

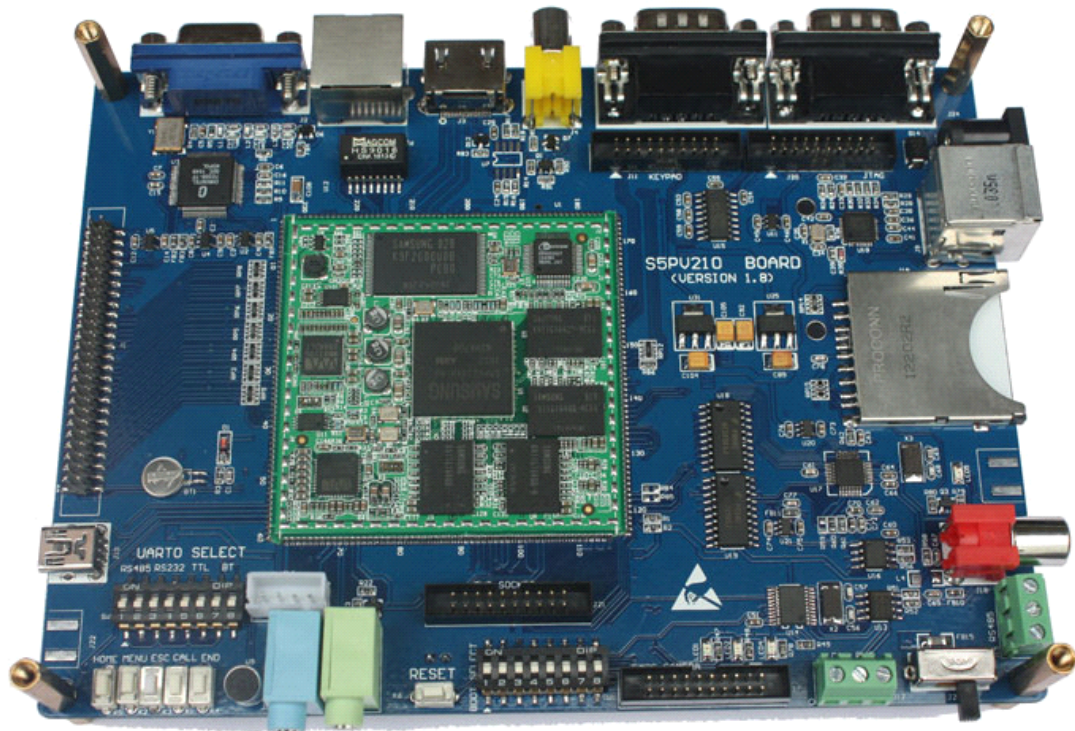
RealV210 Single board

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RealV210 Single board Overview

Features

- SAMSUNG S5PV210 Dual-core ARM Cortex-A8, 1Ghz
- Support MPEG-4/MPEG2、H.264/H263、VC-1、DivX
- 512MB DDR2 RAM + 256MB Nand Flash
- Support Bluetooth/WiFi/3G/GPRS/GPS
- Support HDMI/VGA/Camera/TFT LCD, Audio In Out
- Android 2.3 Gingerbread support



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Overview

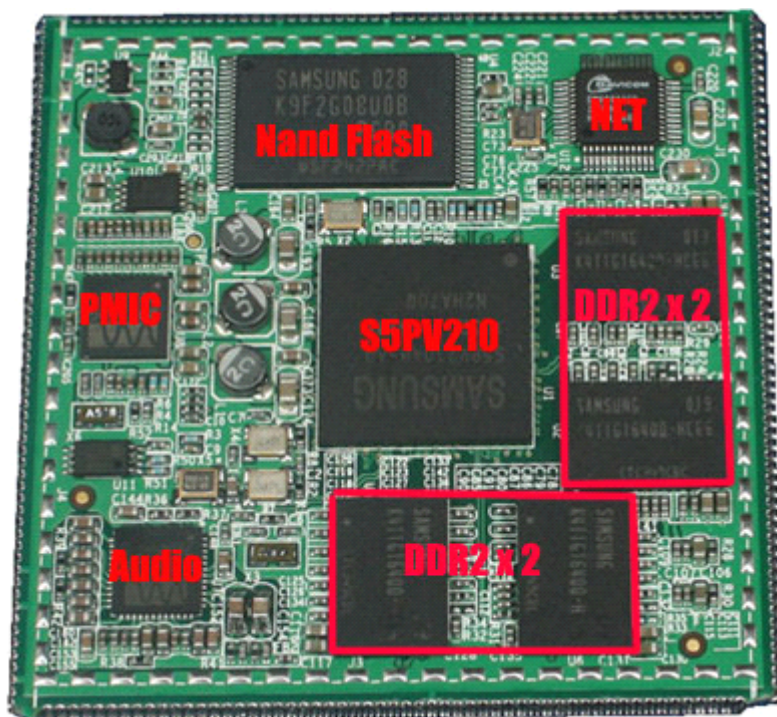
The RealV210 Single Board Computer is a high-performance controller board introduced by CoreWind. It is designed based on the CoreV210 processor card which integrates an S5PV210 microcontroller, 512MByte DDR2 RAM, 256MByte Nand Flash, RTC, Audio and net on board. It is connected with RealV210 expansion board through 230Pin expansion interfaces (QFP package) .

CoreWind also offers a complete software development package to customers. The board supports linux 2.6.36 , Android 2.3 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.

CPU Board(CoreV210)

Core-V210 processor card is connected to carrierboard via 230Pin expansion interfaces (QFP package). Detailed pin explanation for the expansion connectors are as following:

- Working Temperature: 0 to + 70 Celsius
- **Dimensions:** 58mm x 58mm
- SAMSUNG S5PV210 Dual-core ARM Cortex-A8, 1Ghz
- 512MB DDR2 RAM + 256MB Nand Flash
- Board Integrated LAN, Audio chips
- Lead out 230pin from the CPU by QFP package
- Supports for Android 2.3 and Linux 2.6.35 operating systems



CoreV210 front

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Pin Definition for CPU board(CoreV210)

J1		J2		J3		J4	
Pin	Definition	Pin	Definition	Pin	Definition	Pin	Definition
1	XspiMOSI1	1	Xm0DATA15	1	MIC1	1	DC5V
2	XspiMISO1	2	Xm0DATA14	2	MICN	2	VDD_RTC
3	XspiCS1	3	Xm0DATA13	3	MICP	3	VBAT
4	XspiCLK1	4	Xm0DATA12	4	LINEL	4	VBAT
5	Xi2cSDA0	5	Xm0DATA11	5	LINER	5	USBVDD
6	Xi2cSCL0	6	Xm0DATA10	6	GSM_MIC-	6	USBVDD
7	XuRTSn1	7	Xm0DATA9	7	GSM_MIC+	7	VDD_RTC
8	XuCTSn1	8	Xm0DATA8	8	SPKL	8	GND
9	XuRXD1	9	Xm0DATA7	9	SPKR	9	XvVD23
10	XuTXD1	10	Xm0DATA6	10	LOUT	10	XvVD22
11	XuRTSn0	11	Xm0DATA5	11	ROUT	11	XvVD21
12	XuCTSn0	12	Xm0DATA4	12	HS_DET	12	XvVD20
13	XuRXD0	13	Xm0DATA3	13	AU_GND	13	XvVD19
14	XuTXD0	14	Xm0DATA2	14	Xi2cSCL1	14	XvVD18
15	XpwmTOUT1	15	Xm0DATA1	15	Xi2cSDA1	15	XvVD17
16	XpwmTOUT0	16	Xm0DATA0	16	HDMI_CEC	16	XvVD16
17	XspiMOSIO	17	Xm0CSn0	17	HDMI_HPD	17	XvVD15
18	XspiMISO0	18	Xm0WEn	18	XciPCLK	18	XvVD14
19	XspiCS0	19	Xm0OEn	19	XciVSYNC	19	XvVD13
20	XspiCLK0	20	Xm0BE0	20	XciHREF	20	XvVD12
21	Xmmc0CLK	21	Xm0BE1	21	XciMCLK	21	XvVD11
22	Xmmc0CMD	22	GND	22	XciFIELD	22	XvVD10
23	Xmmc0CDn	23	XjTRSTn	23	XciDATA0	23	XvVD9
24	Xmmc0DATA0	24	XjTMS	24	XciDATA1	24	XvVD8
25	Xmmc0DATA1	25	XjTCK	25	XciDATA2	25	XvVD7
26	Xmmc0DATA2	26	XjTDI	26	XciDATA3	26	XvVD6
27	Xmmc0DATA3	27	XjTDO	27	XciDATA4	27	XvVD5
28	KP_COL7	28	XdacOUT0	28	XciDATA5	28	XvVD4
29	KP_COL6	29	GND	29	XciDATA6	29	XvVD3
30	KP_COL5	30	XhdmiTXCN	30	XciDATA7	30	XvVD2
31	KP_COL4	31	XhdmiTXCP	31	GND	31	XvVD1
32	KP_COL3	32	XhdmiTXN0	32	XEINT0	32	XvVD0
33	KP_COL2	33	XhdmiTXP0	33	XEINT1	33	XvVCLK
34	KP_COL1	34	XhdmiTXN1	34	XEINT3	34	XvHSYNC
35	KP_COLO	35	XhdmiTXP1	35	XEINT4	35	XvVSYNC
36	KP_ROW7	36	XhdmiTXN2	36	XEINT5	36	XvVDEn
37	KP_ROW6	37	XhdmiTXP2	37	XEINT6	37	SP_X-
38	KP_ROW5	38	GND	38	XEINT7	38	SP_X+
39	KP_ROW4	39	NET_RX+	39	XEINT10	39	TSP_Y-

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40	KP_ROW3	40	NET_RX	40	XEINT11	40	TSP_Y+
41	KP_ROW2	41	NET_TX+	41	XEINT16	41	XadcAIN0
42	KP_ROW1	42	NET_TX-	42	XEINT17	42	XadcAIN1
43	KP_ROW0	43	NET_LINK	43	XEINT18	43	XadcAIN6
44	GND	44	NET_SPEED	44	XEINT19	44	XadcAIN7
45	XmOADDR15	45	AVDD25	45	XEINT20	45	XuTXD2
46	XmOADDR14	46	Xmmc2CLK	46	XEINT21	46	XuRXD2
47	XmOADDR13	47	Xmmc2CMD	47	XEINT22	47	XuTXD3
48	XmOADDR12	48	Xmmc2CDn	48	XEINT23	48	XuRXD3
49	XmOADDR11	49	Xmmc2DATA0	49	XRTCCLK0	49	GND
50	XmOADDR10	50	Xmmc2DATA1	50	XOM5	50	XuhDP
51	XmOADDR9	51	Xmmc2DATA2	51	XOM4	51	XuhDN
52	XmOADDR8	52	Xmmc2DATA3	52	XOM3	52	GND
53	XmOADDR7	53	PWRON	53	XOM2	53	XuoDRVVBUS
54	XmOADDR6	54	XnRESET	54	XOM1	54	XuoVBUS
55	XmOADDR5	55	BAT_NTC	55	XOM0	55	XuoDM
56	XmOADDR4					56	XuoDP
57	XmOADDR3					57	XuoID
58	XmOADDR2					58	GND
59	XmOADDR1					59	GSM_SPK+
60	XmOADDR0					60	GSM_SPK-

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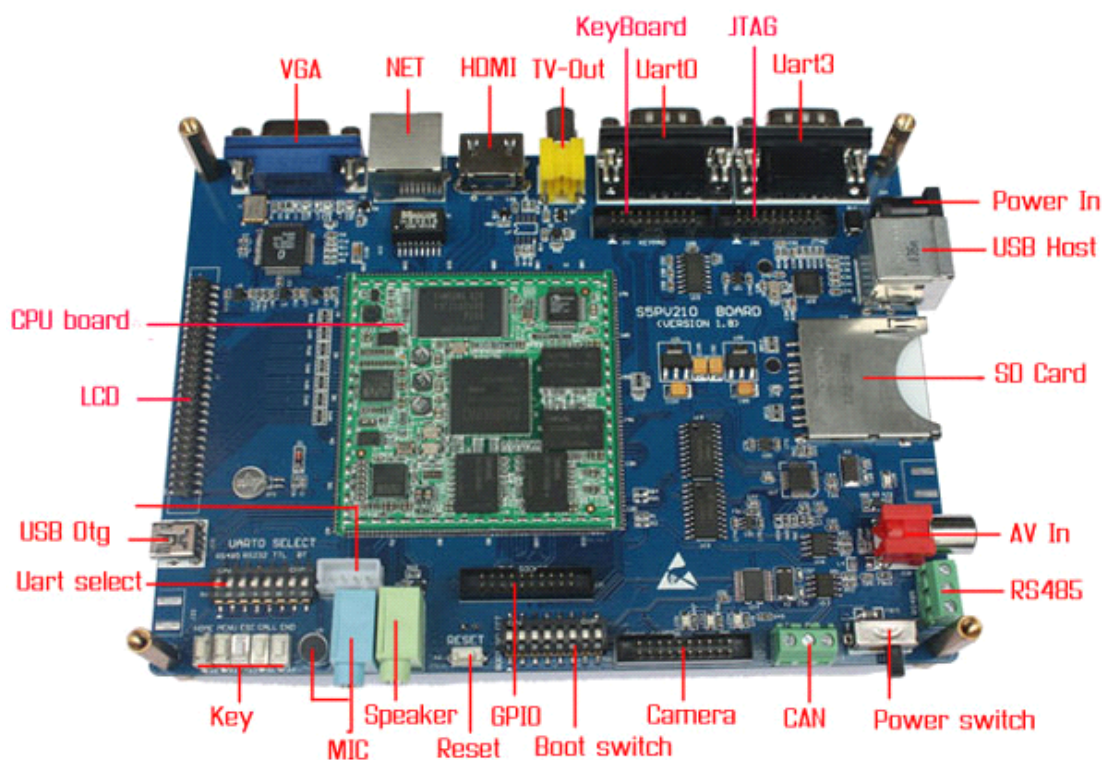
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Mother Board(RealV210)

CoreWind RealV210 is an ARM embedded single board computer (SBC) using Samsung S5PV210 microcontroller which is capable of operating at up to 1Ghz. It employs the CoreV210 processor card as the CPU core board and the expansion board has brought out the headers for many hardware peripherals including Serial ports, Ethernet, USB Host, LCD, HDMI, Touch Screen, RTC and etc. The CPU core board CoreV210 has integrated the SamSung S5PV210 CPU, 512MB DDR2 SDRAM, 256MB Nand Flash.

The board is capable of supporting Android 2.3, Linux 2.6.36 operating systems. CoreWind provides BSP package, user manual and some other tools and documents to help customer with their development.

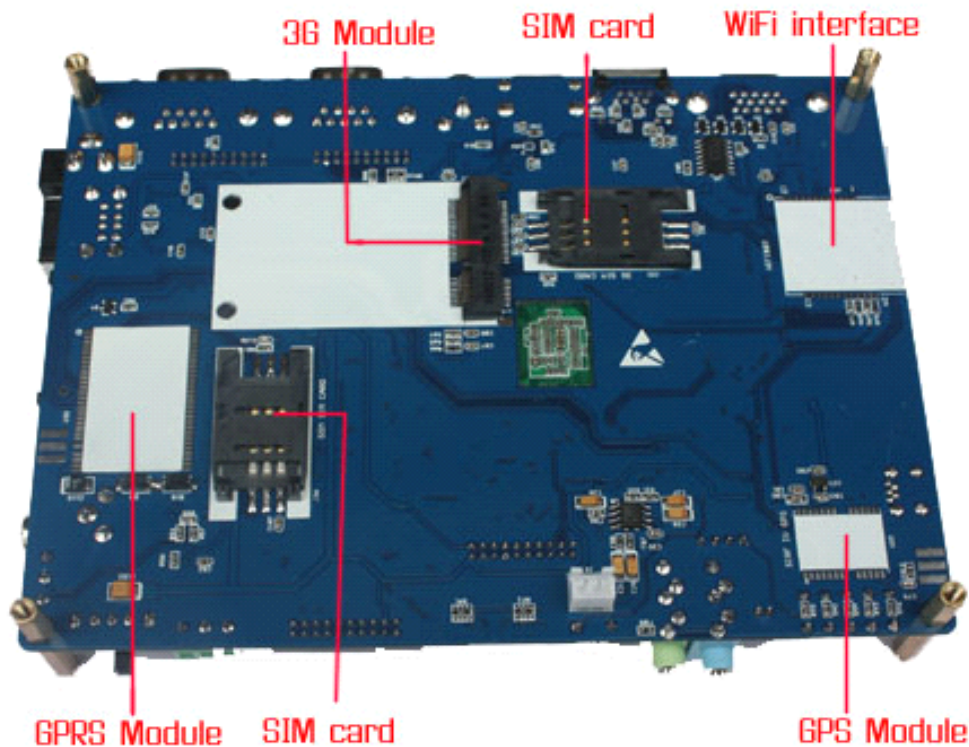
The RealV210 Front Interface



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The RealV210 Bottom Interface



Hardware Features for RealV210

System

Processor: SAMSUNG S5PV210 Dual-core ARM Cortex-A8, 1Ghz

Ram: 512MB DDR2 RAM

Flash: 256MB Nand Flash
Support RTC and Watchdog

Audio/Video Interfaces

Video out:

HDMI: supports 1080p via HDMI cable (H.264+AAC based MP4 container format)

TFT LCD: Support 4.3"LCD, 7"LCD, 8"LCD, 9.7"LCD

VGA: standard VGA interface

TV-Out: RCA interface

Touch Screen: Support Resistive touch screen and capacitive touch screen

Video In:

CMOS camera interface

AV camera interface, Support CCD Camera input

Audio:

Audio In/Out interface

One MIC interface

Data Transfer Interface

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<p>Serial port: 2 RS232 Serial Port 2 TTL Serial Port 1 RS485 Serial Port</p> <p>USB port: 1 x USB OTG 2.0 2 x USB Host 2.0</p> <p>Ethernet: DM9000AEP 10/100Mbps, RJ45</p> <p>CAN interface: 1 CAN interface</p> <p>RS485 Interface: 1 RS485</p> <p>SDIO interface: 1 channel SD card slot 1 SDIO WiFi interface</p>	<p>Input Interface 5 phone button 8 x 8 Matrix Key interface One Reset button Boot mode switch, Uart choose swtich 4 AD interface</p> <p>Extend interface: I2C, SPI, PWM, AD/DA</p> <p>JTAG: 1 Standard JTAG interface</p> <p>Extend Module: WiFi/Bluetooth Module: use SDIO interface GPRS Module: Use Serial port GPS Module: User Serial Port 3G Module: Use Mini-PCI interface</p>
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Mechanical Parameters

Dimensions: 165 x 120mm

Input Voltage: +5V

Temperature Range: 0 °C ~ 70 °C

Humidity Range: 20% ~ 90%

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Software

Linux 2.6.35

System:

- Bootloader: U-Boot-1.3.4(Support Update system by **fastboot**)
- **Linux kernel:**s3c-Linux-2.6.36
- Compile Tools: arm-linux-gcc-4.3.2

Device Driver(provide all the driver)

- Support YAFFS2/CRAMFS/NFS/UBIFS/NFS/FAT32
- TFT LCD, Touchscreen, VGA, HDMI, CMOS Camera, CCD Camera
- SDIO, SD card, IIC, SPI, Keyboard, DMA, RTC, USB Host/Device
- JPEG, MFC, ROTATOR, 2D/3D,
- NET, 3G Module, GPRS, GPS, WiFi, Bluetooth, USB ADB,
- RTC, LED, Key, SPI, PWM, ADC,
- USB Host/OTG, SD Card, SD WiFi,Serial Port, Audio, NET, CMOS, TV-Out
- USB Host: USB Camera/Mouse/Key/WiFi, USB to serial

File System support

- yaffs2 file system, can be read and written

Gui support

- Android 2.3

Android 2.3

System

- Support SD card update
- Android Version: Android 2.3
- Kernel Version: Linux-2.6.35





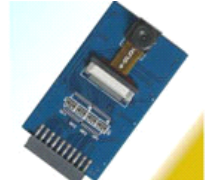

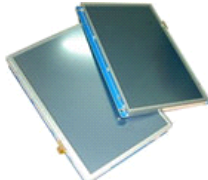
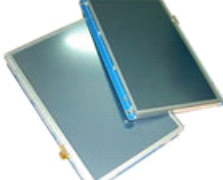
Driver support:

- Support Bluetooth/WiFi/NET/3G/GPRS/GSM/GPS
- Support HDMI/VGA/TFT LCD/Touchscreen/CMOS Camera/CCD Camera
- Support SD card, Audio In/Out
- Support hardware video codecs, H263/H264/MPEG4/VC1
- Support for hardware JPEG codec
- Support for hardware accelerated 2D/3D

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Option Module for Super6410

<p>WiFi/Bluetooth</p> 	<p>GPS Module</p> 	<p>GPRS Module</p> 	<p>3G Module</p> 
<p>CMOS camera</p> 	<p>CCD Camera</p> 	<p>4.3"LCD</p> 	<p>7"LCD</p> 

Driver Support for these module

Item	Interface	Linux 2.6	Android 2.3
WiFi/Bluetooth	SDIO	Support	Support
GPS Module	Serial Port	Support	Support
GPRS	Serial Port	Support	Support
3G Module	Mini-PCI	Support	Support
Cmos Camera	CMOS	Support	Support
CCD Camera	AV in	Support	Support
LCD	LCD	Support	Support
VGA		Support	Support
HDMI		Support	Support
CAN bus	CAN		
RS485	Serial port		

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● Order Information

Order No.	SBC-011
Item	RealV210 Single Board Computer
HardWare	One RealV210 Single Board(contain cpu board) One RS232 Serial cable One net cross-cable One USB cable One 5V Power adapter One DVD for software
Software	Documents (user manual, Datasheet, Schematic) Linux 2.6.35 BSP Android 2.3 BSP
Option Module	<ul style="list-style-type: none">● Super6410 CPU board● 4.3"LCD(480 x 272, support: Linux/Android/WinCE)● 7.0"LCD(800 x 480, support: Linux/Android/WinCE)● WiFi/Bluetooth Module, GPRS,GPS Module● 3G Module,Cmos Camera, CCD Camera
Price	Please contact us(market@armdevs.com)



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