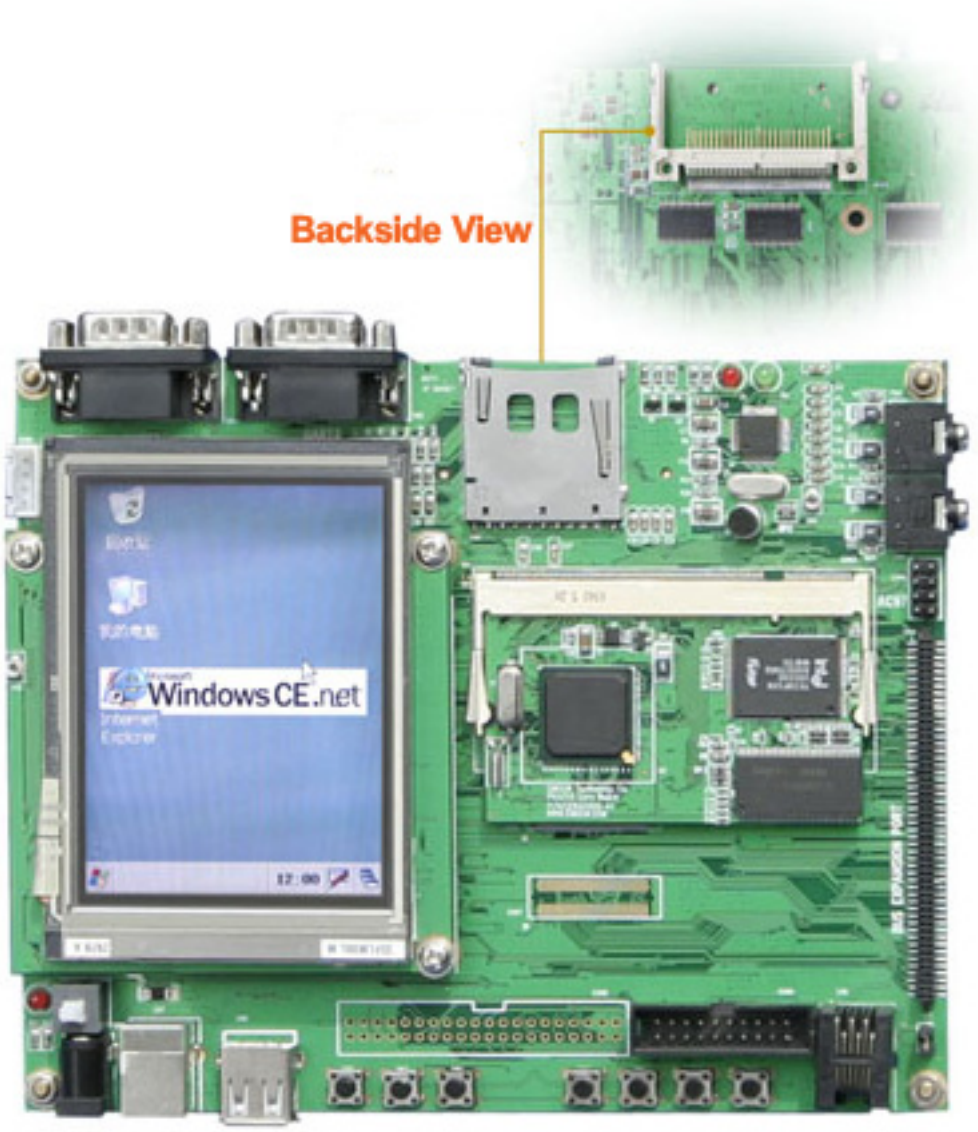
Embest XScale PXA255 Evaluation Board

- ARM Evaluation Board based upon Intel XScale PXA255 Processor
- Mic, Headset, LCD, Keyboard, AC97, IrDA, MMC/SD Card, CF Card, USB, Bluetooth, JTAG ……
- Full Bus and Peripheral Signal Expansion
- Capable of supporting WinCE 4.2 operating system



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Description

The Intel® PXA255 processor is using Intel XScale technology and designed for advanced devices that run the most impactful mobile applications. A pin-for-pin compatible, drop-in replacement for the processor, it is a highly integrated, 32-bit RISC processor that combines the efficiency of Intel design with the ARM v.5TE instruction set architecture can work up to 400MHz. The Intel PXA255 processor peripheral control module offers 16 channel configurable DMA controller, integrated LCD controller with unique DMA for fast color

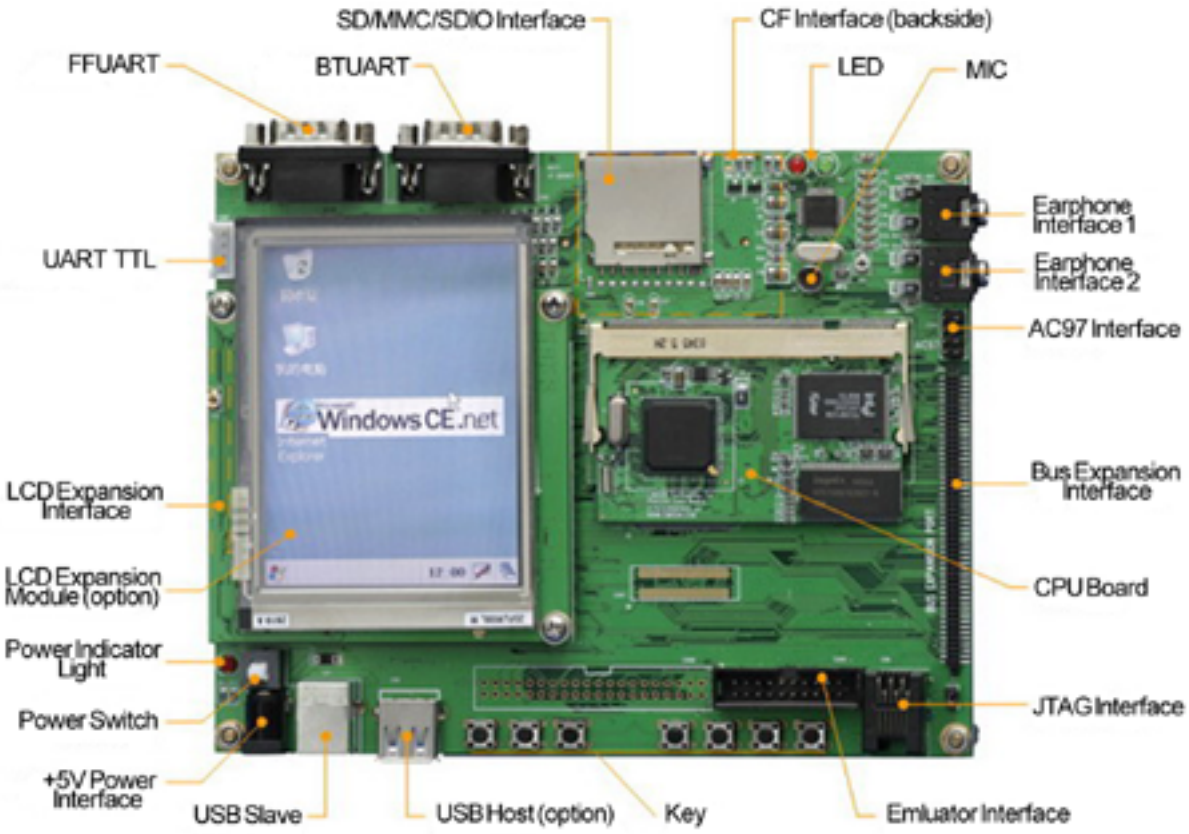
screen support, Bluetooth, serial ports including IrDA, I^2S, I2C, AC97, three UARTs, SPI and enhanced SSP, USB end point interface, and MMC/SD Card support for expandable memory and I/O functionality. It delivers industry leading processing power with built-in multimedia capabilities for high performance and hand-held functionality and designed to optimize low power consumption and high performance processing for a wide range of wireless and networking applications and rich services.

Embest XScale PXA255 Evaluation Board is intended as a low cost evaluation platform for Intel XScale PXA255 devices. The board expands all features of Intel XScale PXA255 processor and supports various additional interfaces including FFUART, BTUART, SD/MMC/SDIO, CF, UART for TTL, LCD, power, USB, emulator, JTAG, Bus expansion, etc. The board has a flexible design using a CPU board and an expansion board. This is convenient for users to update and upgrade their boards and effectively protects customers' prophase resources. Users can fully take use of the board to meet your development requirements and applications.

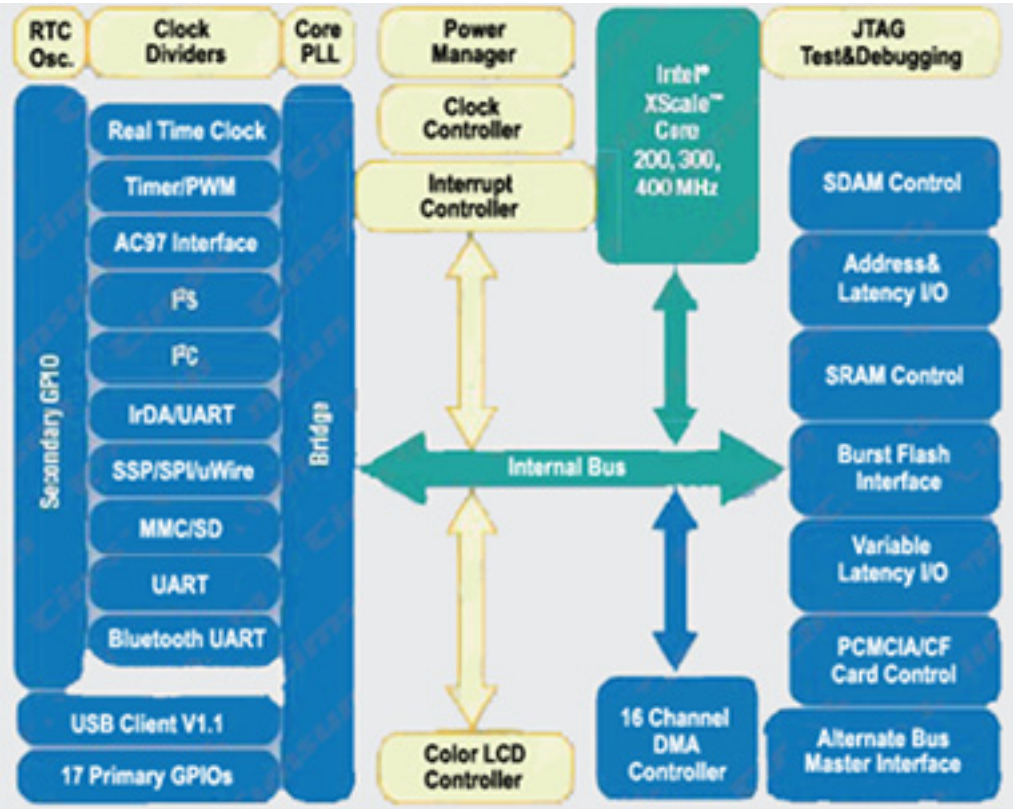
Hardware Specification

- Dimensions: 67x39mm (CPU board), 167x133 (expansion board)
- Working temperature: Extended temperature support
- Processor: Intel XScale PXA255 (ARM10) can work up to 400MHz
- Power input: DC +5.0V or USB power supply
- 64M SDRAM, Intel Strata Flash 32MB
- Two-way earphone output and one MIC interface
- AC97 interface
- 3.5" TFT LCD
- Touch screen
- Three UARTs (one for Full Function UART, one for Bluetooth UART and one for IrDA UART which supported by an optional* expansion board)
- JTAG interface (support ARM standard JATG interface and customer-built JTAG interface)
- USB (support USB1.1 slave)
- CF card interface
- SD/MMC, hardware supports SDIO, support SD/MMC Ethernet Image Download
- CS8900 10M Ethernet module (supports Ethernet Debug, Ethernet Image Download)
- 7 keys (one for hardware reset, one for software reset, one for power on/off, the other four for user defined)
- 3 LEDs (one for power, the other two are controlled by two GPIOs)
- Expansion interfaces (LCD, Touch, PWM, BUS, UART, AC97)

Function Module Introduction



Intel® PXA255 Processor Block Diagram



The Intel® PXA255 Processor Advantage

Feature	Benefit
High-performance, low-power Intel® XScale™ core at 200, 300 and 400 MHz. New power management for low power	Ideal for enabling enhanced battery life and performance for high-performance personal digital assistants and wireless communicators.
Faster internal system bus (At 400 MHz core, internal bus runs at 200 MHz vs. 100 MHz on the Intel® PXA250 processor)	Improved application performance
Intel Media Processing Technology	Optimized audio and video multimedia functionality
Enhanced Memory Controller	Supports low power 2.5V and 3.3V 32-bit and 16-bit memories including enhanced support for low-power SDRAM as well as glue-less burst and page mode interfaces with Synchronous Intel StrataFlash® Memory
MMC/SD and PCMCIA/CF Card support	Expandable storage and I/O device support
USB Client	Fast host synchronization
1.84 MHz cellular baseband interface	Efficient communications integration
920 Kbps Bluetooth** interface	Broad inter-device communication
Variable latency I/O	Add-on functionality capabilities

Software Examples

Embest provides WindowCE 4.2.net BSP and even a well-round and steady-going driver source code for this XScale PXA255 evaluation board. Source code provided includes the following test modules:

Example code	Description
eboot	Device booting code includes WinCE image file programming function
BackLight	LCD backlight driver source code
Display	LCD display driver
PCMCIA	CF Slot driver source code
NE2K	NE2000 compatible with network card code, support CF card
SD/MMC	SD/MMC driver code
SERIAL	RS232 serial port driver code
TouchP	Touch screen driver code
USB	USB Slave interface driver code
WaveDev	AC97 Audio driver code
NLEDDRV	LED driver code
HAL	Hardware Abstraction Layer source code
KBDMOUSE	Keymouse driver code

JFlashMM	JTAG tools source code

Order Information

Order No.	EBD1
Item	Embest XScale PXA255 Evaluation Board
Hardware	PXA255DB board with Sharp 3.5" TFT LCD, CS8900 10M Ethernet module, RS232 electricity lever conversion module
CD-ROM	● software examples ● user manual ● circuit schematic drawing ● Datasheet
Others	● 1 x Serial cable ● DC5V Power Adapter ● 1 x USB cable ● 1 x JTAG cable

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