

Embest XScale PXA270 Evaluation Board

- ARM Evaluation Board based upon Intel XScale PXA270 Processor
- USB, Ethernet, LCD, Camera&Keyboard, Audio, IrDA, MMC/SD Card, CF Card, Bluetooth, JTAG...
- Capable of supporting WinCE 4.2 operating system and compatible with Embest PXA255 CPU board



Embest XScale PXA270 Evaluation Board

Description

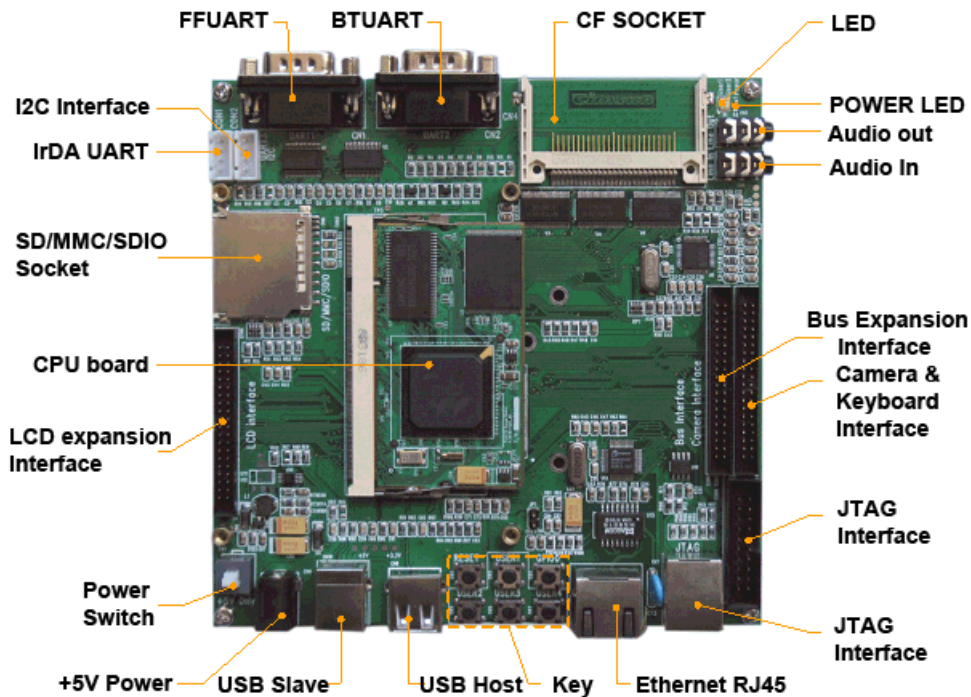
The Intel® PXA270 processor is designed to meet the growing demands of a new generation of leading-edge embedded products and is ideal for the low-power framework of battery-powered devices. It is the first Intel XScale® technology-based processor to include Intel® Wireless MMX™ technology which is able to work up to 520MHz. This featured technology enables high-performance multimedia acceleration with an industry proven instruction set. Another innovative feature is the Intel® Quick Capture technology, which provides one of the industry's most flexible and powerful camera interfaces for capturing digital images and video. The new capabilities of Wireless Intel SpeedStep® Power Manager technology provide a quantum leap forward in low power operation, while maintaining the highest levels of performance.

Embest XScale PXA270 Evaluation Board takes all features of Intel XScale PXA270 processor and full Bus and peripheral signals are expanded through interfaces on board including FFUART, BTUART, IrDA UART, SD/MMC/SDIO, CF, UART for TTL, LCD, power, USB, Ethernet, emulator, JTAG, Camera & Keyboard, Bus expansion, etc. The board has a flexible design using a CPU board and an expansion board. It is compatible with Embest PXA255 CPU board. This is convenient for users to lighten the burden on development and user can update and upgrade their boards easily and effectively protects customers' prophase resources. This would be a good solid reference board for your development.

Hardware Specification

- Dimensions: 67x39mm (CPU board), 140x140mm (expansion board)
- Working temperature: - 40°C to 85°C ambient temperature range available
- Processor: Intel XScale PXA270 can work up to 520MHz
- Power input: DC +5.0V or USB power supply
- 64M SDRAM, Intel Strata Flash 32MB
- Audio in (Mic input) and audio out (earphone output)
- 3.5" TFT LCD
- Touch screen
- Three UARTs (one for Full Function UART, one for Bluetooth UART and one for IrDA UART)
- JTAG interfaces (support ARM standard JATG interface and customer-built JTAG interface)
- USB (support USB1.1 slave, USB1.1 Host)
- CF card interface
- SD/MMC, hardware supports SDIO, support SD/MMC Ethernet Image Download
- 10/100M Ethernet interface (supports Ethernet Debug, Ethernet Image Download)
- 6 keys (one for reset, one for power on/off, the other four for user defined)
- 2 LEDs (one for power, the other one is controlled by GPIO)
- Expansion interfaces (LCD, Touch, PWM, BUS, UART, Camera&Keyboard)

Function Module Introduction

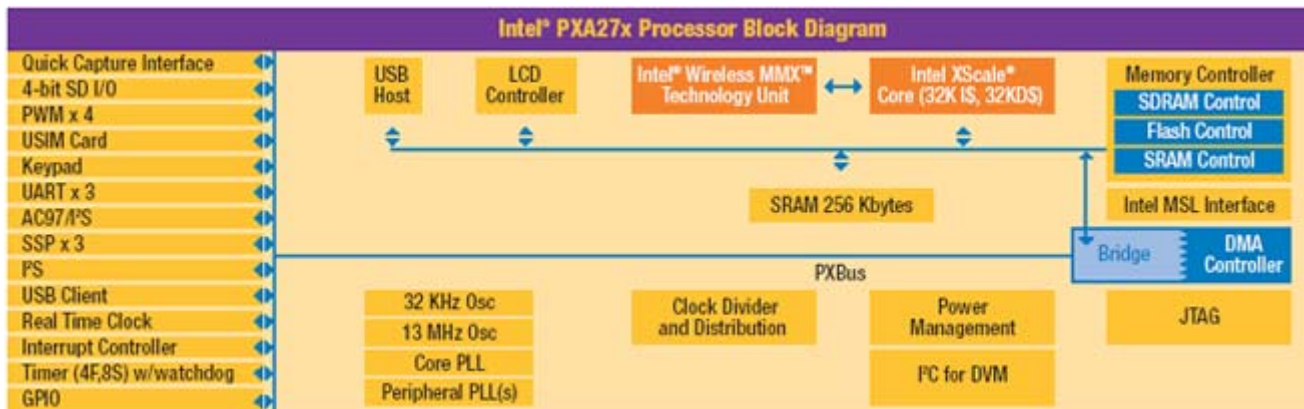


Wanxin 3.5" TFT LCD



Manufacturer: Wanxin
 Display area: 70.08×52.56mm
 Drive mode: TFT active array
 Color: 16.7M-color
 Resolution: 240×320
 Image processing: RGB vertical scanning
 Image size: 219×73 μm
 Module size: 82×92 mm
 Weight: 55g
 Signal interface: SPI+RGB 24-bit
 Touch: four-wire resistance type
 Backlight: white light LED

Intel® PXA270 Processor Block Diagram



The Intel® PXA270 Processor Advantage

| Feature | Intel® PXA270 Processor For Embedded Computing |
|------------------------------|---|
| Intel XScale® Technology | Highly scalable core up to 520 MHz |
| Embedded Packaging | 23x23 mm with 1.0 mm ball pitch 13x13 mm with 0.5 mm ball pitch also available |
| Extended Temperature Range | -40°C to 85°C ambient temperature range available |
| Product Life Cycle | Anticipated five-year life cycle ¹ |
| Incredible Multimedia | Familiar Intel® Wireless MMX™ technology instructions designed for high-performance multimedia, 3-D games and advanced video |
| Advanced Camera Interface | Intel® Quick Capture technology supports 4+ megapixel cameras for capturing digital images, video and low-power, real-time previews |
| Enhanced LCD Controller | Dual-panel LCD with up to 24-bit color. Hardware color space conversion with 256 KB of on-chip SRAM for faster video. Two overlays reduce LCD bandwidth. Integrated Intel Quick Capture technology enables fast video preview |
| Reduced Power Consumption | Wireless Intel SpeedStep® Power Manager technology with five low-power modes can change frequency and voltage dynamically. Wireless Intel SpeedStep Power Manager software enables built-in, intelligent power management |
| Fast Access to Wireless Data | Intel® Mobile Scalable Link provides up to 416 Mbps link between communications and applications processors |
| Large Peripheral Set | USB Host/Client USB OTG 4-bit SD I/O MMC/SDCard Memory Stick USIM card interface Keypad controller PCMCIA/CF ICP |
| Memory Interface | 100 MHz memory bus supports a variety of 1.8 V, 2.5 V, 3.0 V and 3.3 V memory |

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 |
| 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 | Audio driver code |
| NLEDDR | LED driver code |
| HAL | Hardware Abstraction Layer source code |
| KBDMOUSE | Keypress driver code |
| JFlashMM | JTAG tools source code |
| Network | DM9000 driver code |

Order Information

| | |
|-----------|--|
| Order No. | EBD2 |
| Item | Embest XScale PXA270 Evaluation Board |
| Hardware | PXA270DB board with Wanxin 3.5" TFT LCD |
| CD-ROM | <ul style="list-style-type: none"> ● software examples ● user manual ● circuit schematic drawing ● Datasheet |
| Others | <ul style="list-style-type: none"> ● 1 x Serial cable ● DC5V Power Adapter ● 1 x USB cable ● 1 x JTAG cable |



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