Tiny210V2 Single board Overview

Overview

- 1GHz Samsung S5PV210 with PowerVR SGX540 graphics engine
- **512MB DDR2 RAM and 2GB NAND Flash**
- LCD/Touch Screen, HDMI,TV out, Audio support
- SD card, USB Host/OTG support
- Ethernet, WiFi, serial port, GPIO
- Contain CPU board
- Linux 2.6.35 & Android 2.3 Android 4.0 support

The Tiny210V2SDK Single Board Computer is a high-performance controller board introduced. It is designed based on the S5PV210 microcontroller, 512MByte DDR2 RAM, 2GByte 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, Android 4.0 and WinCE 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.
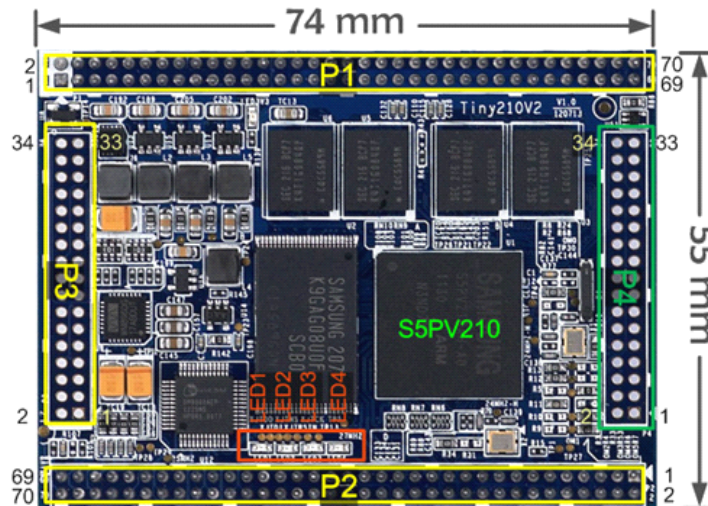
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Hardware   Features

CM-Tiny210V2 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.

Tiny210 onboard 512M DDR2 memory and 2GB Nand Flash, 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: MLC NAND Flash: 2GB

Multi-IO:

- 2 x 60 Pin 2.0mm space DIP connector
- 2 x 30 Pin 2.0mm space DIP connector

on Board:

4 x User Leds(Green)

Ethernet Chip: DM9000AEP
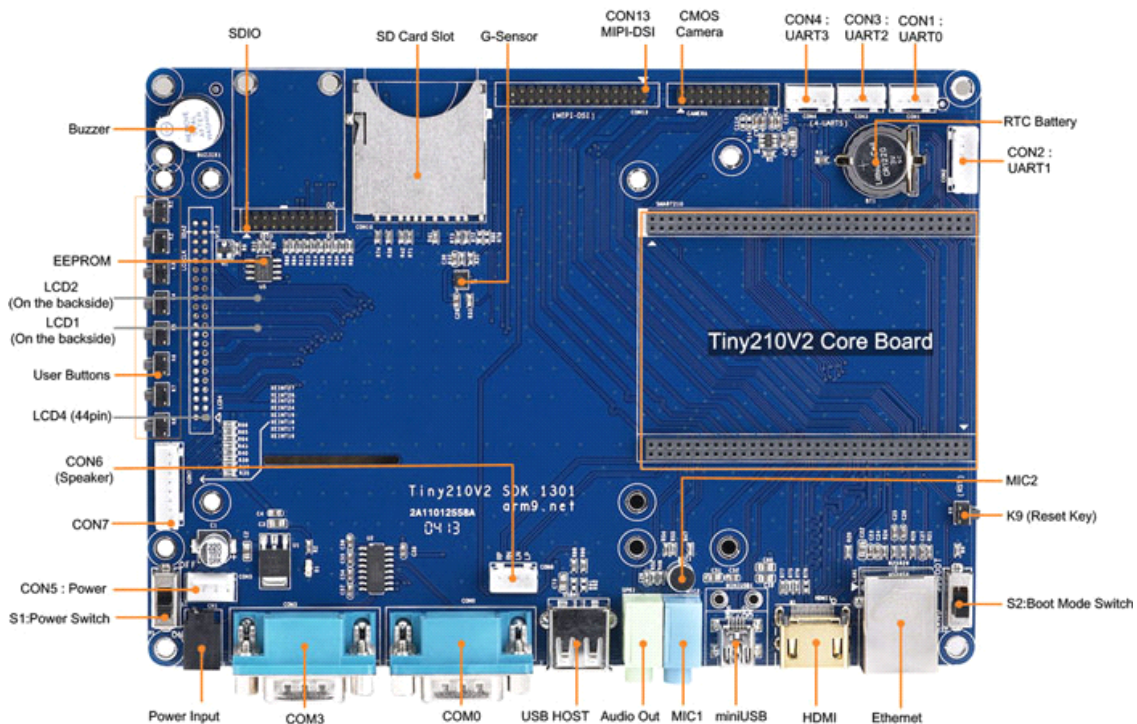
Audio Codec Chip: WM8960

Supply Voltage from 2V to 6V

Mechanical: Dimension: 74x 55x 11mm

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

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Tiny210V2 Mother board:

1. Serial Port: 4 serial port, two of them have been converted to RS232, and leads through the DB9 Block (COM0, COM1), through the CON1, 2, 3, 4, Block leads to TTL level

2. keys: 8 key

3. RJ45 Ethernet port: using DM9000AEP(On CPU board), 10/100M adaptive

4. Audio input and output: using the WM8960 professional audio chip(On cpu board), containing Class D amplifier on-board microphone, and supports HDMI audio and video synchronization output

5. USB Slave: 1 Road, the USB 2.0 specification

6. USB Host: 1 USB Host Interface

7. Buzzer: 1, control by the PWM0

8. EEPROM: AT24C08 (256 Byte) for I2C test

9. LCD Interface: 2 LCD interface, support 3.5 "-19" full color TFT display LCD

10. Capacitive touch screen: I2C-based interface, on the 45Pin LCD connector

11. Resistive touch screen: 1-wired Touchscreen interface, On 40Pin LCD connector

12. SDIO interface: used to connect the SD WiFi module and other

13. CMOS Camera interface: used to connect CMOS camera

14. RTC clock: with a backup battery (according to different regions or time periods, mailing may remove the battery)

15. MIPI-DSI interface

16. Gravity sensor Support

17. PCB layer: 2

18. PCB size: 180 x 130mm, can be easily fixed all kinds of LCD modules, especially the 7-inch
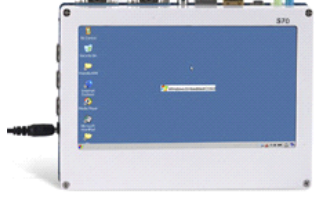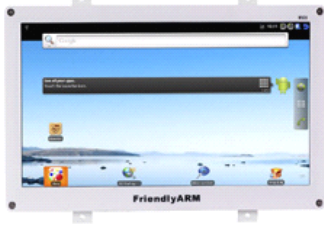
Tiny210V2 Single board Overview

LCD module

19. Power supply: DC-5V

Tiny210V2 with LCD Overview:

Tiny210V2+7"LCD+ capacitive touch screen	Tiny210V2+7"LCD+ Resister touch screen	Tiny210V2+10.0"LCD+ Resister touch screen

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Software

Android2.3& Android 4.0

Boot loader

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

Linux kernel

- Linux-2.6.35 For Android 2.3
- Linux-3.0.8 for Android 4.0
- 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

- 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
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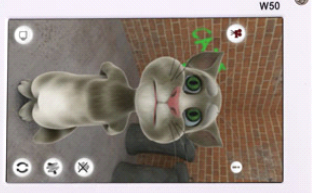**File System support**

- Ubi filesystem, yaffs, ext2/3
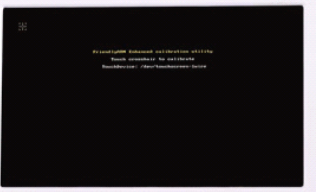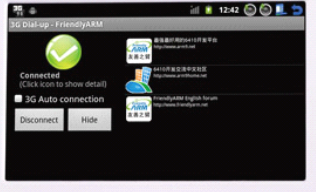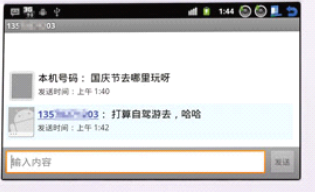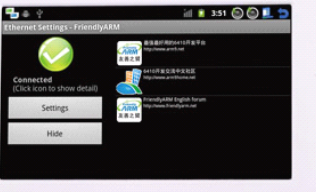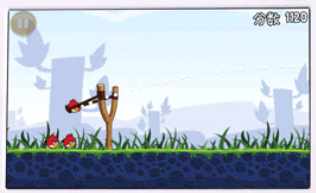
Graphics system

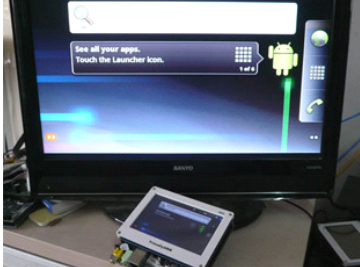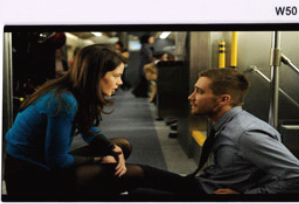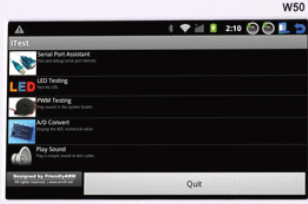- Qtopia-2.2.0/Qt-4.4.3/Qt-4.7

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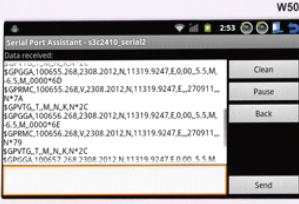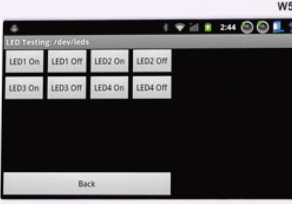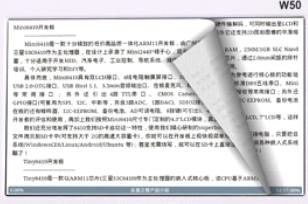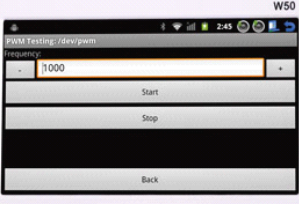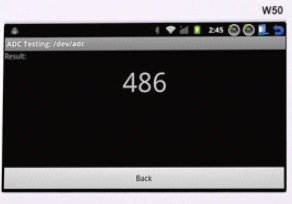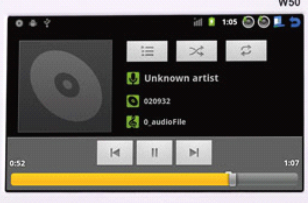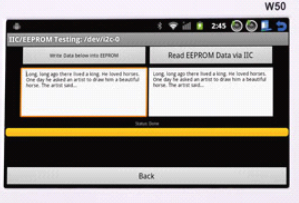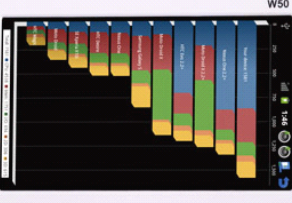
Android System Overview:

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

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Order Information

Order No.	SBC-012
Item	**Tiny210V2 SDK kits**
HardWare	- One Tiny210V2SDK kit(Contain CPU board and mother board) - One Serial cable - One net cable - One Mini-USB cable - One 5V@2A Power adapter - One CD
Software	- Documents (user manual, Datasheet, Schematic) - Linux 2.6.35 BSP - Android 2.3 BSP - Android 4.0 BSP - WinCE BSP
Option Module	- Tiny210V2 CPU board 4.3"LCD(480 x 272) 5.0"LCD(640 x 480) 7.0"LCD(800 x 480) 8.0"LCD(640x480) 10.1"LCD(1024x600) - SD wifi, Bluetooth, GPRS,GPS Module 3G Module,Cmos Camera,Key,VGA Module, - Serial Adapter
Price	Please contact us (market@armdevs.com) Buy it on our website: www.minidevs.com

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