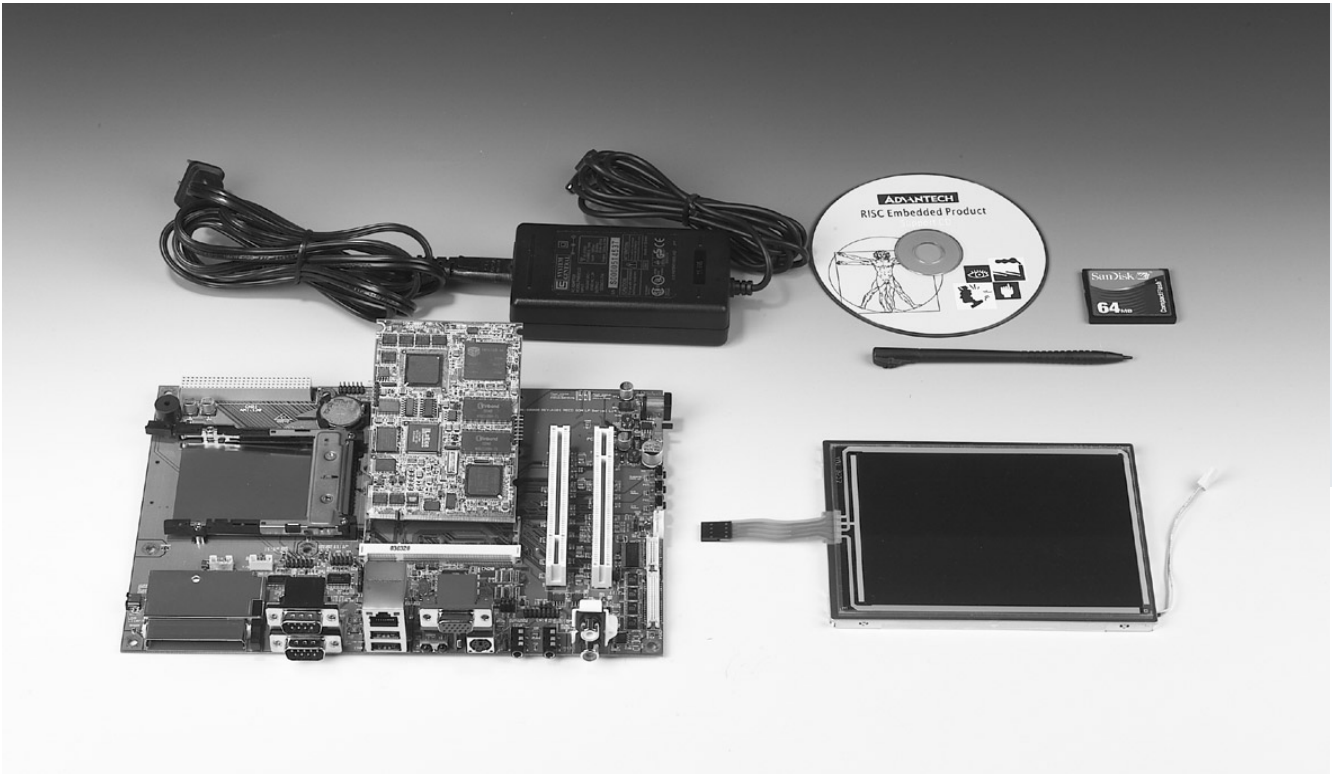# SOM-ADK255F Series Design-in Kit

Design-in Kit for SOM-A255F Intel®
XScale® PXA255 System On Module

Introduction

The Design-in Kit package provides developer complete reference design-in suit for application evaluation/ development and own Customer Solution Board (CSB) development. It contains the needed information, documentation and tools for starting their hands-on work as the followings items:

- **Target SOM (SOM-A255F-440B0):** SOM-A255F standard version board.
- **SOM-A255F Series Reference Customer Solution Board:** Sample CSB for developer reference.
- **64 MB CompactFlash card**
- **Design-in reference documentation:**
  - Design-in zone login information card
  - Design-in kit user's manual
  - RISC SOM carrier board design guide
  - Schematics, bill of materials, layout guide of reference CSB

- **Testing Set**

Designed for sample CSB or customers' own CSB/mass production testing. It includes:

  - H/W testing tools: RS232 loop-back testing tool, null MODEM cable, JTAG cable, USB ActiveSync cable, Audio cable, RS232 cable.
  - S/W testing Utility: Advantech-developed testing utility. Testing process will be implemented by S/W testing utility and H/W testing tools.
  - Documentation: "Advantech RISC SOM Platform Testing Method". Users can use the base documents to know how to implement testing process.

- **Software Development Tools**

Software tools is a complete package for customers to develop their target image to align with their target CSB and applications

  - BSP: Binary Board Support Package for target SOM Design-in Kit. Users can integrate their target Windows CE platform into components, Apps and drivers
  - SDK: For customer target Application development
  - Reference Image: Reference Image for the selected model of SOM Design-in Kit
  - Upgrade Utility: Users can use the upgrade utility to upgrade boot logo, image & bootloader.
- **Design-in Zone Guide**

Advantech has established a dedicated website portal called SOM Design-in Zone to assist customers with CSB development by providing direct and professional technique support in most efficient way. The home page is located at http://risc-designin.advantech.com.tw

SOM-ADK255F-B00 does not include the LCD kit; please order your LCD kit of your choice

LCD Kit: (OPTIONAL item)

Advantech supplies a full range of certified LCD kits in difference sizes and types for customers to fit into their target CSB and target application.

Each LCD kit includes the selected LCD panel, inverter and needed cables which are designed to work with each Advantech Standard RISC-based SOM Design-in Kit platform.

The current available LCD kits include the following:

- 5.7" STN QVGA LCD kit (NAN-YA/ LCBFBTB61M23)
- 6.4" TFT VGA LCD kit (PRIMEVIEW/PD064VT2)
- 10.4" TFT SVGA LCD kit (AU/ UB104SXX)
- 15" TFT XVGA LCD kit (AUO/M150XN07)

Specifications

PCB Form factor	237 mm x 160 mm
SOM module P/N	SOM-A255F-440B0
Boot loader Storage	Pre-installed on SOM module
OS Image Storage	On CompactFlash Card (CFC)
PCI	2 PCI slots which is compliant with PCI Spec. Rev. 2.2
Mini PCI	1 Mini PCI slot
AMI Bus (X1 Bus)	Advantech RISC standard AMI-120 connector with driving buffers on SOM module
Watch Dog	PXA255 Built-in
RTC	EVA-C210 Built-in
System Backup battery	65mAh 2032 type rechargeable Li-ion coin battery For RTC/SDRAM
Serial Port conn.	2 x RS-232 DB-9 connectors (COM1,COM2)
	1 x IrDA 1.1 Physical Layer (COM3)
	1 x 5 x 2 2.00 mm pin header (COM4)
	1 x 6 x 2 2.00 mm pin header (COM5)
Ethernet	1x 10/100 Base-T LAN port w/ 2 LEDs
PCMCIA/CompactFlash	1 x Type II CFC slot and 1 x Type II PCMCIA slot
USB Host	2 x USB 1.1 host connector
USB Client	1 x mini USB 1.1 Client connector
PS/2	1 PS/2 connector for KB & MS.(Customers should use PS/2 Y cable to expand)
LCD interface	40-pin advantech standard LCD connector supports 24-bit LCD
(TTL level)	interface, resolution up to 1024 x 768
LCD LVDS	20-pin advantech standard LCD connector supports 1-channel LVDS signals
CRT	DB-15 conn., resolution up to 1024 x 768
TV-in	1 RCA jack for TV-in function
TV-out	1 RCA jack for TV-out function
T/S	4-wire resistive touch screen housing
Audio Interface	8 x 2 mm Pin header-Line-in, Line-out, MIC-in, Speaker-out, Line-in Jack and Line-out Jack
Buzzer	Yes
SM Bus	SM bus housing
System Reset button	H/W reset button, S/W reset button, Wakeup/Suspend button
OS support	Windows CE .NET 4.2
Power input	12V DC in with power switch
Inverter	5-pin housing for LCD inverter control
Operating temperature	0 ~ 60° C
Operating humidity	0% ~ 90%
Certification	FCC/CE

Packing List

- **SOM-A255F-440B0** — SOM-A255F standard SOM.
- **SOM-A255F-440B0 carrier board** — Carrier board for SOM-A255F-440B0
- **64 MB CompactFlash card**
- **Testing Kit** — Includes H/W testing tools, S/W testing utility and documents.
- **AC power Adaptor** — AC/DC power adaptor for Design-in Kit power supply.
- **SOM-A255F Series support CD** — included Software Development tools, SOM-A255F spec, SOM-ADK255F spec, SOM-A255F manual, SOM-ADK255F manual, Testing Kit application note & SOM-A255F carrier board design guide.

Ordering Information

SOM-A255F Design-in Package

- **Design-in Kit SOM-ADK255F-B00 (Must order)** — SOM-A255F Series Design-in Kit. (** without Panel)
- **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 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 Kit 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.
- **LCD-A150-TTX2-0** — 15" TFT XGA kit. This kit includes 4-wire resistive T/S, inverter, cables and installation guide.
- **RISC WinCE Builder RSW-ACEBW1-042 (Optional item)** — RISC CE-Builder Windows CE .Net 4.2 version 1.