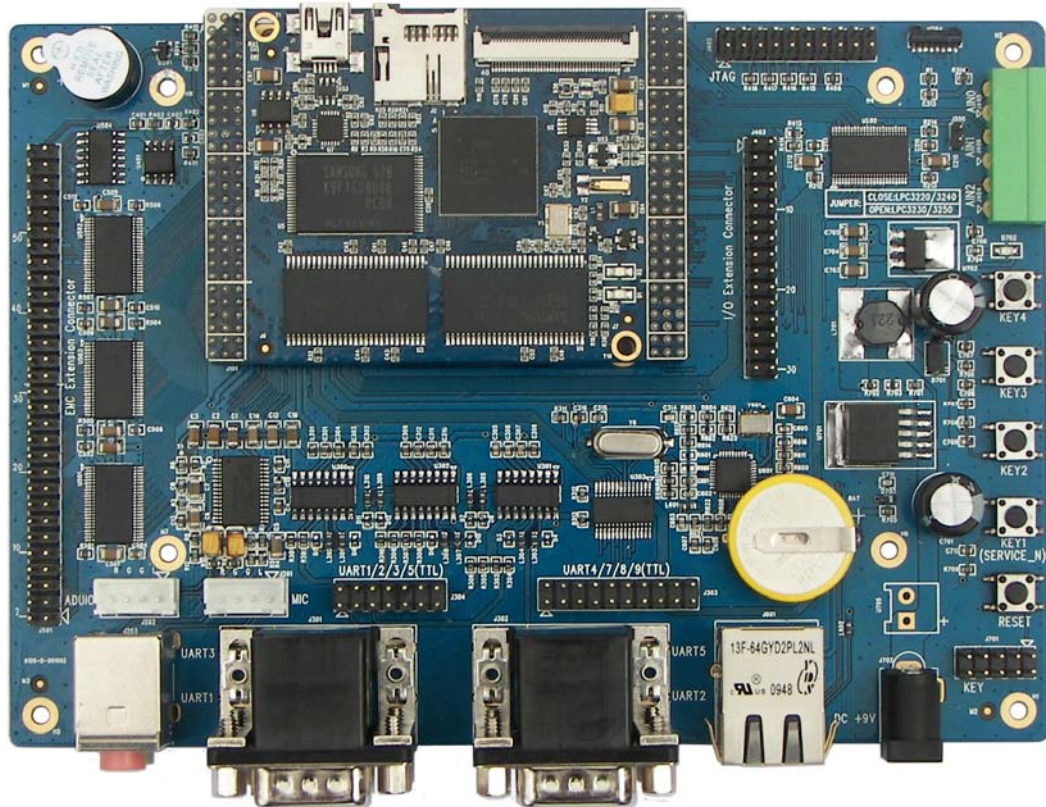


DevKit3250 Evaluation Kit

- *Evaluation Board based on 266MHz NXP LPC3250 ARM926EJ-S Microcontroller*
- *Onboard 64MByte SDRAM + 128MByte NAND Flash + 4MB Nor Flash*
- *8 UARTs, IrDA, Ethernet, USB OTG, Audio, LCD, Micro SD, 3 ADC, RTC, JTAG, ...*
- *Ready-to-Run Linux 2.6.27 OS*



Overview

Embest DevKit3250 Evaluation Board is designed based on Mini3250 processor card using NXP's LPC3250 microprocessor which is built around a 90-nm, 266MHz ARM926EJ-S CPU core and a Vector Floating Point (VFP) coprocessor, designed for applications that require high performance, high integration, and low power consumption.

The CPU core board Mini3250 on Devkit3250, measuring only 75mm by 55mm, has integrated LPC3250 ARM926EJ core and provided Multiple Storage Media including 64MB SDRAM, 128MB bytes NAND FLASH, 4MB Nor Flash. It also supports SD card and USB mass storage devices and has one power indicating LED, one programmable LED and one 40 pin TFT-LCD connector on board. It connects to Devkit3250 expansion board through two 2.0mm pitch 3-line 27-pin connectors. The expansion board has increased the core board's I/Os capabilities. It brought out 8 UARTS, IrDA, Ethernet, Audio, ADC, RTC, Buzzer, Keys, EMC Bus and GPIOs.

The DevKit3250 board is preloaded with ready-to-run Linux OS. Embest offers Linux 2.6.27 BSP and all necessary documents and accessories with this Kit to effectively help with customer's early development work. It can be also used directly into customer's next design.

Hardware Features

The LPC3250 processor is among NXP LPC32x0 series device which is designed for applications that require high performance, high integration, and low power consumption. It is built around a 90-nm, 266MHz ARM926EJ-S CPU core and a Vector Floating Point (VFP) coprocessor and has a 10/100 Ethernet MAC with a dedicated DMA controller. There is also a flexible LCD controller that supports STN and TFT panels, and offers a dedicated DMA controller and programmable display resolution up to 1024 x 768 and up to 16M colors. Multiple interfaces for serial communications increase design flexibility, provide larger buffer size, and deliver higher processing power. Each LPC32x0 microcontroller has a 10-bit, 400-kHz A/D converter with three channels and a touchscreen interface. A seven-layer, 32-bit, 104-MHz AHB matrix provides a separate bus for each of the seven AHB masters (D-cache, I-cache, two DMA, Ethernet MAC, USB controller, and LCD controller).

The DevKit3250 Evaluation board is based on LPC3250 processor and takes full features of the processor. This board is characterized as follows:

Mini3250 CPU core board

Processor

- NXP LPC3250 processor (Compatible with NXP LPC3220/LPC3230/LPC3240 processors)
 - 266MHz, 32-bit ARM926EJ-S core
 - Vector Floating Point coprocessor
 - Up to 256KB of internal SRAM and 32KB I-cache/32KB D-cache
 - External memory controller for DDR and SDR SDRAM, SRAM, and Flash
 - Available 10/100 Ethernet MAC
 - USB OTG with full-speed host and device capabilities
 - Available 24-bit LCD controller supports STN and TFT panels
 - Comprehensive set of serial interfaces
 - SD memory-card interface

Memory

- 64MByte SDRAM
- 128MByte NAND Flash
- 4MByte Nor Flash

Onboard Interfaces

- One 40-pin LCD interface (with touch screen interface)
- One Micro SD Card slot
- One USB OTG 2.0 connector, mini-B type, with ESD protection
- JTAG on the rear of the board (optional)
- Two 2.0mm pitch 3-line 27-pin connectors (7 UARTs, Ethernet and all IOs are led out via the two connectors.)

RTC, Watchdog timer and LED

- 32768Hz RTC
- Watchdog timer, supported with the microprocessor
- One power indicator
- One programmable LED

Devkit3250 Expansion Board

Data Transfer Interface

- Serial port:
 - 4 x RS232 UARTs, DB9 Connector; TTL lead out with Pin Array (Optional)
 - 4 x TTL UARTs, lead out with Pin Array
 - 1 x IrDA
- EMC Bus
 - 24 Bit Address Bus and 16 Bit Data Bus, CS, Reset, Read/Write, INT Signal
- Ethernet: 10/100Mbps, RJ45 connector with LED
- I2C Type 2Kbit EEPROM

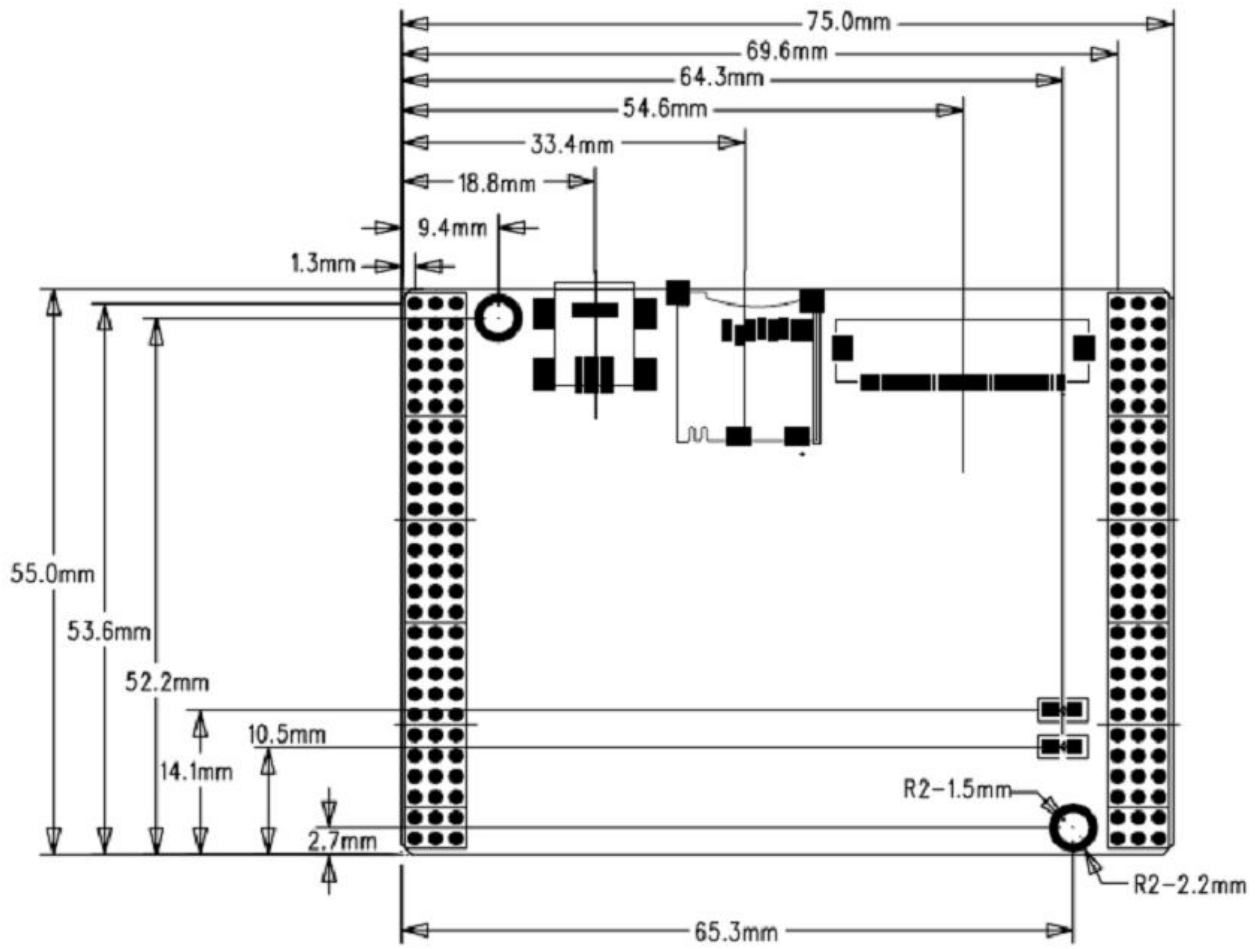
Input/Output Interface

- One Reset Button
- Four Programmable Buttons connecting with pin array
- Three ADC Phoenix Terminal Interfaces
- One 3.5mm Stereo Phone Jack
- One 3.5mm Mic Jack
- One 20-pin 2.54mm pitch JTAG interface
- 23 IO Pins, including I2C, SPI, PWM etc.
- RTC with Lithium Battery CR2032
- One buzzer
- Power Indicating LED

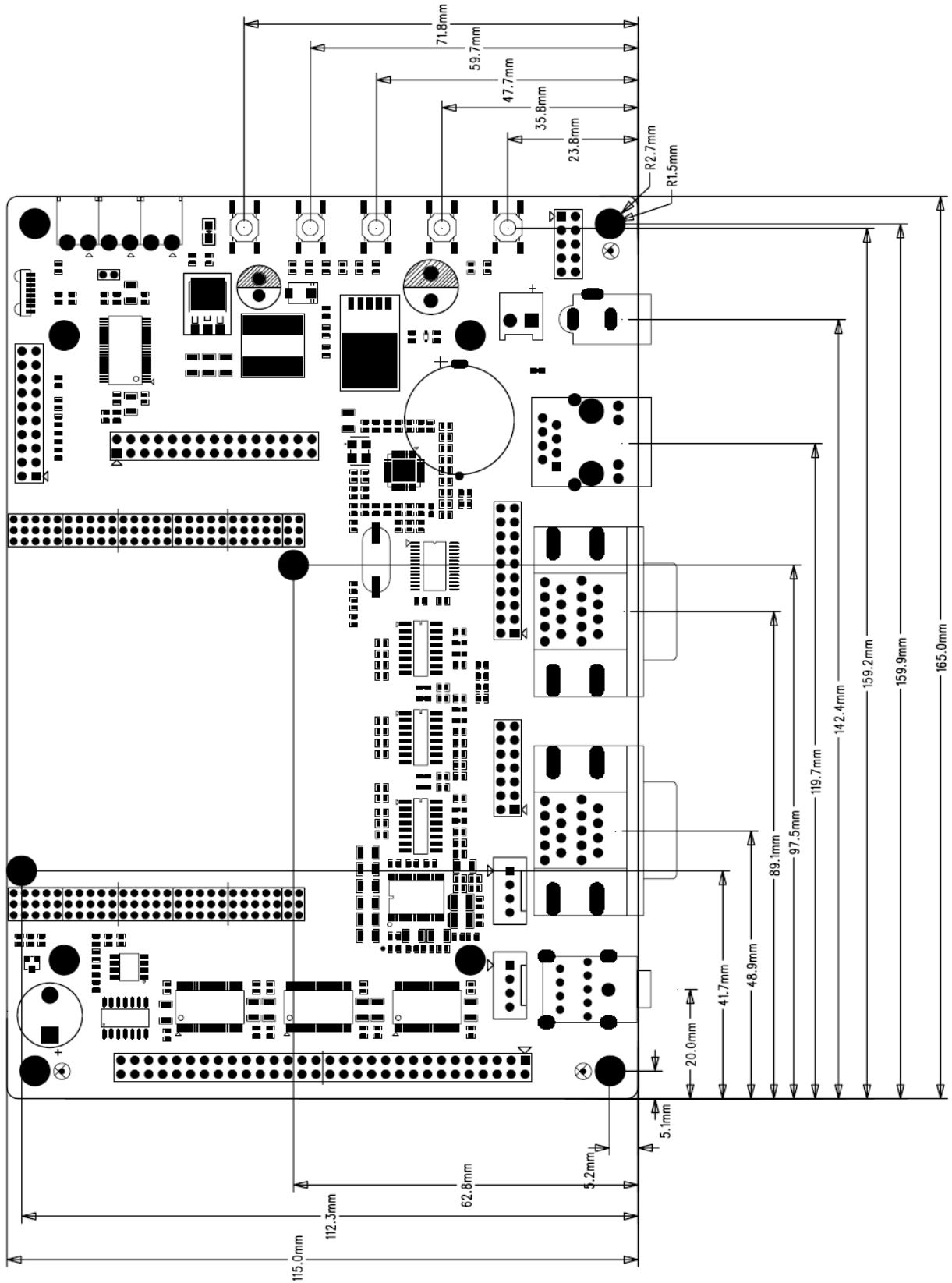
Mechanical Parameters

- Dimensions: 165 mm x 115 mm
- DC Jack, 9-12V DC Input, Power Pin (Optional)

Dimensions

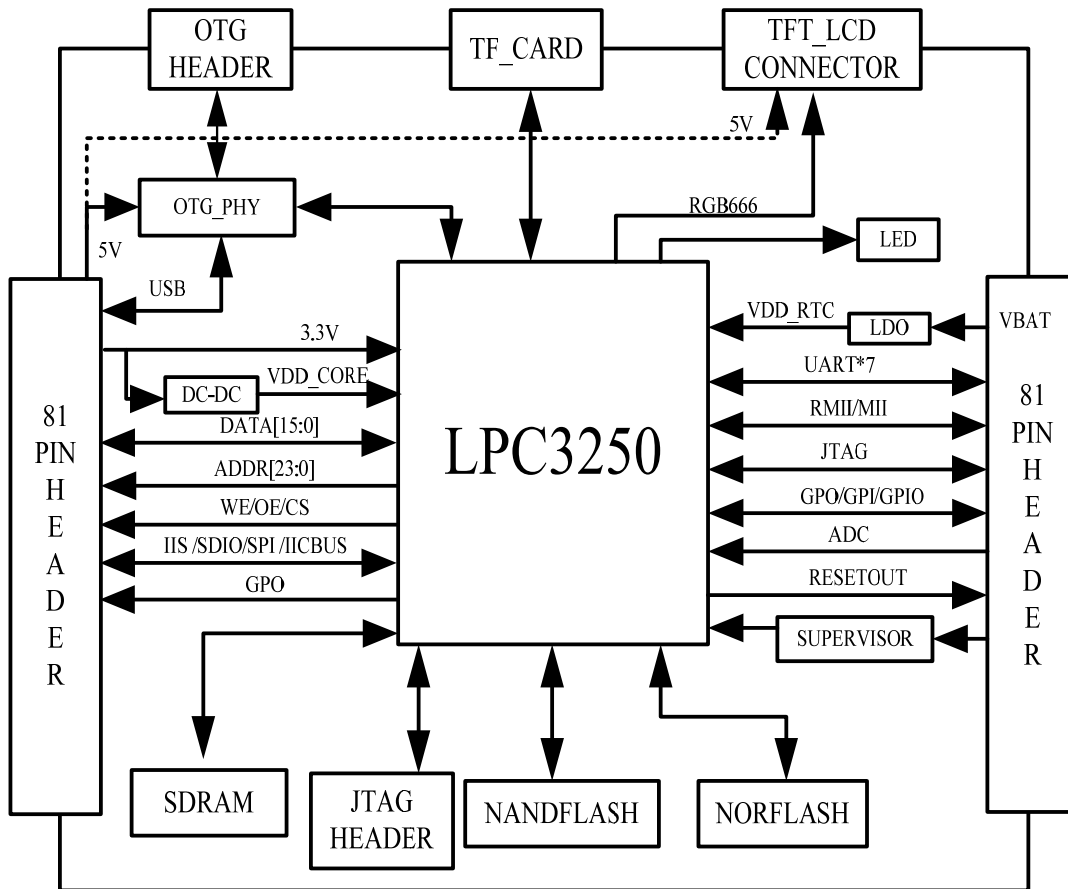


DevKit3250 CPU Core Board (Mini6045)

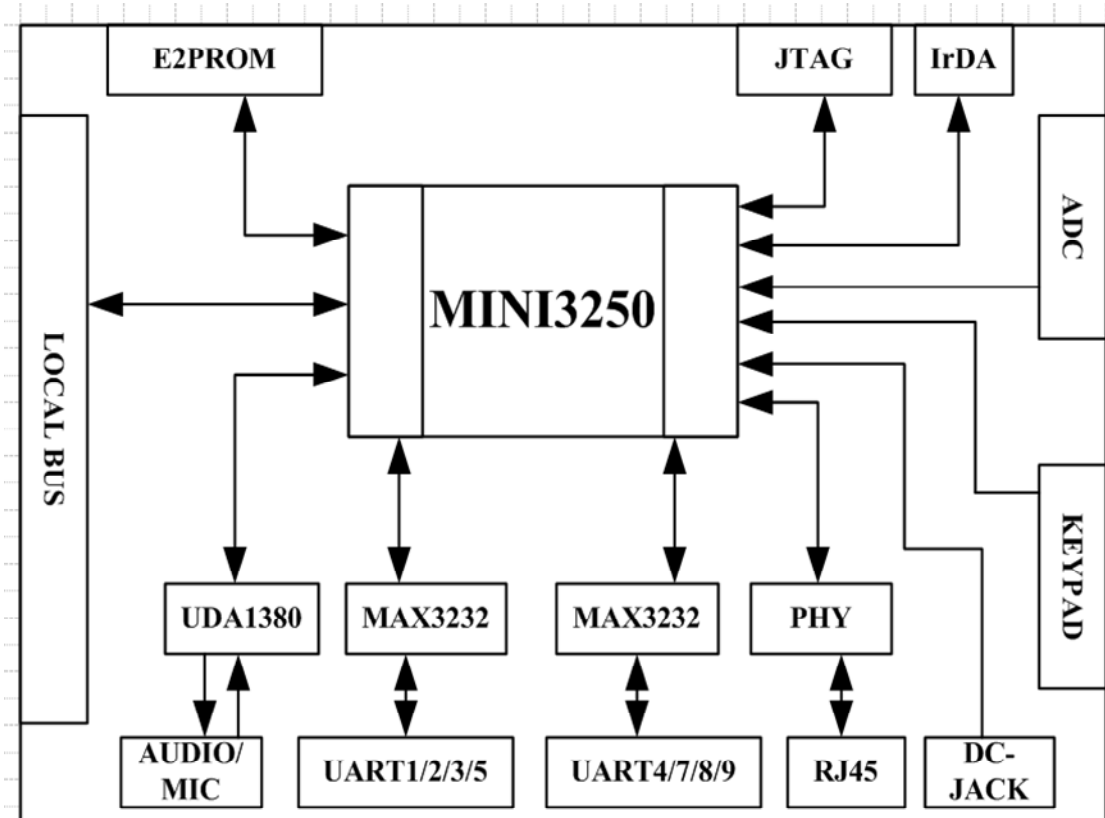


DevKit3250 Expansion Board

Function Block Diagram

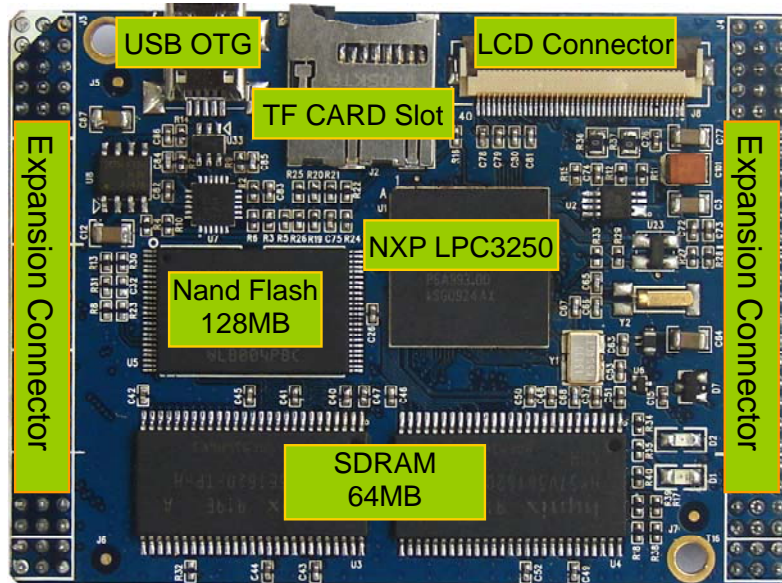


Mini3250 CPU core board Function Diagram

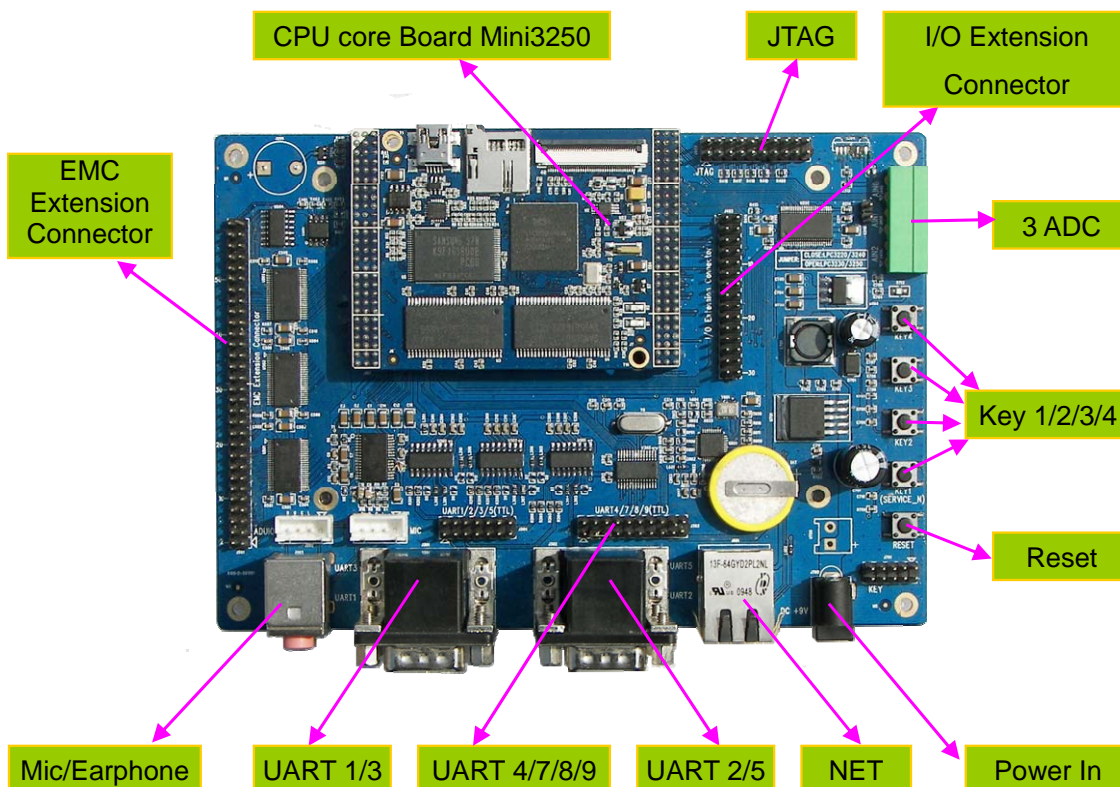


Devkit3250 Expansion Board Function Diagram

Interface Introduction



4MB Nor Flash (on rear of board)
Devkit3250 CPU core Board (Mini3250 Processor Card)



Devkit3250 Evaluation Board

Software

The DevKit3250 Evaluation board is provided with Linux 2.6.27 BSP, steady-going drivers, many of which are all in source code. Please refer to below table.

OS	Item	Feature	Description	
Linux	Bootloader	Stage1Loader	Boot To boot U-boot from Nand Flash Support updating u-boot, kernel, file system via Micro SD	
		U-boot	Boot	Start up system
			Tftp	Support tftp transmitting protocol
			File system	Support writing JFFS2 file system image into nand flash
			Kernel	Support writing kernel image into nand flash
		Kernel Parameter	Support kernel parameter setting	
	Kernel and Drivers	Version	Linux kernel 2.6.27	
		File system	EXT2/FAT/NFS/JFFS2	
		RTC	RTC driver	
		UART	UART 1/2/3/4/5/7/8/9 drivers	
		IrDA	IrDA driver	
		USB OTG	USB OTG driver, USB Mouse	
		Ethernet	Ethernet driver	
		Audio	Audio in/out driver	
		LEDs	LED driver	
		LCD	Support 480x272, 800x480	
		Touch panel	Touch screen driver	
		MMC/SD	Micro SD card driver	
		Key	Key 1/2/3/4 driver	
		Buzzer	Buzzer driver	
		I2C	I2C driver	
	I2S	I2S driver		
	Watchdog	Watchdog driver		
	Embedded GUI	Qt/Embedded	(Provide source code and image)	
	Network protocol & application	TCP/IP	TCP/IP protocol	
		File transfer	(FTP Client/server)	
		Remote login	Telnet protocol	
Web server		boa web server		
Sample Program	Demo	Button, EEPROM, LED, Buzzer, UART		

Order Information

Order No.	T6010097
Item	DevKit3250 Evaluation Kit
Hardware	<ul style="list-style-type: none">• One DevKit3250 Evaluation board• One 2G TF card• One USB cable• One DB9 Serial cable• One net cable• One 12V Power adapter• Optional 4.3" TFT LCD (resolution: 480*272, including touch screen)
Software and Documents	<ul style="list-style-type: none">• Documents (user manual, schematic drawing, Datasheet)• Linux 2.6.27 BSP
Price	Please contact us.

Detailed information about the DevKit3250 Evaluation Kit, please refer to Embest website:

<http://www.armkits.com/Product/devkit3250.asp>

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