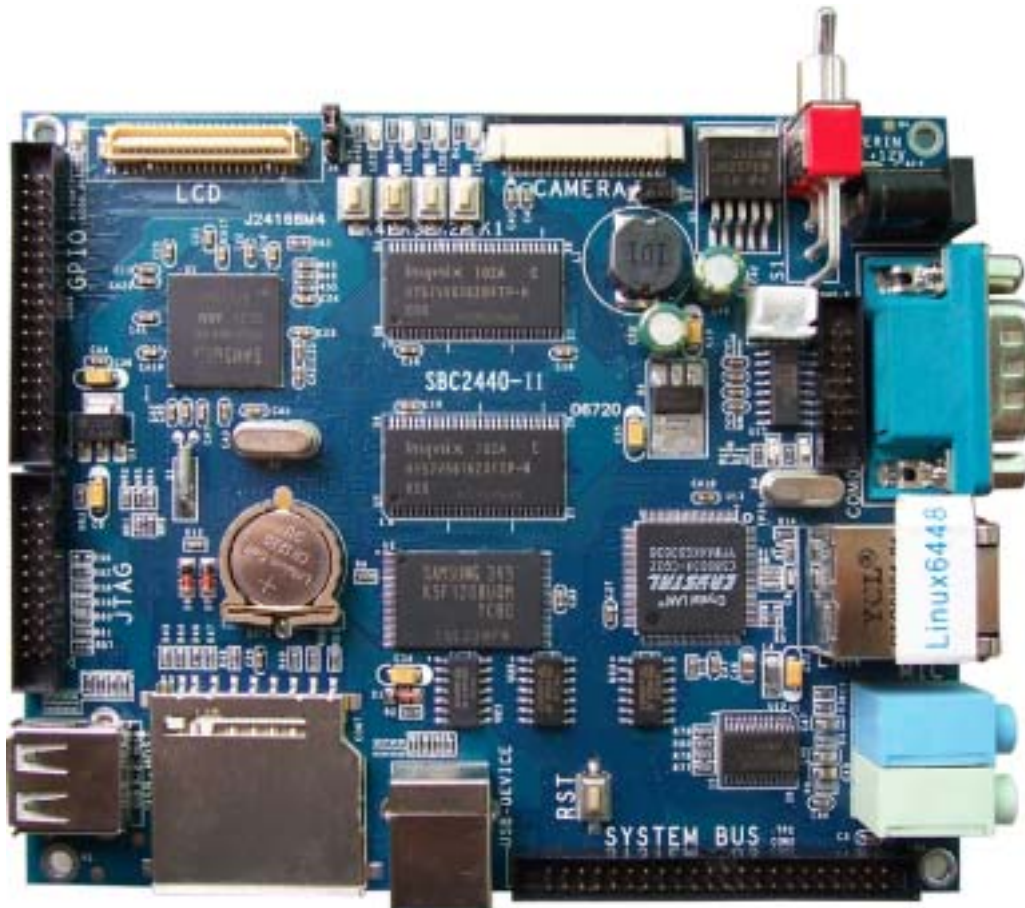


SBC2440-II Single Board Computer

- ARM920T Single-board Computer based upon Samsung S3C2440A
- RS232, USB Host/Device, Ethernet, LCD, System bus, Camera, SD/MMC, Jtag...
- Capable of supporting Linux 2.6 or WinCE 4.2 OS



Embest SBC2440-II Single Board Computer

Description

The SBC2440-II is a single board computer (SBC) powered by Samsung S3C2440 processor operating at 400MHz designed by Embest. The 16/32-bit RISC microprocessor has additional a complete set of common system peripherals including LCD controller (STN & TFT), System Manager (chip select logic and SDRAM controller), 3-ch UART, 4-ch DMA, I/O ports, RTC, 8-ch 10-bit ADC and touch screen interface, IIC-BUS interface, IIS-BUS interface, USB host, USB device, SD host & Camera interface, 2-ch SPI and PLL for clock generation.

The board takes full advantage of the S3C2440A microcontroller. Because of its small size and low power consumption, it is well suited for portable and mobile products. It supports a variety of onboard peripherals such as 64Mbyte Nand Flash, 64Mbyte SDRAM, USB Host and USB Device, serial ports, Ethernet interface, camera interface, battery backed RTC, LEDs, reset buttons. In addition to this, expansion connections are made available via a number of header connectors and support peripheral LCD hardware, touch screen, SD card, JTAG, system bus and GPIOs.

The SBC2410-II is capable of supporting Linux and WinCE OS. Embest provides Linux 2.6.13 source code and WindowsCE4.2.net BSP with this board, which could help customers better understand the hardware operations and quicken your development steps.

Embest offers, as an option, a full-featured Integrated Development Environment (IDE) that can be used to develop applications, download binaries to the target and debug applications. The IDE runs from a PC and can be ordered with either a high-speed JTAG interface (up to 800kbps) or standard interface (120kbps). Optional LCD display hardware is also available for this development board and can be easily connected to an existing header.

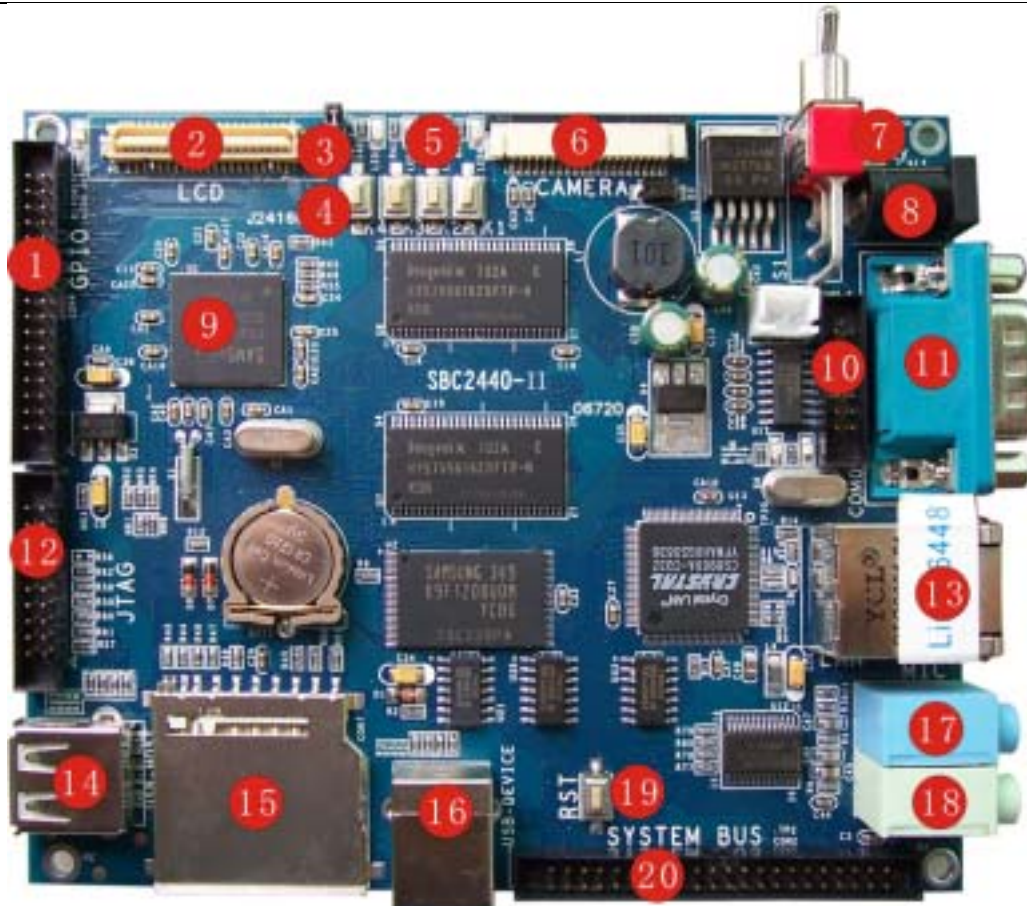
Hardware Features

The S3C2440A processor features an ARM920T core, a 16/32-bit RISC microprocessor for high performance in a small form-factor and a low core voltage of 1.3V with a typical power usage of 0.2W at 400MHz operating speeds. In addition, it is developed using 0.13um CMOS standard cell and a memory compiler and adopts Advanced Microcontroller Bus Architecture (AMBA). It has additional a complete set of common system peripherals including LCD controller (STN & TFT), System Manager (chip select logic and SDRAM controller), 3-ch UART, 4-ch DMA, I/O ports, RTC, 8-ch 10-bit ADC and touch screen interface, IIC-BUS interface, IIS-BUS interface, USB host, USB device, SD host & Camera interface, 2-ch SPI and PLL for clock generation.

The SBC2440-II exposes many of these features to the user in support of developing specific solutions. This board is characterized as follows:

- Dimensions: 120x100mm
- Working temperature: 0~70 Celsius
- Power supply: +12V
- Samsung S3C2440A (ARM920T core with MMU capable of 400 MHz operation)
- Flash: 64Mbyte Nand Flash
- SDRAM: 64Mbyte
- LCD Display interface (STN or TFT, support resolution up to 1024x768)
- Touch Screen interface
- 10M Ethernet interface
- Audio in/out (UDA1341)
- 1 RS232 serial port
- 3 serial ports available through 14pin (2.0mm space) interface
- USB Host and USB Device
- RTC (battery backed)
- SD/MMC card socket
- 4 Status LEDs
- 4 User buttons
- 3.3V power indicator
- 1 Reset button
- 1 20pin standard JTAG interface
- 1 Camera interface
- 34pin GPIO expansion connector
- 44pin system bus interface

Interface Introduction



No	Description
1	GPIO interface
2	LCD interface
3	Jumper: J6, LCD voltage selection (5V or 3.3V)
4	User buttons
5	User LEDS
6	Camera interface
7	Switch of power supply
8	+12V AC outlet (Inside positive outside negative)
9	CPU: S3C2440A
10	COM1, 2,3 extended from CPU, TTL
11	RS232 serial port 1
12	JTAG interface
13	RJ45 10M Ethernet interface
14	USB host
15	SD Card socket
16	USB device
17	Microphone input socket
18	Audio output socket
19	Reset button
20	System bus

Software

The board is capable of supporting Linux 2.6.13 and WindowsCE 4.2.

Please make the following software modules we provided with the board for your references:

Software			
OS	Item	Feature	Description
Linux	sbc_vivi (Do not provide source code)	Boot	Start up system
		Xmodem	Support Xmodem transmit protocol
		USB	Add USB downloading function in vivi, supporting downloading/ updating image with USB
		Kernel Parameter	Support kernel parameter setting
		Partition	Support partition setting
	Kernel	Version	Linux kernel 2.6.13
		File system	ROM/CRAM/EXT2/FAT32/NFS/YAFFS
	Drivers	Interrupt & Timer	System Interrupt & Timer
		Serial device	Three serial ports
		10M Ethernet	CS8900
		RTC	
		USB Host	
		USB Slave	
		LEDs	
		Buttons	User buttons
		Language	Multi-language Support
		LCD	
		Frame Buffer	Frame Buffer
		Touch panel	
		SD/MMC card	
		UDA1341	
	Embedded GUI	Qt/Embedded	
	Network protocol & application	TCP/IP	TCP/IP protocol
File transfer		(FTP client/server)	
Remote login			
WinCE	Bootloader	sbc_vivi (Do not provide source code)	Add USB downloading function in vivi, supporting downloading/ updating image with USB
		Eboot	Ethernet bootloader for wince
	Driver	Serial device	Serial port 0
		Flash memory	Nand Flash driver
		10M Ethernet	CS8900
		USB Host	Support USB keyboard and USB mouse
		USB device	
		LED	
		RTC	
EINT			

	LCD	Support 240x320, 640x480
	Audio	
	SD/MMC card	

Order Information

Order No.	MH7
Item	Embest SBC2440-II Single Board Computer
Price	Please contact us for detailed information.
CD-ROM	<ul style="list-style-type: none"> ● software ● user manual ● circuit schematic drawing ● parts datasheet ● Embest products reference
Option hardware	MITSUBISHI 8.4" TFT LCD or Samsung 3.5" TFT LCD
Option Tools	Embest IDE for ARM Development Tools Suite I or II, include: <ul style="list-style-type: none"> ● IDE, editor, GNU ARM Compiler and Linker, debugger, full registered version ● Embest PowerICE or Embest UnetICE ● Embest Flash Programmer
Available contents if ordered in kits (SBC2440-II-EVAL Kit)	<ul style="list-style-type: none"> ● SBC2440-II board (Preload with Linux) ● 1 serial cable ● 1 net cable ● 1 USB cable ● 12V power adapter ● 1 CD with product reference



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