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P1010RDB-PB Quick Start Guide

1 Introduction to P1010RDB-PB

This quick start guide applies to boards with assembly revision *700-27904 Rev X4*. See the top side of the board to get the revision number.

This document describes P1010RDB-PB and its related hardware kit. It also explains and verifies the basic board operations in a step-by-step format.

This document shows settings for switches, connectors, jumpers, push buttons, and LEDs, and you can find instructions for connecting peripheral devices.

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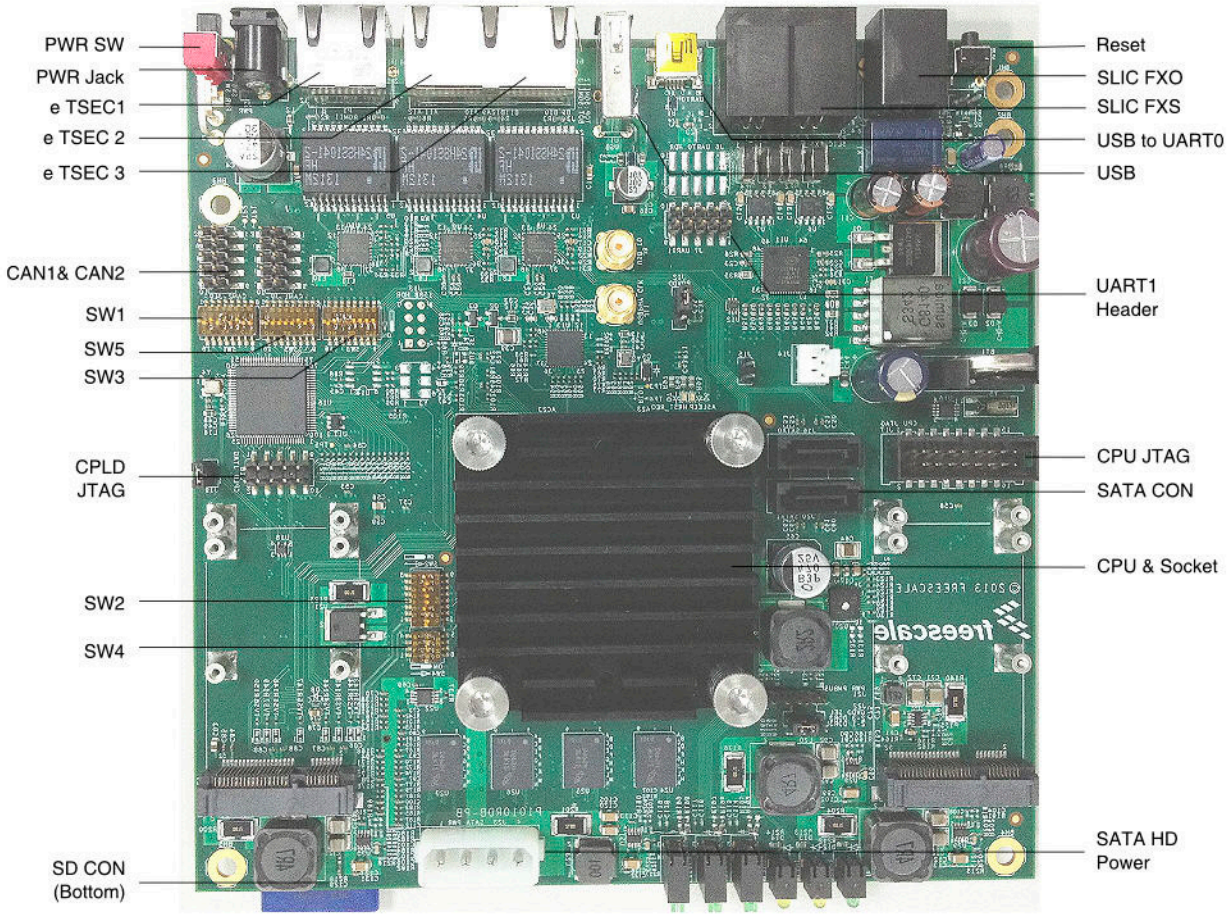

Figure 1. P1010RDB-PB Board

1.1 Noteworthy Items

- The default uboot image, dtb, Linux kernel and file systems are loaded in NAND flash.
- 32 MB NOR Flash is split into two banks by SW1[8] switch.

2 Getting Started

This section explains:

- Section 2.1, “Preloaded Binaries on the Board
- Section 2.2, “Default Booting Method and Switch Settings
- Section 2.3, “Booting the Board

2.1 Preloaded Binaries on the Board

The P1010RDB-PB kit contains:

- On-board NAND Flash loaded with early release image files:

```
u-boot-nand.bin
p1010.dtb
uImage.p1010
fsl-image-core-p1010rdb-20130615092723.rootfs.ext2.gz
```

- On-board NOR Flash and SPI flash are both loaded a bootable image, too.

2.2 Default Booting Method and Switch Settings

The default booting method and switch settings are:

- The default booting setting is NAND Flash.
- The default settings result in the following frequency settings:
  CPU = 1000 MHz, CCB = 400 MHz and DDR = 800MT/s data rate.

2.3 Booting the Board

Follow the given steps to boot a target board:

1. Set the switch settings for SW1, SW2, SW3, SW4 and SW5 as illustrated here. For more details on decoding the switch settings, refer to the *P1010RDB-PB Hardware User Guide*.

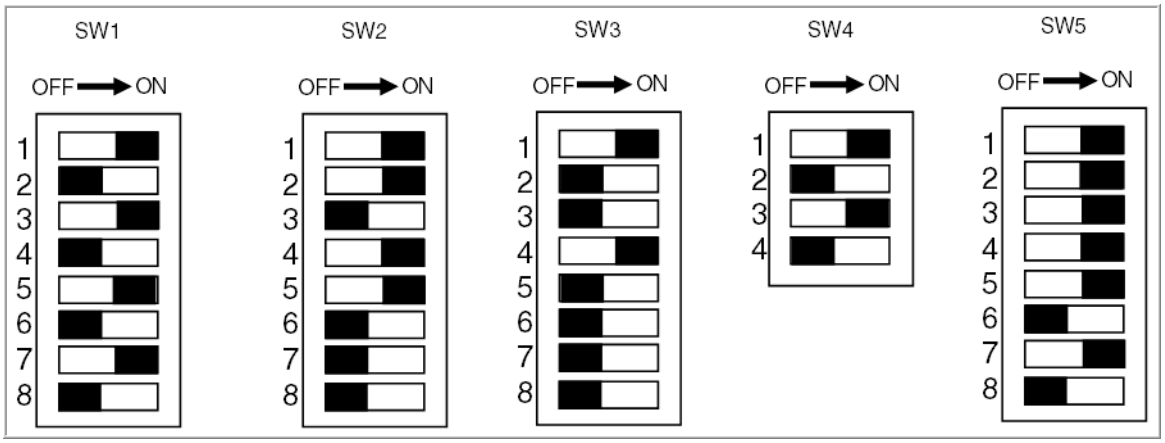

Figure 2. Switch Settings

2. Ensure all of jumper settings are set as shown.

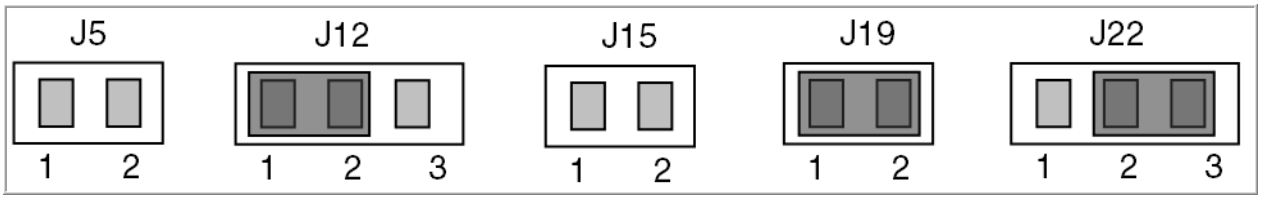

Figure 3. Jumper Settings

3. Plug one terminal of the DC power adapter into the receptacle on the back of the chassis, and plug the other terminal AC cable into 100~240V AC power supply.

Figure 4. Plug-in Power Adapter

4. Plug the USB miniB to typeA cable in the UART0 receptacle as console port. Attach the serial cable between the P1010RDB-PB UART0 port and a host PC.

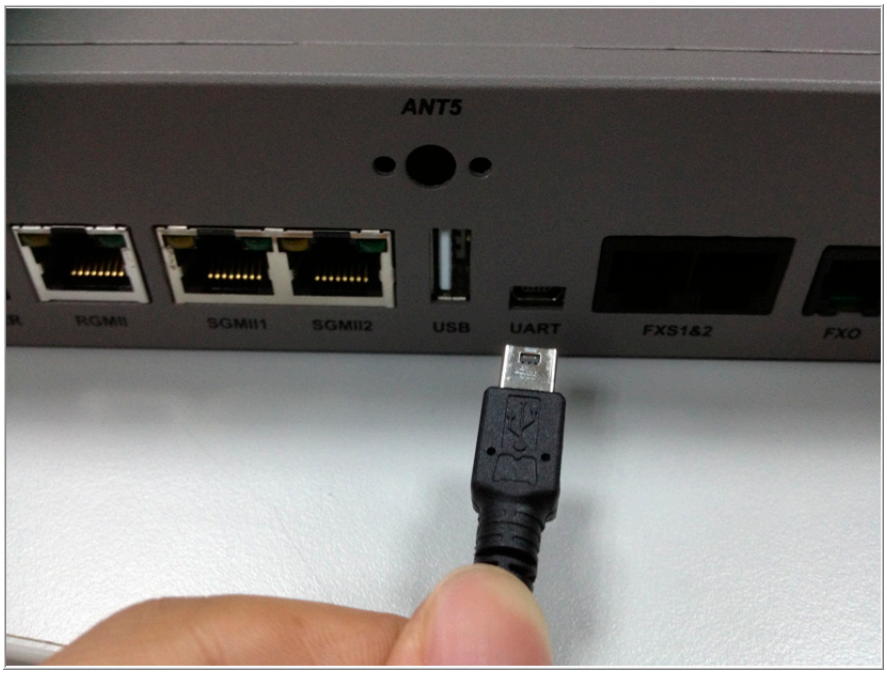

Figure 5. Attaching to a UART Port

5. Install the USB-to-UART driver if you cannot find the device driver on your PC.
   You can get the driver from the link given:

http://www.silabs.com/products/mcu/pages/usbtouartbridgevcpdrivers.aspx
After finishing the installation, you will find the device in your device manager.

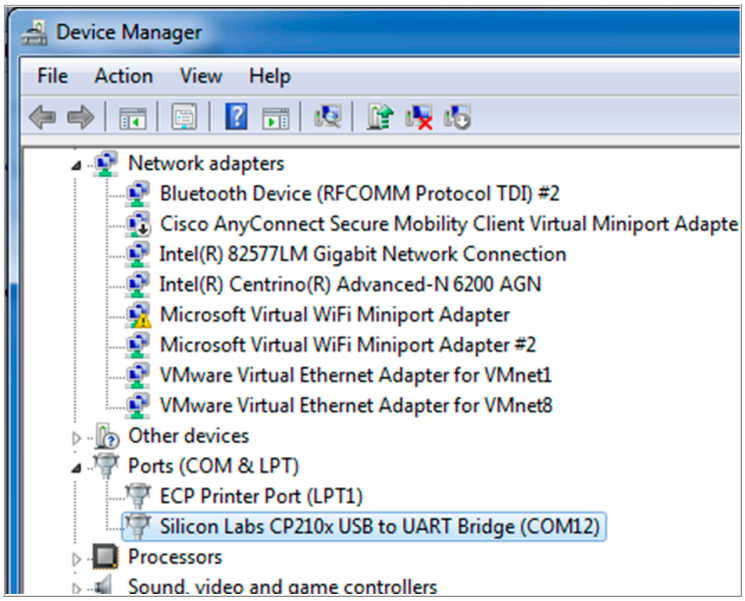

Figure 6. USB to UART Device Driver

6. Configure the serial port of the host PC with the following settings:

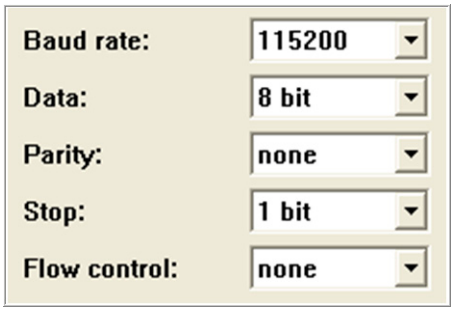

Figure 7. Configuring Serial Port

7. Push up the power switch to “ON” at the back of unit.

Figure 8. Plug in USB to UART Cable

8. The board will boot and show the uboot console message. The board will boot Linux if the uboot autoboot process is not halted. An example uboot log is shown below:

```
U-Boot 2013.01-00128-g3eb0606-dirty (Jul 11 2013 - 16:46:36)


CPU:   P1010E, Version: 1.0, (0x80f90010)
Core:  E500, Version: 5.1, (0x80212151)
Clock Configuration:
       CPU0:1000 MHz,
       CCB:400  MHz,
       DDR:400  MHz (800 MT/s data rate) (Asynchronous), IFC:100  MHz
L1:    D-cache 32 kB enabled
       I-cache 32 kB enabled
Board: P1010RDB-PB, CPLD Ver: v1.0, ROM Loc: NAND
I2C:   ready
SPI:   ready
DRAM:  Detected UDIMM
1 GiB (DDR3, 32-bit, CL=6, ECC off)
Flash: 32 MiB
L2:    256 KB enabled
NAND:  2048 MiB
```

```
MMC:  FSL_SDHC: 0
PCIe1: Root Complex of mini PCIe Slot, no link, regs @ 0xffe0a000
PCIe1: Bus 00 - 00
PCIe2: Root Complex of PCIe Slot, no link, regs @ 0xffe09000
PCIe2: Bus 01 - 01
In:    serial
Out:   serial
Err:   serial
PCB Ver: 1.0
Net:   eTSEC1 [PRIME], eTSEC2, eTSEC3
Hit any key to stop autoboot:
```

9. Power off the unit by pressing down the power switch button.

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