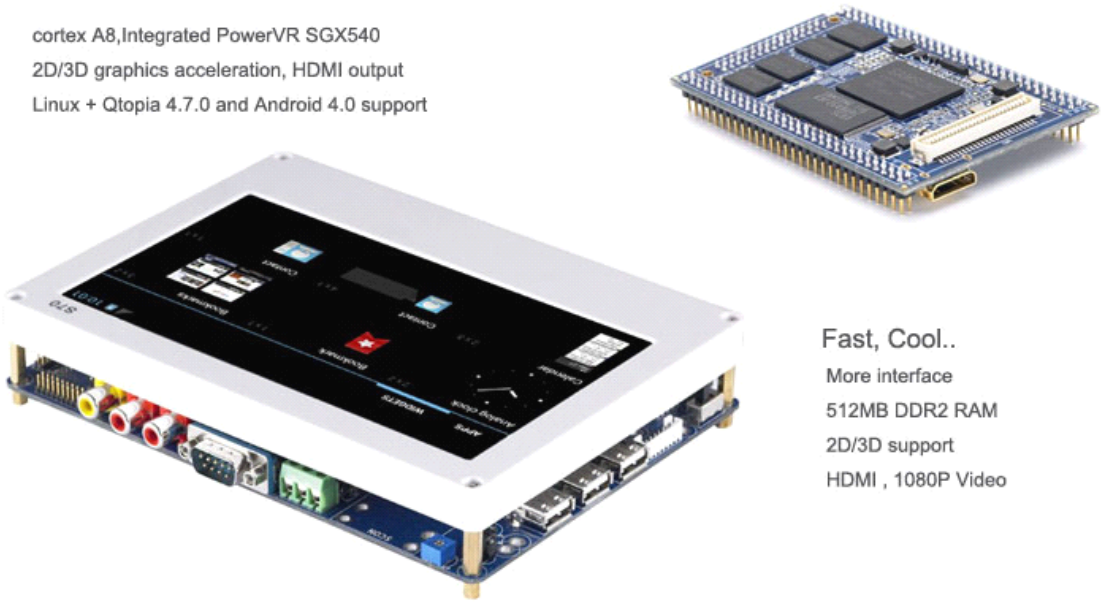
Tiny210 Single board Overview



Overview

- 1GHz Samsung S5PV210 with PowerVR SGX540 graphics engine
- 512MB DDR2 RAM and 256MB NAND Flash
- LCD/Touch Screen, HDMI,TV out, Audio support
- TF card, USB Host/OTG support
- Ethernet, WiFi, serial port, GPIO
- Contain CPU board
- Linux 2.6.35 & Android 2.3 support

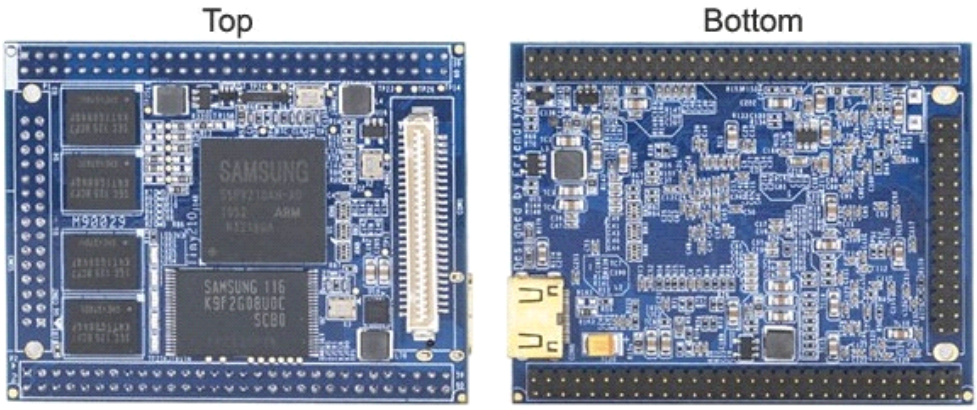
The Tiny210 Single Board Computer is a high-performance controller board introduced. It is designed based on the S5PV210 microcontroller, 512MByte DDR2 RAM, 256MByte Nand Flash, RTC, Audio and net on board. It has integrated RS232, USB, Ethernet, Audio In/Out, Keyboard, LCD, HDMI, TV out, camera in, SDIO WiFi Module, SD card and more other functions on board. So many hardware resources provided by the expansion board, it becomes a solid reference board for customer design.

We also offers a complete software development package to customers. The board supports linux 2.6.35, Android2.3 operating system and is provided with complete basic drivers which enable a quick channel to evaluate the Samsung S5PV210 processor and customize application software. It would be an ideal development platform for multimedia and communication applications.

Tiny210 Single board Overview

Hardware Features

Tiny210 CPU board



Tiny210 CPU board is a high-performance Cortex A8 core board. It uses Samsung S5PV210 as the main processor, running at up to 1GHz. Integrated PowerVR SGX540 S5PV210 internal high-performance graphics engine, support for 3D graphics run smoothly, and can be smooth to play 1080P video of the large size.

Mainly using the tiny210 double-pin 2.0mm pitch, leads to the CPU the most common functional pin, and seeks to Tiny6410 core board three rows of pin-compatible (P1, P2, and the CON2); also features the S5PV210 chips, respectively, leads to the standard miniHDMI interface, and 1.0mm pitch SMD CON1 Block (51Pin), as shown above.

Tiny210 onboard 512M DDR2 memory, and can smoothly run advanced operating system, Android, Linux and WinCE6. It is ideal for the development of high-end Internet of Things, advertising, multimedia terminal, smart home, high-end surveillance system, video game control panel device.

CPU board Hardware info

CPU: 1 GHz Samsung S5PV210 with PowerVR SGX540 graphics engine

DDR2 RAM: 512MB DDR2 RAM, 32bit data bus, 200MHz

FLASH: SLC NAND Flash: 256MB/1GB

Multi-IO:

- 2 x 60 Pin 2.0mm space DIP connector
- 1 x 30 Pin 2.0mm space DIP connector
- 1 x 51 Pin 1.0mm space SMD connector

on Board:

HDMI interface

4 x User Leds(Green)

1 x Power Led(Red)

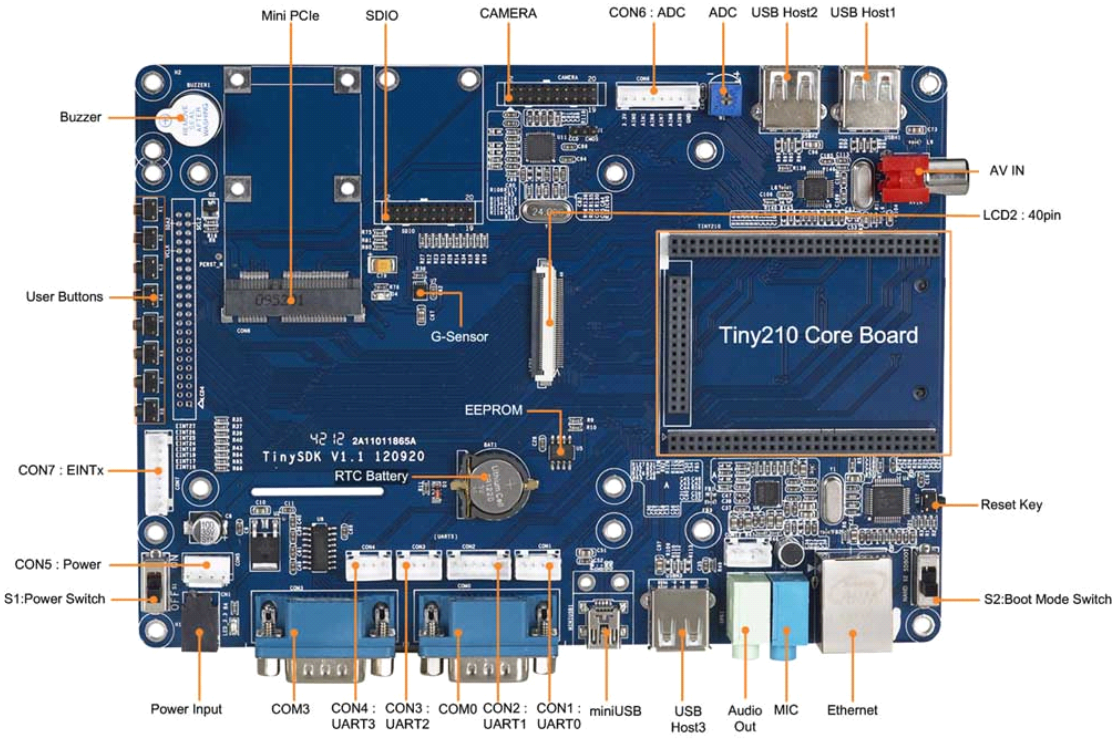
Supply Voltage from 2V to 6V

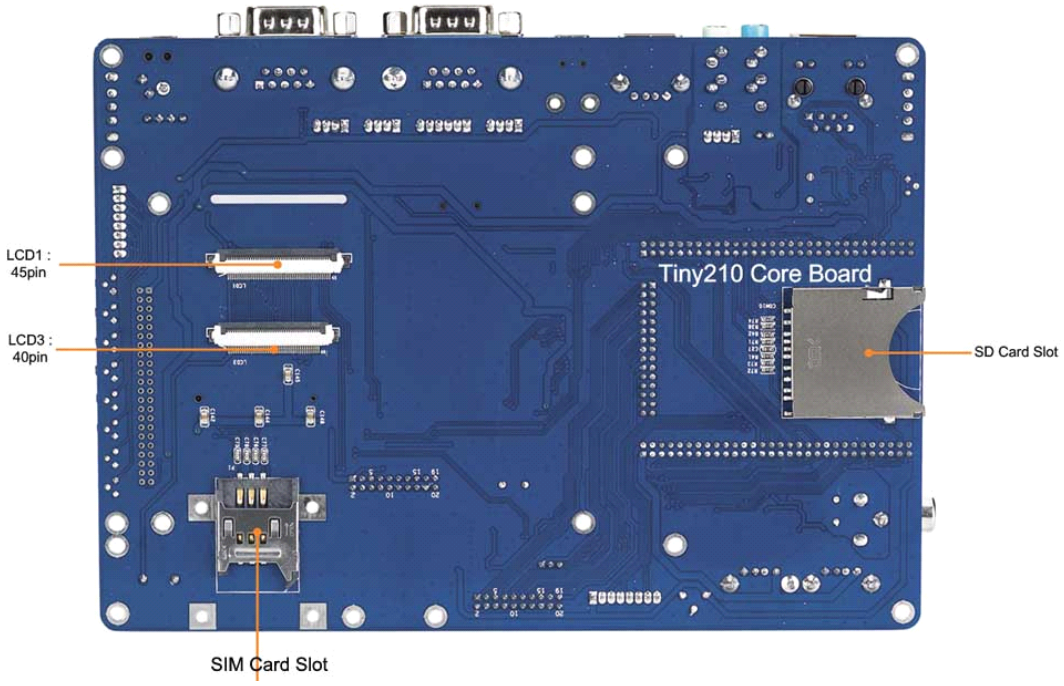
Mechanical: Dimension: 64x 50x 11mm

Software: Android 4.0, Android 2.3, Linux 2.6.35, Qtopia-2.2.0/Qt-4.4.3/Qt-4.7

Tiny210 Single board Overview

Tiny210 Mother board:





Interface define	Tiny210SDK1 Mother board
USB Host	**Four USB Host: standard USB Host port**
USB Slave	One USB Slave
Serial Port	**Four serial port**: two of them have been converted to RS232, and leads through

Tiny210 Single board Overview

	the DB9 Block (COM0, COM1), through the CON1, 2, 3, 4, Block leads to TTL level
Keys	Eight User keys
Ethernet	One RJ45 Ethernet port: DM9000AEP, 10/100M adaptive
Audio In/Out	One Audio In, One Audio Out, using the WM8960
ADC Input	Six ADC input
Buzzer	One, control by the PWM0
EEPROM	One, AT24C08 (256 Byte) for I2C test
LCD Interface	**Four LCD interface**, both 40 Pin 0.5mm Pitch Chip Block, support 3.5 "-19" full color TFT display LCD Another one is for 45Pin LCD interface
capacitance Touchscreen interface	Support, in the 45Pin LCD interface
SDIO interface	used to connect the SD WiFi module and other
CMOS Camera interface	used to connect CMOS camera Module
RTC Clock	with a backup battery
G-Sensor	G-Sensor support
Mini-PCIe	Mini-PCIe support, expand 3G module
PCB layer	Two layer
AV in	AV in support
PCB Size	180 x 130mm, can be easily fixed all kinds of LCD modules, especially the 7-inch LCD module
Power Supply	DV-5V

Tiny210 Single board Overview

Software

Android 4.0&Android 2.3

Boot loader

- verison: Superboot-210
- Function: support boot and update system by TF-card(superboot)

Linux kernel

- verison: Linux-2.6.35
- Compile: arm-linux-gcc-4.5.1-v6-vfp

Device Driver

- TFT LCD/Touchscreen, HDMI, Audio OUT, MMC/SD card, NET, Serial port, watchdog, RTC, keyboard
- **WIFI, USB Host/Device, FIMC/JPEG/MFC/3D/2D, Camera, 3G driver**

File System support

- Ubi filesystem, yaffs, ext2/3,

Function use example

- Ethernet, Support DHCP, Audio in/out, SD WiFi support, HDMI support
- COMS Camera support, 3G support(WCDMA, CDMA2000)
- USB Disk support, USB Bluetooth support, Switch horizontal and vertical screen
- Dynamic Wallpapers

Linux

Boot loader

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Linux kernel

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Device Driver

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File System support

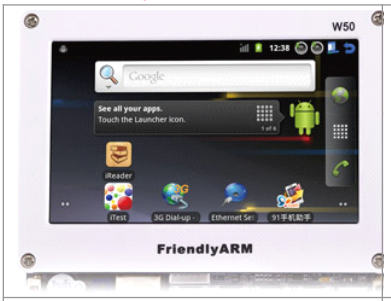
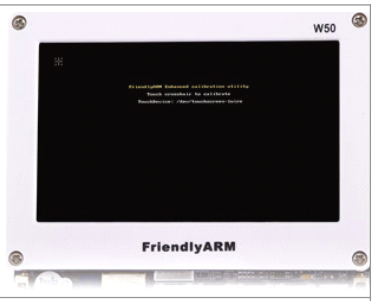
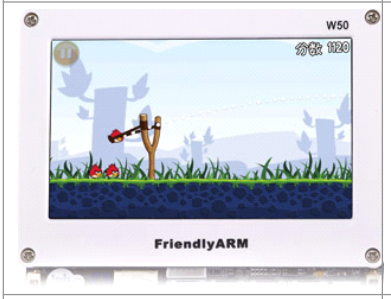
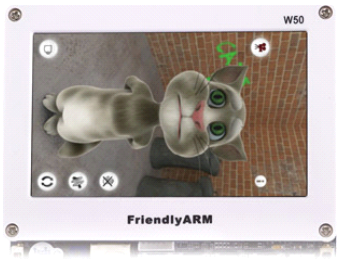
- Ubi filesystem, yaffs, ext2/3

Graphics system

- Qtopia-2.2.0/Qt-4.4.3/Qt-4.7

Tiny210 Single board Overview

Android System Overview:

		
Desktop	3D Desktop	Touchscreen
		
3G	3G SMS	NET
		
Game	Game	Game
		
video chat QQ	Online Video	Bluetooth

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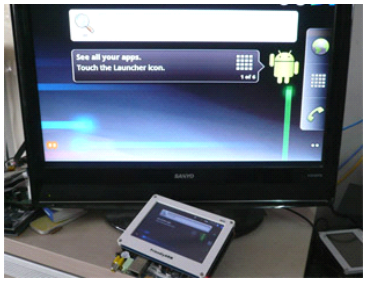
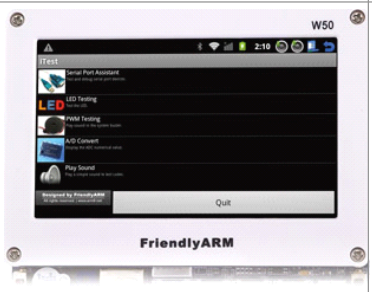
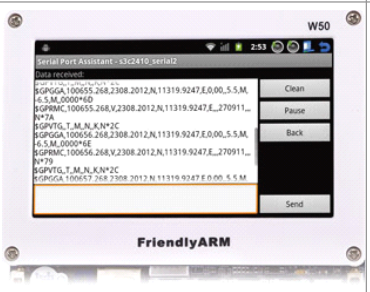
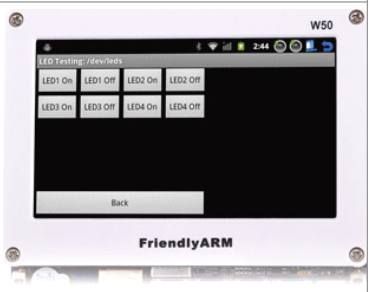
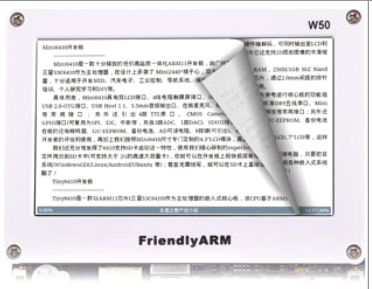
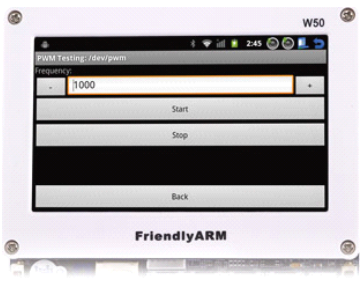
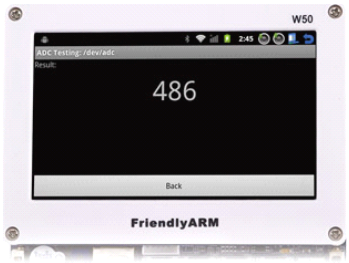
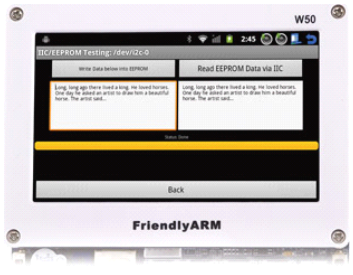
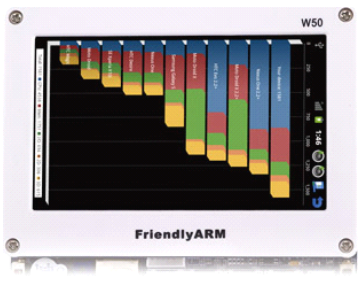
		
HDMI output	HD video playback	Backlight adjustment
		
iTest	Serial Test	LED Test
		
E-book reader	PWM set	ADC Test
		
MP3 Players	EEPROM write read	Quadrant Advanced