

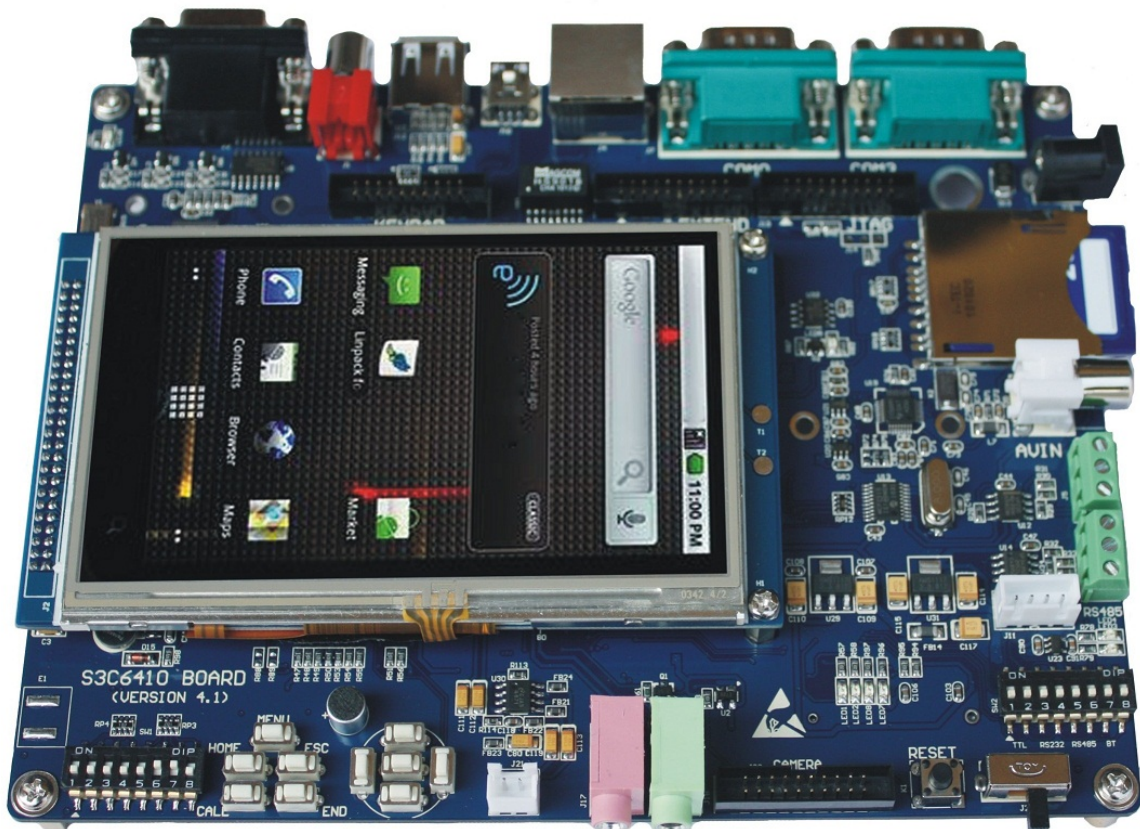


Real6410 Single Board Computer

- * **ARM11 Samsung S3C6410, ARM1176JZF-S, up to 667MHz**
- * **Flexible Design with a Tiny CPU Board mounted on Expansion Board**
- * **256MByte mDDR RAM + 1GByte NAND Flash**
- * **TV-out, GPS, GPRS, WIFI and Camera module support**
- * **Supports Linux2.6.28 Android 2.1 and WinCE 6.0,**

Overview

The Real6410 Single Board Computer is a high-performance controller board introduced by CoreWind. It is designed based on the Core6410 processor card which integrates an S3C6410 microcontroller, 256MByte mDDR SDRAM, 1GByte Nand Flash, RTC, Audio and net on board. It is connected with Real6410 expansion board through 170pin expansion interfaces (QFP package) .



CoreWind also offers a complete software development package to customers. The board supports linux 2.6.28, Android2.1 and WindowsCE 6.0 operating system and is provided with complete basic drivers which enable a quick channel to evaluate the Samsung S3C6410 processor and customize application software. It would be an ideal development platform for multimedia and communication applications.

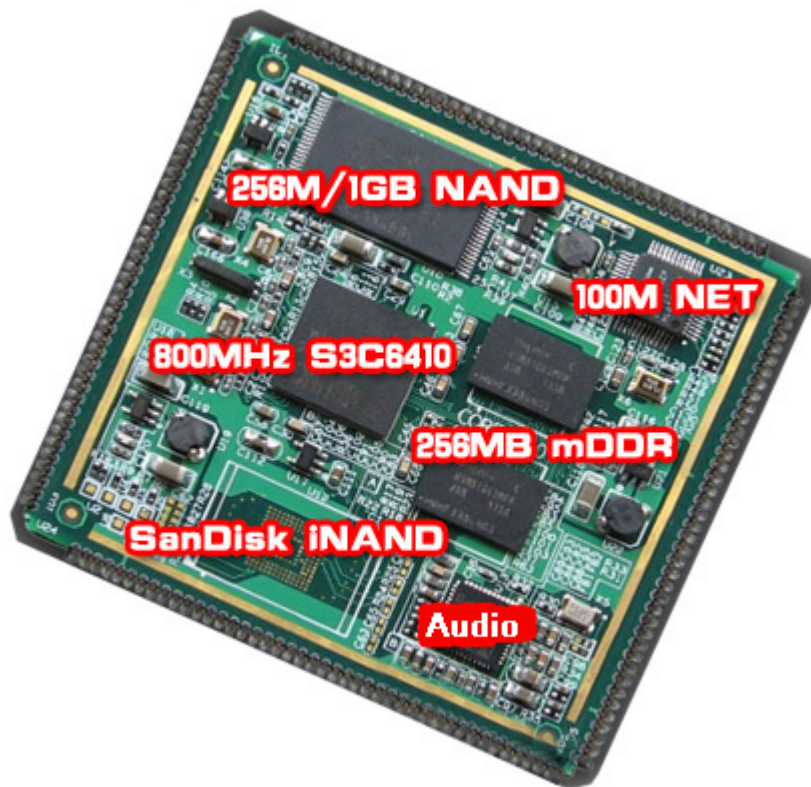


Hardware Features

The S3C6410X is a 16/32-bit RISC microprocessor, which is designed to provide a cost-effective, low-power capabilities, high performance Application Processor solution for mobile phones and general applications. To provide optimized H/W performance for the 2.5G & 3G communication services, the S3C6410X adopts 64/32-bit internal bus architecture. It also includes many powerful hardware accelerators for tasks such as motion video processing, audio processing, 2D graphics, display manipulation and scaling. An integrated Multi Format Codec (MFC) supports encoding and decoding of MPEG4/H.263/H.264 and decoding of VC1.

The Real6410 Single Board Computer is based on S3C6410 processor and designed with a tiny processor card Core6410 mounted directly onto an expansion board. This board is characterized as follows:

CPU Board Core6410



- Dimensions: 60 x 60 x 2.8 mm , 8 layer.
- ARM11 Samsung S3C6410, ARM1176JZF-S, up to 667MHz
- 256MByte MoblieDDR, 266MHz
- 1GByte NAND Flash(support 8GByte NAND Flash)
- iNAND Flash interface (Can support 8GByte iNAND Flash)
- Audio I/O: WM9713 chips, Support two-channel Audio I/O, support phone talk
- 100M Ethernet, DM9000 chips
- 170pin expansion interfaces (QFP package)
- The modular is led out most signals of ARM11 S3C6410, like Matrix Keypad, USB OTG, USB HOST, SDIO, LCD, Touch Screen, Camera, AC97, UART, SPI, I2C, ADC, DAC, PWM, EXT INT, GPIO and so on.
- Support Wince 6.0, Linux2.6 and Android 2.1
- Power supply: 3.7V - 6.5V
- Temperature: 0 to +70 Celsius



Expansion Board of Real6410

Mechanical Parameters

- Dimensions: **168.3 * 124 mm**
- Input Voltage: +5V
- Temperature Range: 0 °C ~ 70 °C
- Humidity Range: 20% ~ 90%

Audio/Video Interfaces

- A TFT LCD interface, resolution supporting up to 2048*2048
- A CVBS、TV out interface
- A camera input interface
- VGA support
- A audio I/O interface
- A 1.5W Speaker
- 4 line Touch Screen

Data Transfer Interface

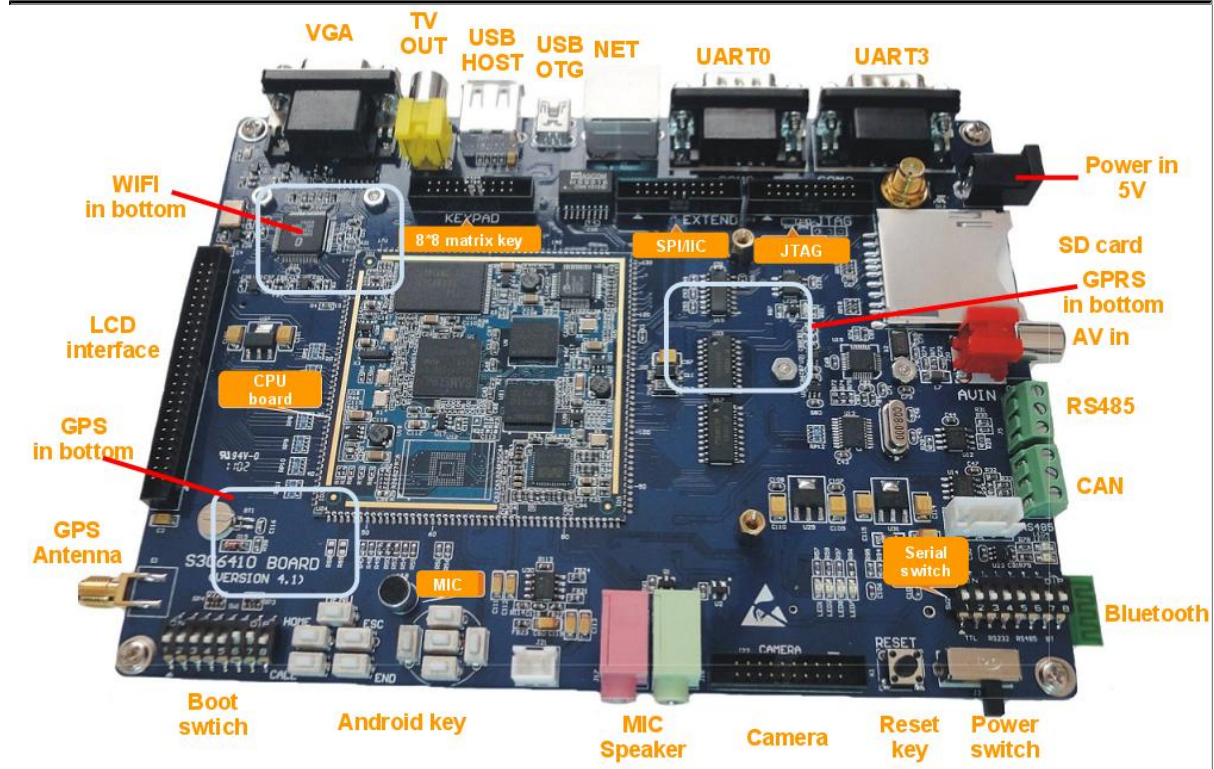
- Serial port:
 - Two 3-line serial port, RS232 voltage
- USB port:
 - 1 x USB OTG 2.0
 - 1 x USB Host 1.1
- SD card slot:
 - 1 channel SD card slot
- Ethernet: DM9000AEP 10/100Mbps, RJ45 connector
- 6 LEDs (programmable status LEDs, on CPU board)
- extend interface: SPI, IIC, ADC, EINT
- GPRS Module
 - Module name: GPRS SIM300
 - Link method: Serial port
- WIFI Module
 - Module name: AW-GM320 (azurewave company)
 - Link method: SDIO
- GPS module
 - Module name: SIRFIII GPS EB818
 - Link method: Serial port
- Camera module
 - Module name: OV9650
- Bluetooth module

Input Interface

- 10 phone button
- 8 x 8 Matrix Key interface
- One Reset button
- Boot mode switch

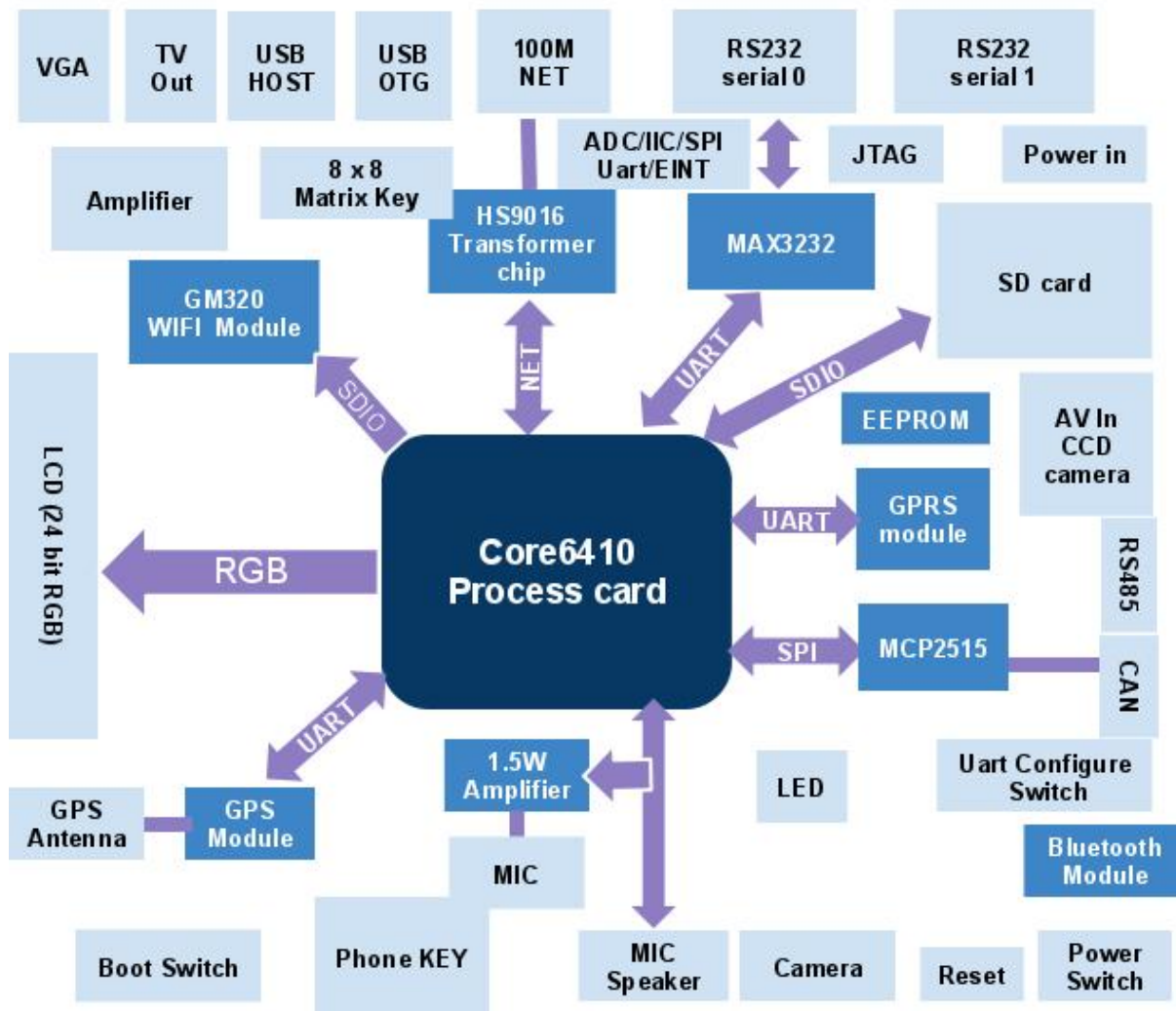


Interface Introduction





Function Block Diagram





Software

WinCE 6.0

Boot loader

- Version: Stepldr and EBOOT(provide Source code)
- Function: support download and update system by SD and USB

WinCE NK

- Version : Wince6.0
- Function: HIVE register support, BINFS support, 256M memory manage, SLEEP

Device Drivers

- TFT LCD/Touchscreen, TV out, Audio I/O, MMC/SD card, NET, USB host, USB OTG, Serial port
- watchdog, RTC, Power Manage, button, LED,
- **WIFI, GPS, GPRS, Camera, VGA**

System characteristic

- Windows Media Player 9.0 (supports MP3, MPEG2, MPEG4, WMV, WAV and so on).
- Picture explorer, wordpad.
- IE6 explorer.

Linux 2.6.28

Boot loader

- verison: s3c-u-boot-1.1.6
- Function: support boot and update system by SD card and USB

Linux kernel

- verison: s3c-Linux-2.6.28.4
- Compile: arm-none-linux-gnueabi-4.3.2
- Function: support MFC, Jpeg encode, 2D/3D

Device Driver

- TFT LCD/Touchscreen, Audio I/O, MMC/SD card, NET, USB host, USB OTG, Serial port
- watchdog, RTC, Power Manage, matix keypad, button, i2c, spi, ADC
- **WIFI, GPS, GPRS, Camera, VGA**

File System support

- ubifs/yaffs2/cramfs/fat32

Gui support

- qtopia-2.2.0
- QtE-4.5.2

Android 2.1

Boot loader

- verison: s3c-u-boot-1.1.6
- Function: support boot and update system by SD card and USB

Linux kernel

- verison: s3c-Linux-2.6.28.4
- Compile: jdk5
- Function: **support Jpeg encode, USB adb debug, AVD support**

Device Driver

- TFT LCD/Touchscreen, Audio OUT, MMC/SD card, NET, USB OTG, Serial port
- watchdog, RTC, keyboard
- **Support WIFI, GPS, Camera driver, VGA**

File System support

- Ubi filesystem

Function use

- **Ethernet**
- **USB adb debug**



- **Switch horizontal and vertical screen**
- **Dynamic Wallpapers**
- **APK program install method**
- **WIFI use**
- **Camera use**
- **GPS module use**

Order Information

Order No.	<ul style="list-style-type: none">• KIT03
Item	<ul style="list-style-type: none">• Real6410 Single Board Computer
HardWare	<ul style="list-style-type: none">• One Real6410 Single Board Computer• One 4.3"LCD• One Serial cable• One net cable• One Mini-USB cable• One 5V@2A Power adapter
Option Module	<ul style="list-style-type: none">• 7"LCD (driver support: Wince 6.0, Linux 2.6, Android2.1)• GPRS (driver support: Wince 6.0, Linux 2.6)• GPS (driver support: Wince 6.0, Linux 2.6, Android2.1)• WIFI (driver support: Wince 6.0, Linux 2.6, Android2.1)• Camera (driver support: Wince 6.0, Linux 2.6, Android2.1)
Software	<ul style="list-style-type: none">• Documents (user manual, Datasheet, Schematic)• Linux 2.6.28 BSP• Android 2.1 source code
Price	<ul style="list-style-type: none">• Please contact us(www.armdevs.com)

CoreWind Info&Tech(HK) Limited

Shangwudasha, NanShan Distric, Shenzhen, China 518020

Tel: 0086-755-29638421

Sales Email: market@armdevs.com

Support Email: support@armdevs.com

<http://www.armdevs.com>