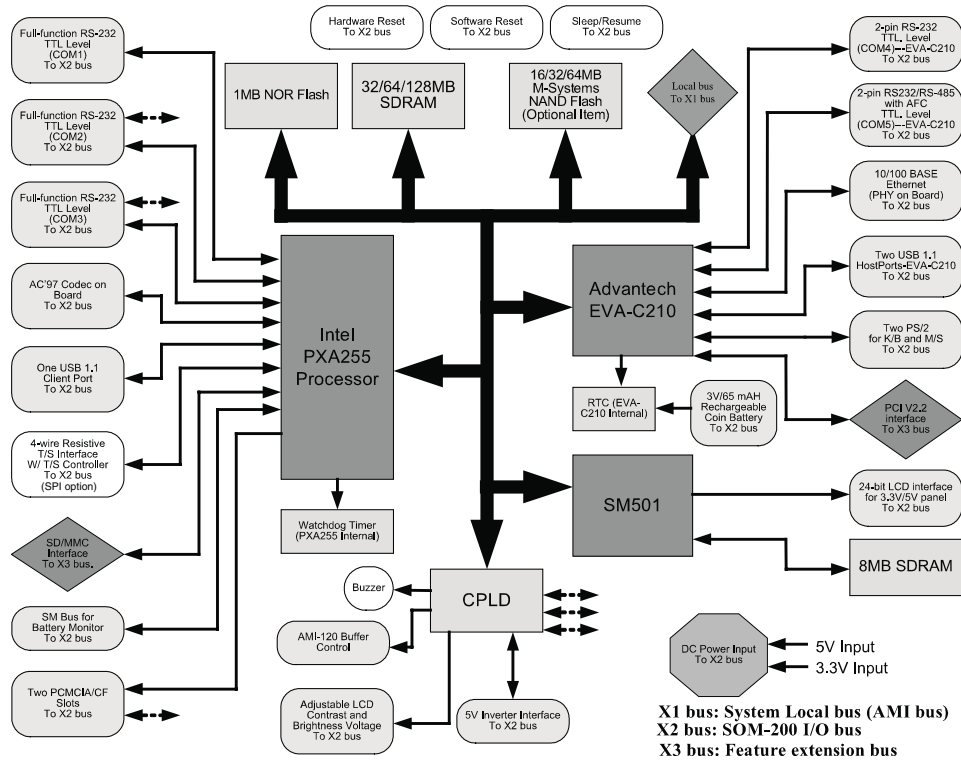
Applications

SOM-A255F platform offers low power consumption, extensive I/O support and high graphic performance ideal for graphic-based smart platforms, such as :

- High computing, graphic & I/O expansion platforms
- Mobile, multimedia and battery-powered device platforms with large display & multi-I/O expansion demands
- Wireless broadband terminals
- Smart display devices
- Security surveillance platforms with digital or analog video input/output

SOM-A255F Series System On Module

Board Diagram



Ordering Information

SOM-A255F Design-in Package

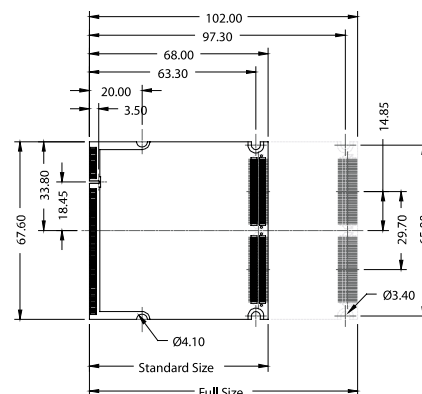
- **SOM-ADK255F-B01** SOM-A255F Series design-in kit.
- **SOM-A255F-B01 (** without Panel bundle, please order designated LCD kit)**
- **LCD-A064-TTV1-0 (Optional item)** 6.4" TFT VGA LCD kit. The kit includes 4-wire resistive T/S, inverter, cables and installation guide.
- **LCD-A104-TTS1-0 (Optional item)** 10.4" TFT SVGA LCD kit. The kit includes 4-wire resistive T/S, inverter, cables and installation guide.

SOM-A255F Series SOM alone

- **SOM-A255F-440B1** PXA255 - 400 MHz, SMI SM501 (with external 8 MB SDRAM) & Advantech EVA-C210, 64 MB SDRAM, 1 MB boot flash, both X1 and X3 extension bus connectors on board (Minimum 20 pcs/per order) Developers can check the reconfiguration option of the above specification table to order a customized SOM-A255F series product. If a customer has a reconfiguration request, please contact a local Advantech RBU or distributor
- **Order your own reconfigured SOM**

Mechanical dimension

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.