Q: How to burn images to Nand in Android210 (Android4.0)?

A:

1 Partition SD card

You need to partition the SD card if you want to make the SD card in the windows OS. Set aside front 10M space to uboot.

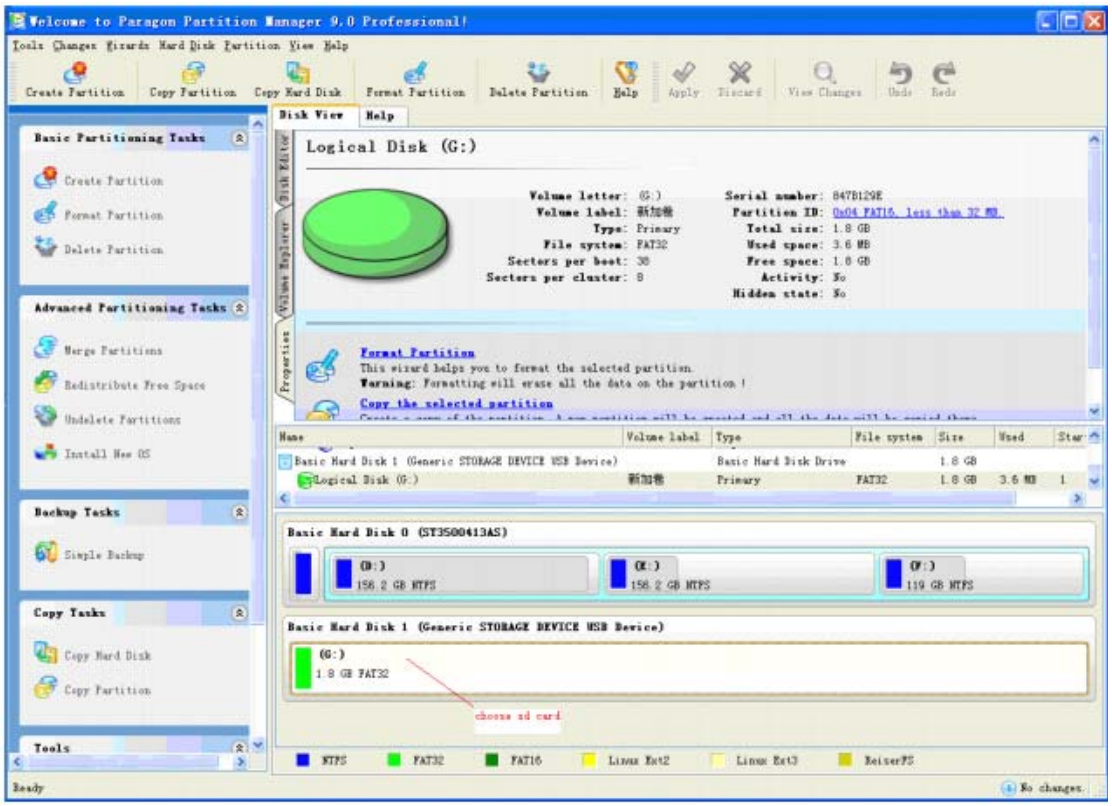
Open "**pmsrv_demo.exe**" to install Paragon Partition Manager.

(G\ ANDROID210\Tools\)

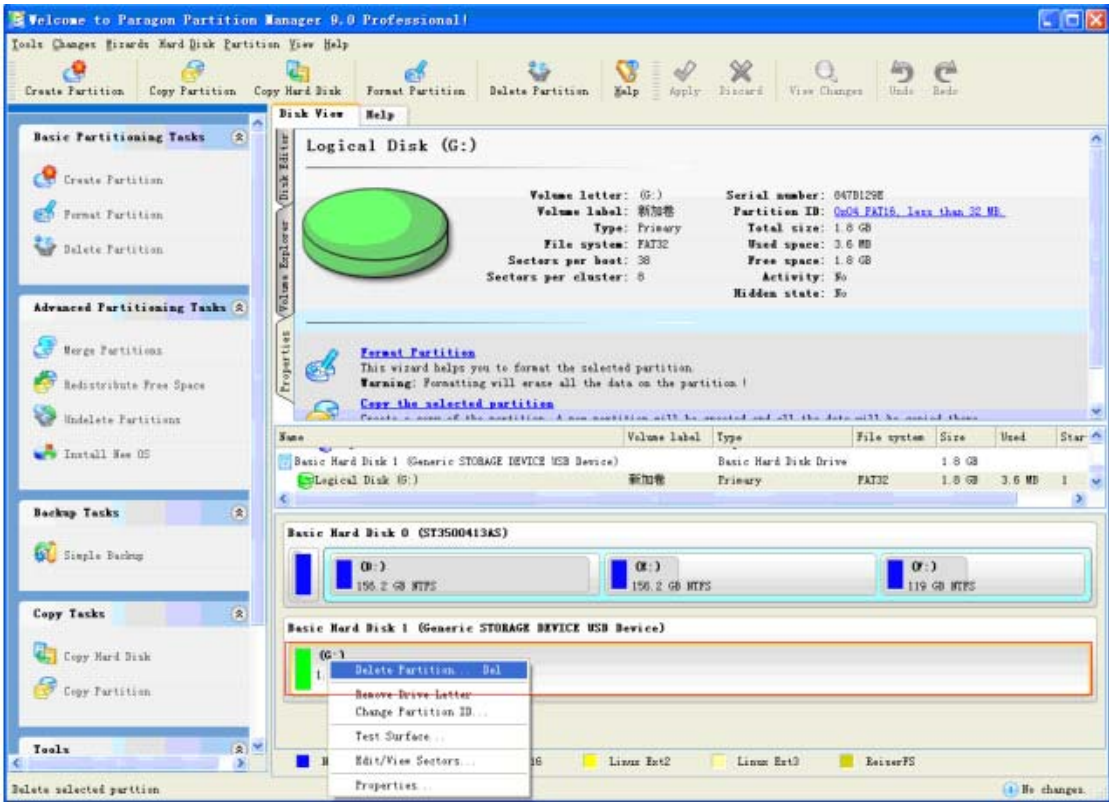
Step 1: Open "Paragon Partition Manager".

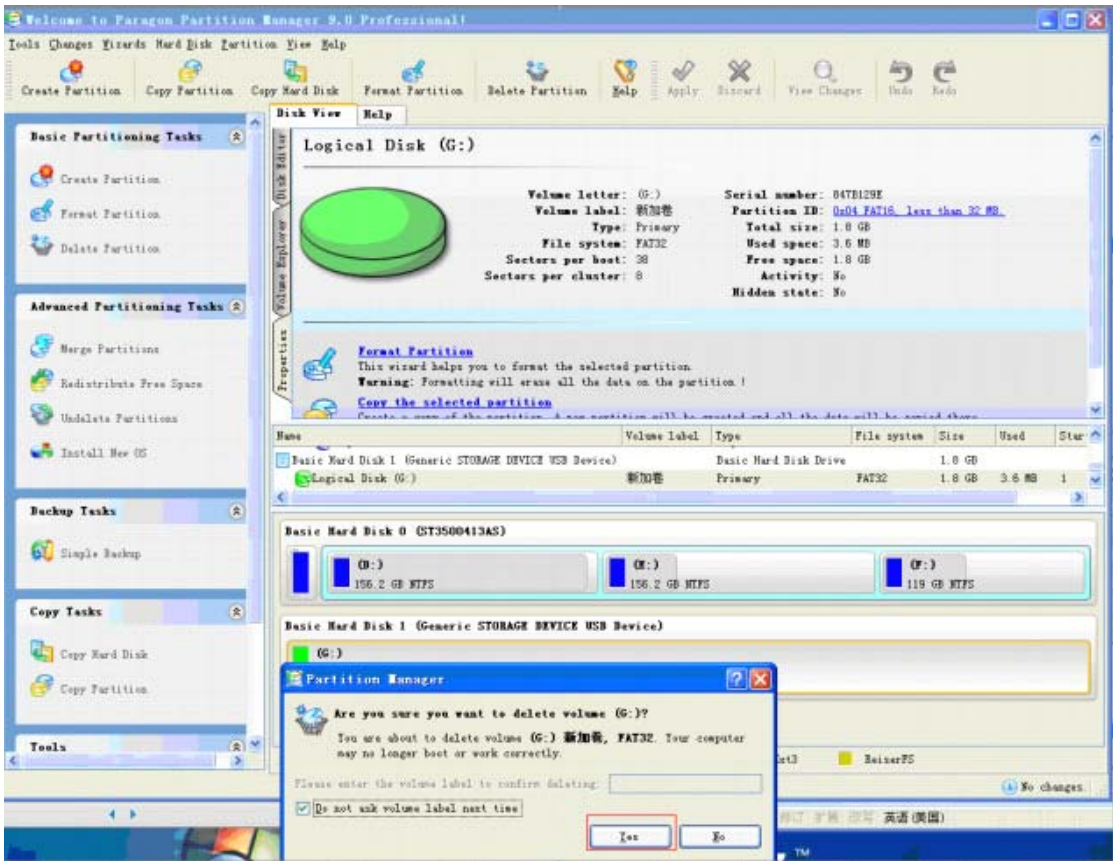
Step 2: Select the SD card.

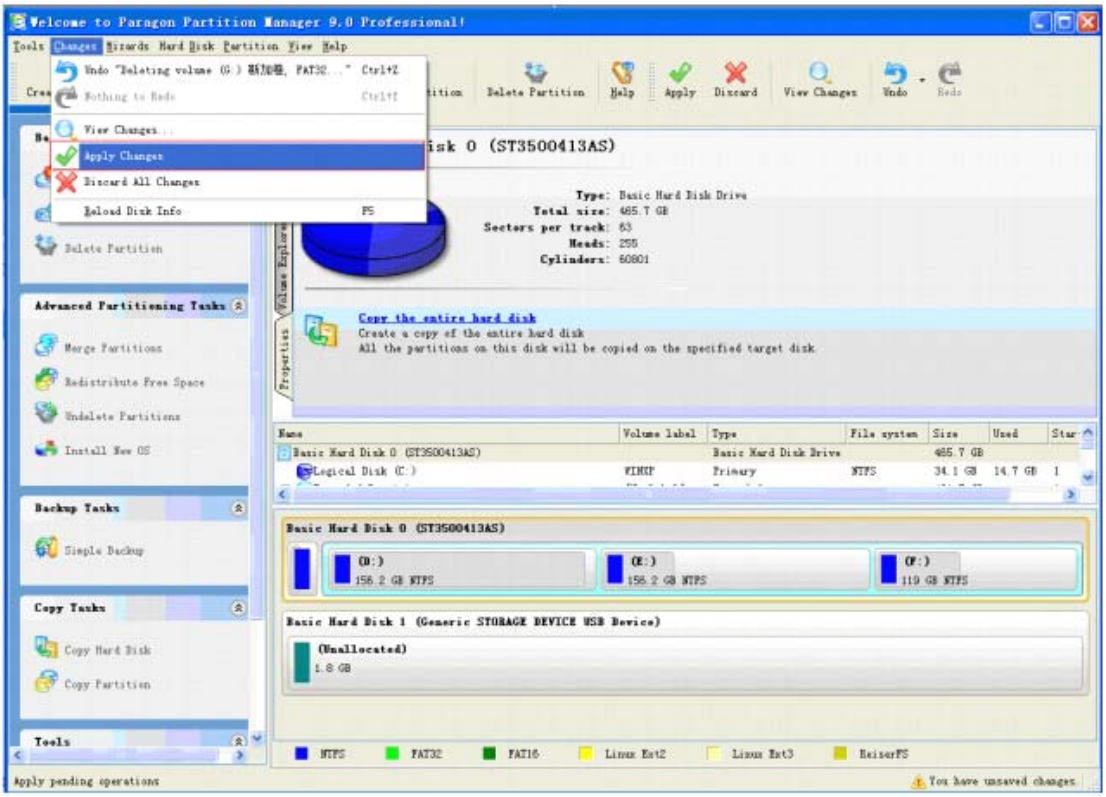
Attention: This operation may cause data loss if you operate other partition or hard disk.



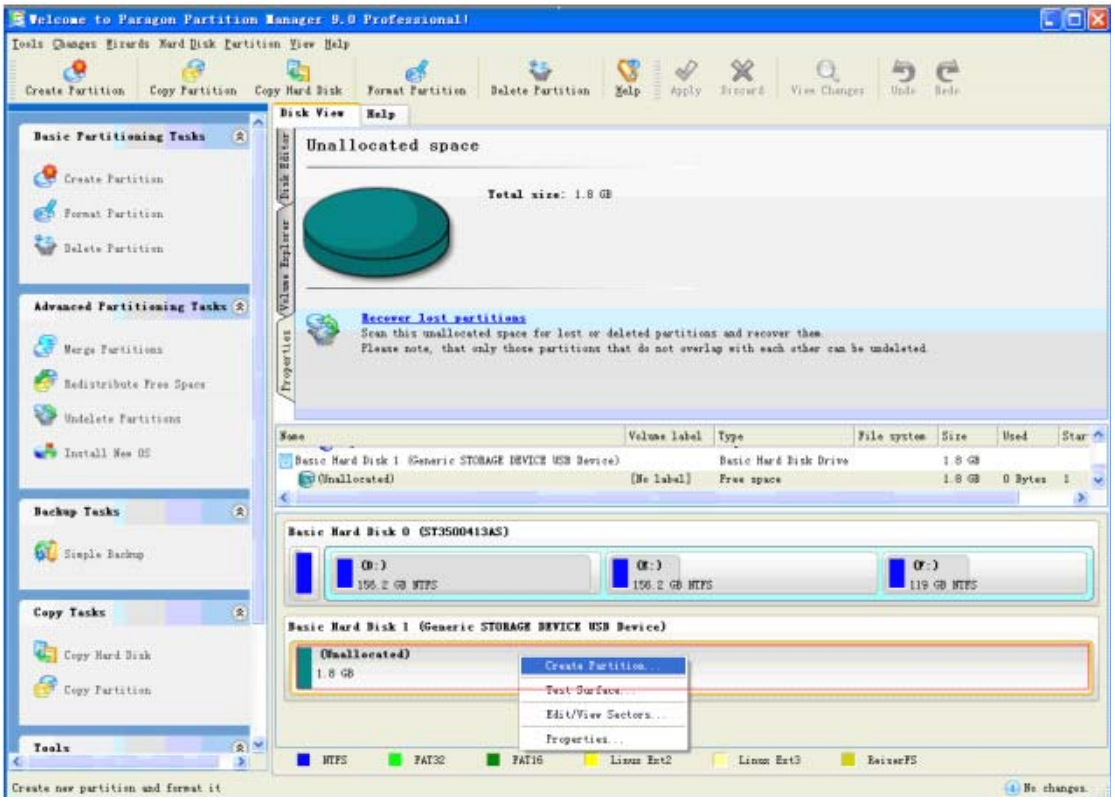
Step 3: Right click the mouse and select "Delete Partition…"


Welcome to Paragon Partition Manager 9.0 Professional!
Create Partition
Copy Partition
Copy Hard Disk
Format Partition
Delete Partition
Help
Apply
Discard
View Changes
Undo
Redo
Basic Partitioning Tasks
Create Partition
Format Partition
Delete Partition
Advanced Partitioning Tasks
Merge Partitions
Redistribute Free Space
Undelete Partitions
Install New OS
Backup Tasks
Simple Backup
Copy Tasks
Copy Hard Disk
Copy Partition
Tools
Disk View
Help
Logical Disk (G:)
Volume letter: (G:)
Volume label: 新加卷
Type: Primary
File system: FAT32
Sectors per boot: 38
Sectors per cluster: 8
Serial number: 047B129E
Partition ID: 0x04 FAT16, less than 32 MB
Total size: 1.8 GB
Used space: 3.6 MB
Free space: 1.8 GB
Activity: No
Hidden state: No
Format Partition
This wizard helps you to format the selected partition.
Warning: Formatting will erase all the data on the partition!
Copy the selected partition
Basic Hard Disk 0 (ST3500413AS)
Basic Hard Disk 1 (Generic STORAGE DEVICE USB Device)
(G:)
Delete Partition... Del
Remove Drive Letter
Change Partition ID...
Test Surface...
Edit/View Sectors...
Properties...
Linux Ext2
Linux Ext3
ReiserFS
Delete selected partition
No changes


Partition Manager
Are you sure you want to delete volume (G:)?
You are about to delete volume (G:) 新加卷, FAT32. Your computer may no longer boot or work correctly.
Do not ask volume label next time
Yes
No

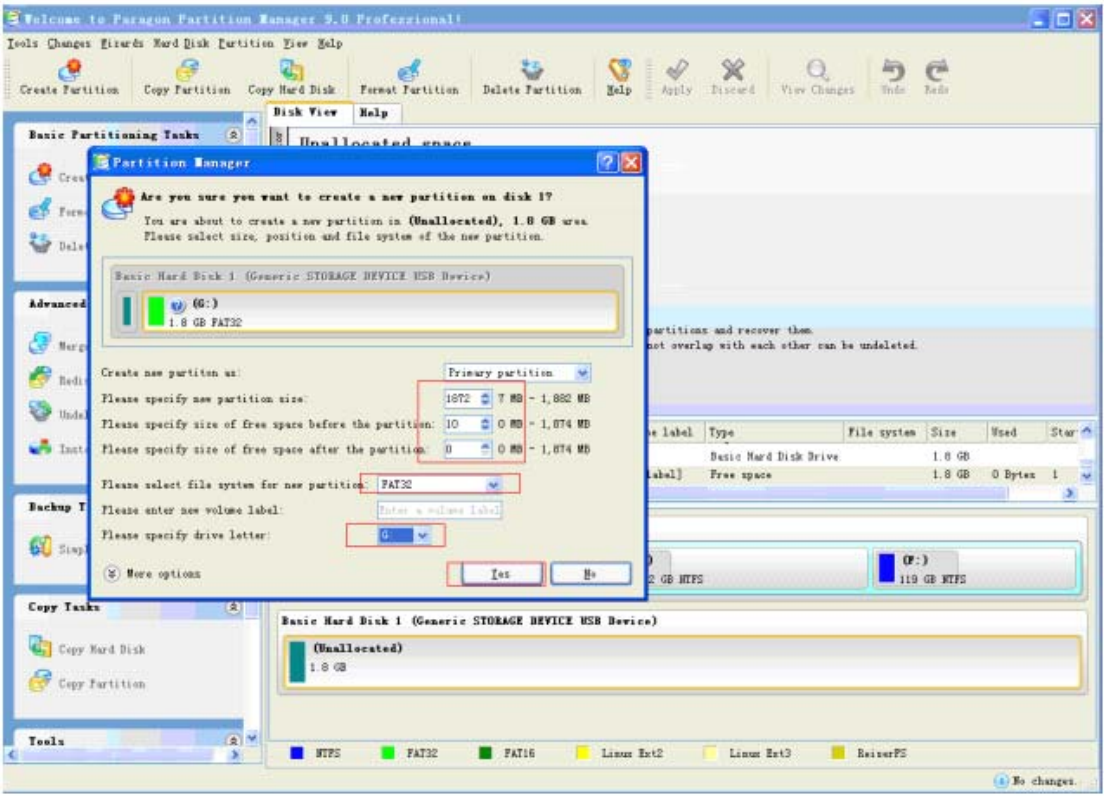


Step 4: Right click the mouse and select “Create Partition…”.

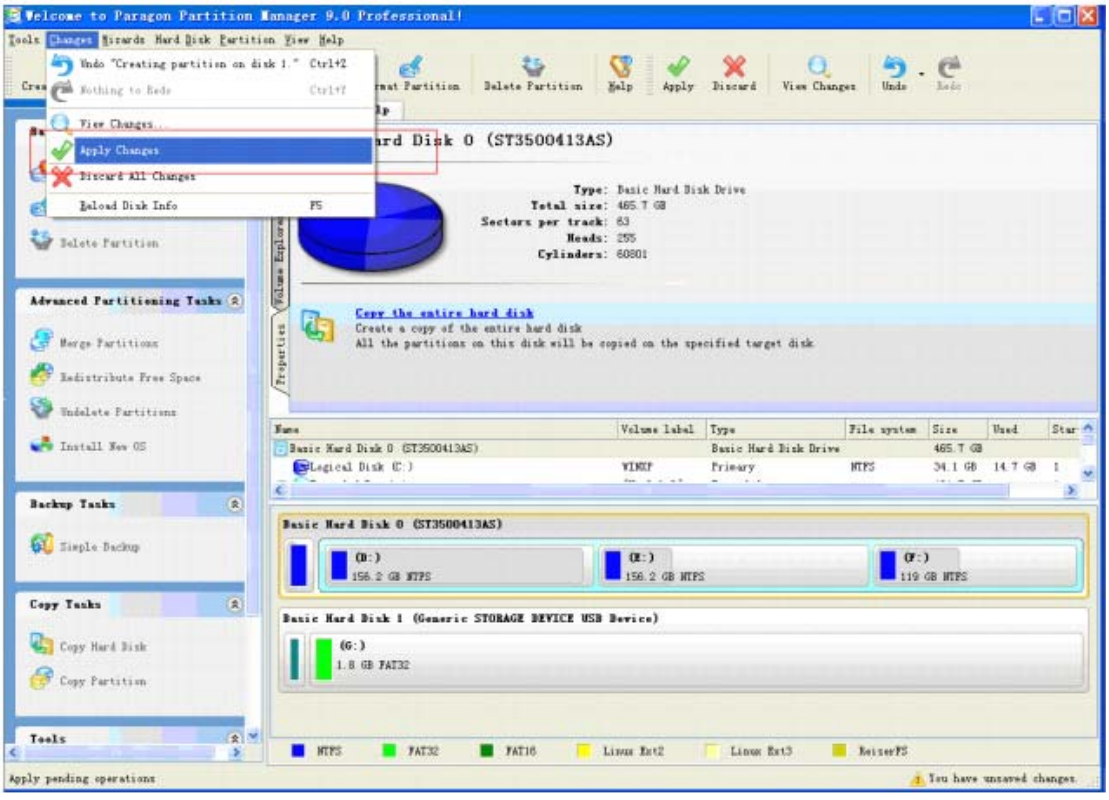


Step 5: Set aside front 10M space.

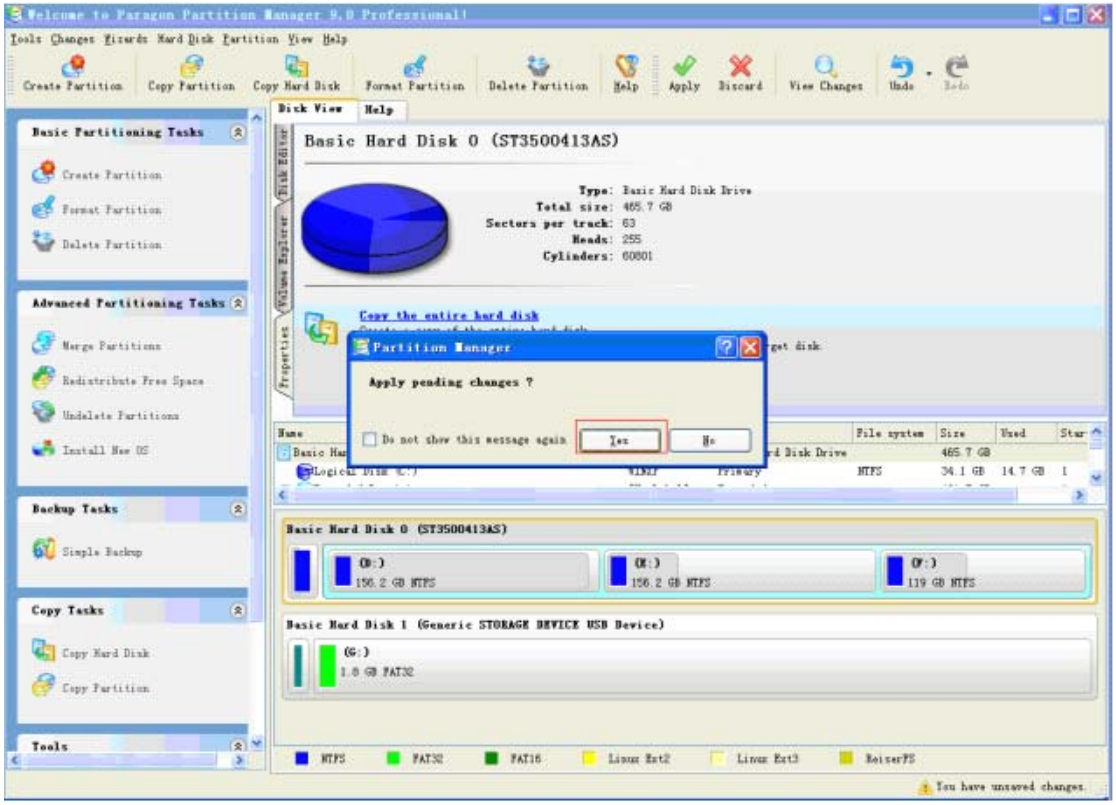
Select [**FAT32**] and select [**Yes**].

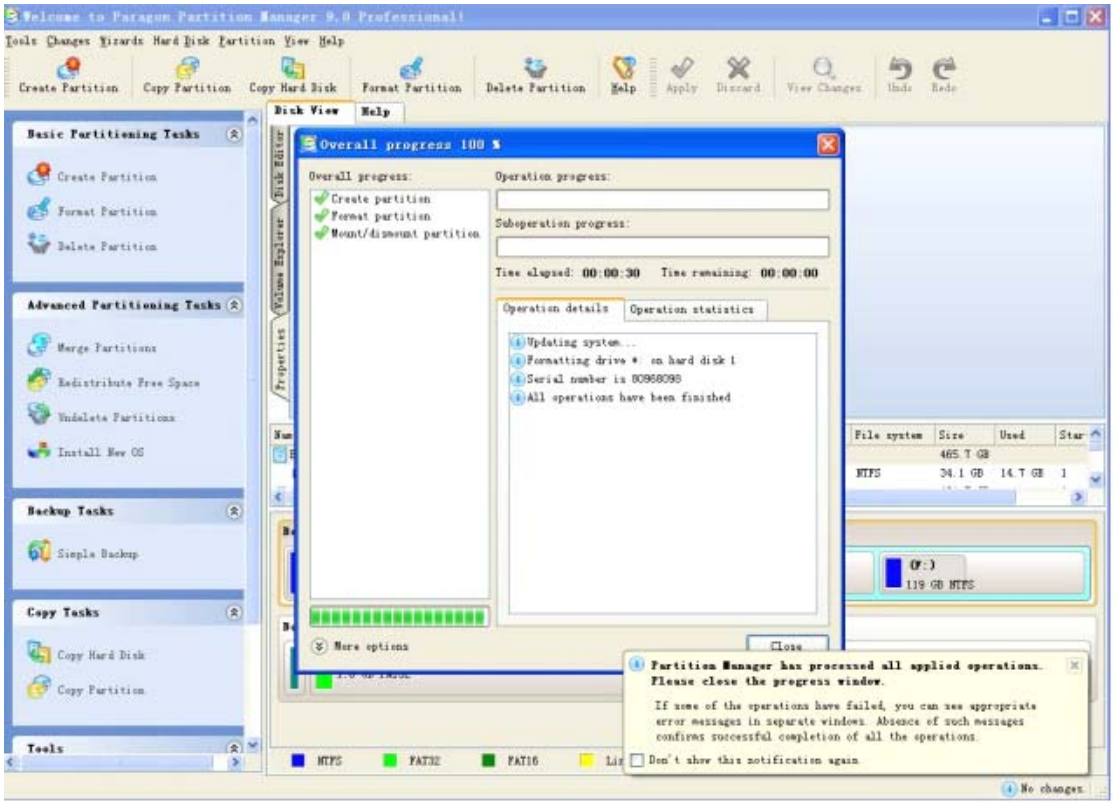


Step 6: Select [Application].



Select [**Yes**].





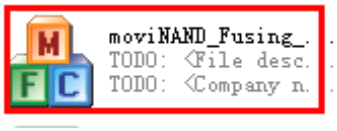
For the point you have reserved the space for the uboot.

2 Make boot from SD card

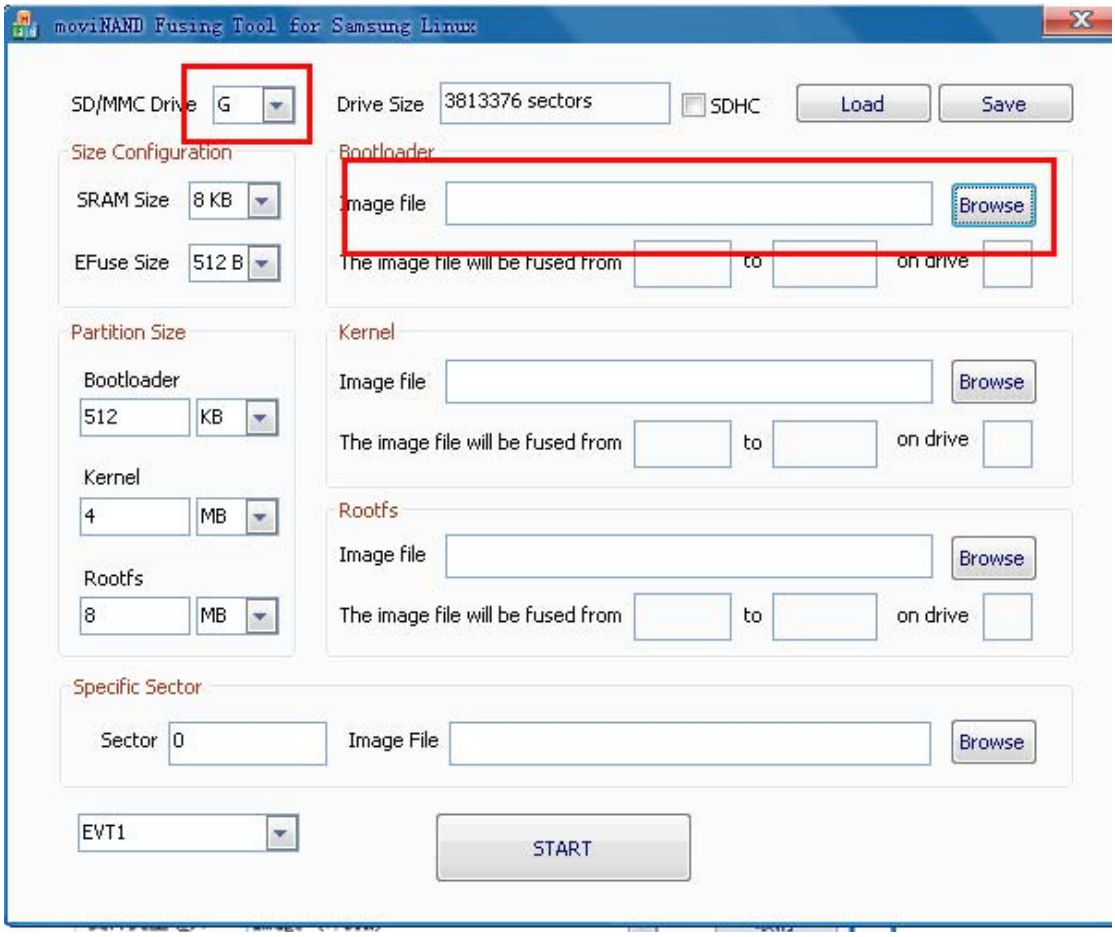
Pre-step had reserved the space for the uboot. Now you can burn u-boot into SD card. Steps are as follows:

Step 1: Format the SD card.

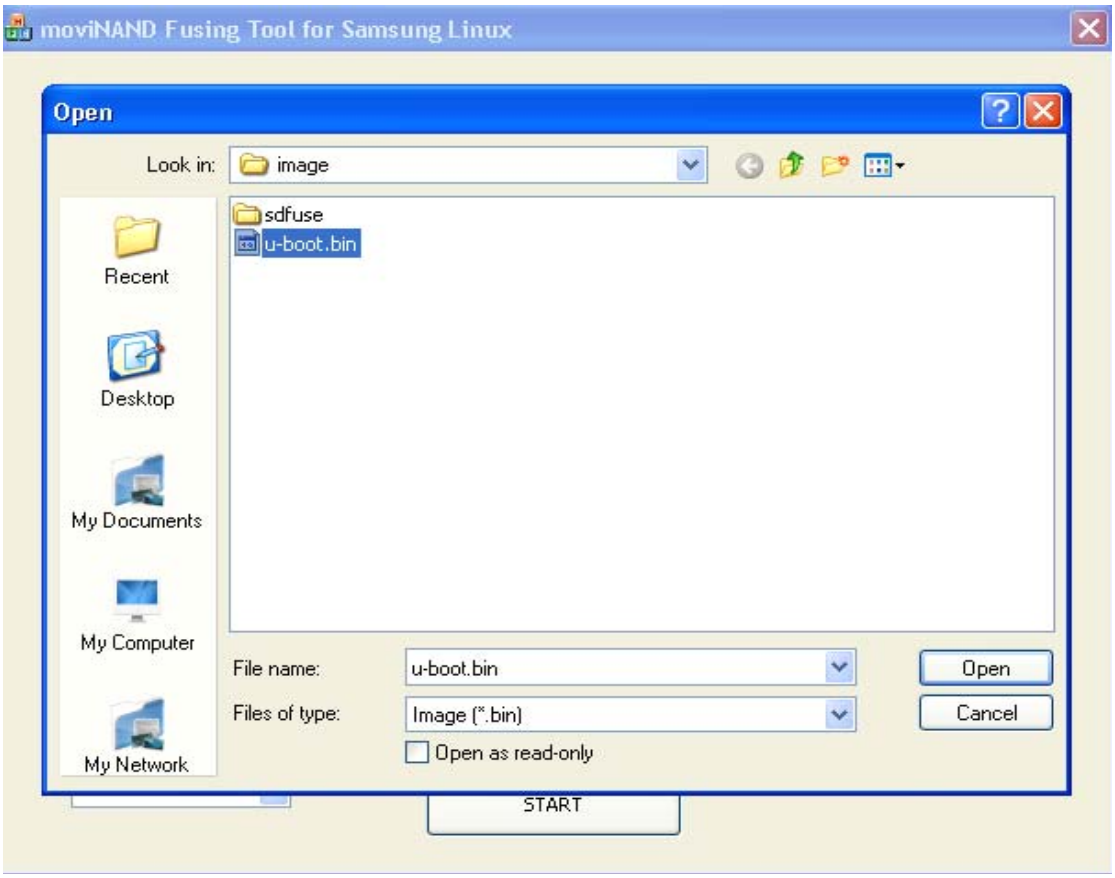
Step 2: Open "moviNAND_Fusing_Tool_v2.0" in the /Tools directory.



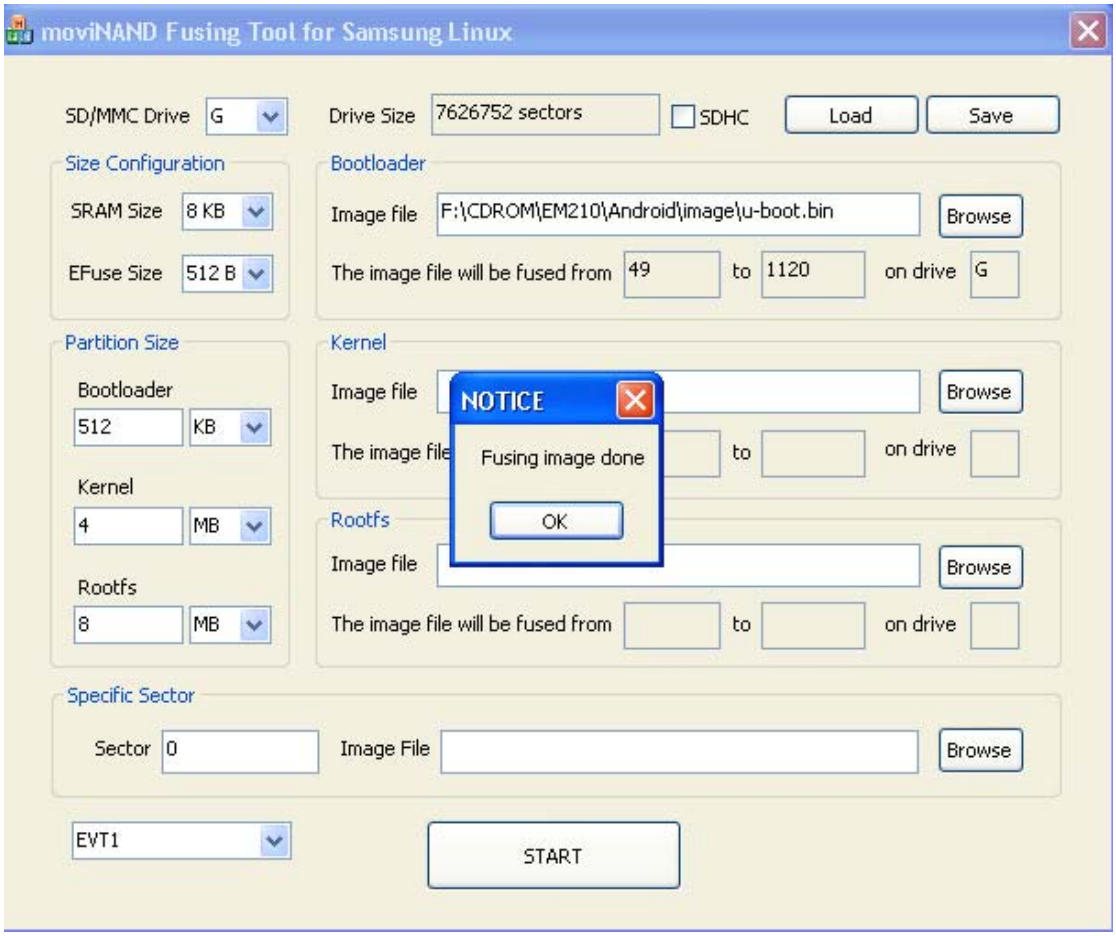
Step 3: Open the disk corresponds to SD card and select the file you want to burn.



Select **u-boot.bin**



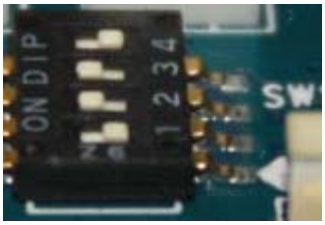
Click “**START**”. The pop-up “**NOTICE**” window shows writing is successful.



3 Set boot mode

S5PV210 supports three boot mode, SD card and NAND Flash are the main boot modes. Setting as follows:

Boot mode	OM 1	OM2	OM3	OM5
SW1 Pin	**1**	**2**	**3**	**4**
Boot from SD	**0**	**1**	**1**	**0**
Boot from NAND Flash	**1**	**0**	**0**	**0**



Boot from SD

Boot from NAND Flash

Creating a new folder named sdfuse in the SD card and put the **u-boot.bin** into the folder. Set the boot mode to SD card mode **(OM1:OM5=0110**). Insert the bootable SD card and turn on the board, the serial port will print out the following information:

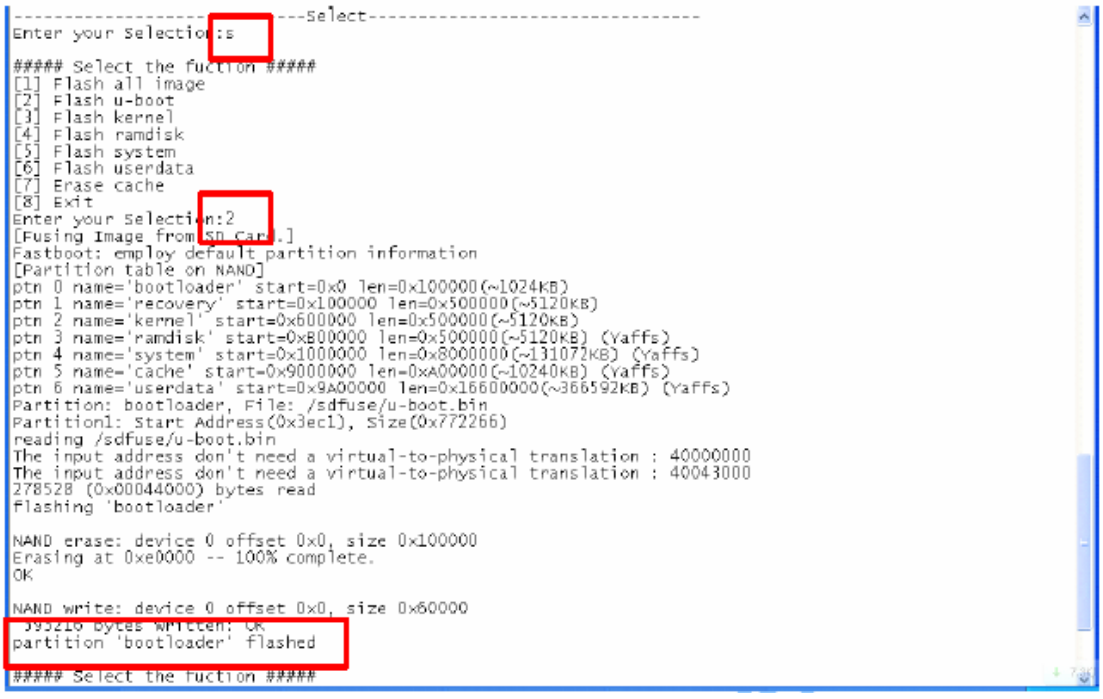
```
U-Boot 1.3.4 (Oct 18 2012 - 15:19:13) for SMDKV210


CPU:  S5PV210@1000MHz(OK)
        APLL = 1000MHz, HclkMsys = 200MHz, PclkMsys = 100MHz
        MPLL = 667MHz, EPLL = 80MHz
                       HclkDsys = 166MHz, PclkDsys = 83MHz
                       HclkPsys = 133MHz, PclkPsys = 66MHz
                       SCLKA2M  = 200MHz
Serial = CLKUART
Board:   SMDKV210
DRAM:    512 MB
SD/MMC:  3827MB
NAND:    512 MB
In:      serial
Out:     serial
Err:     serial
checking mode for fastboot ...
Hit any key to stop autoboot:  0

################## RealARM User Menu for Realv210 ##################
############################ For Android ############################
[f] Format the nand flash
[s] Burn image from SD card
[u] Use fastboot
[c] Configure the radio device
[b] Boot the system
[r] Reboot the u-boot
[e] Exit to command line
-----------------------------Select----------------------------------
Enter your Selection:
```

Now you can burn the images by SD card or USB cable.

Burn bootloader into the nand flash by sdfuse command:

Enter "**f**" and enter "**y**" to format the nand flash.

Then enter "**s**" and "**2**" to burn u-boot.bin in SD card.



Now the u-boot.bin is in the nand flash, you can boot from nand flash.

4 Burn kernel and Android (zImage kernel.img ramdisk-yaffs.img system.img userdata.img)

Method 1: Burn images by sdfuse.

You can do the following operations in SD card mode or Nand flash mode. But you must burn the bootloader by SD card boot mode if there is no uboot in nand flash.
Creating a new folder named **sdfuse** in the SD card and put the **u-boot.bin, kernel.img, ramdisk-yaffs.img, system.img, userdata.img** into the folder.
Turn on the board and input the following selection to burn the images to the nand flash.
Enter the bootloader command line and input "**s**" to use sdfuse command.

```
################## RealARM User Menu for Realv210 ##################
############################ For Android ############################
[f] Format the nand flash
[s] Burn image from SD card
[u] Use fastboot
[c] Configure the radio device
[b] Boot the system
[r] Reboot the u-boot
[e] Exit to command line
--------------------Select----------------------------------
Enter your Selection:s
```

It will appear following message, then you can select "**1**" to burn all the images by one step, or you can input "**2**" "**3**" "**4**" "**5**" "**6**" and "**7**" to burn the images one by one.

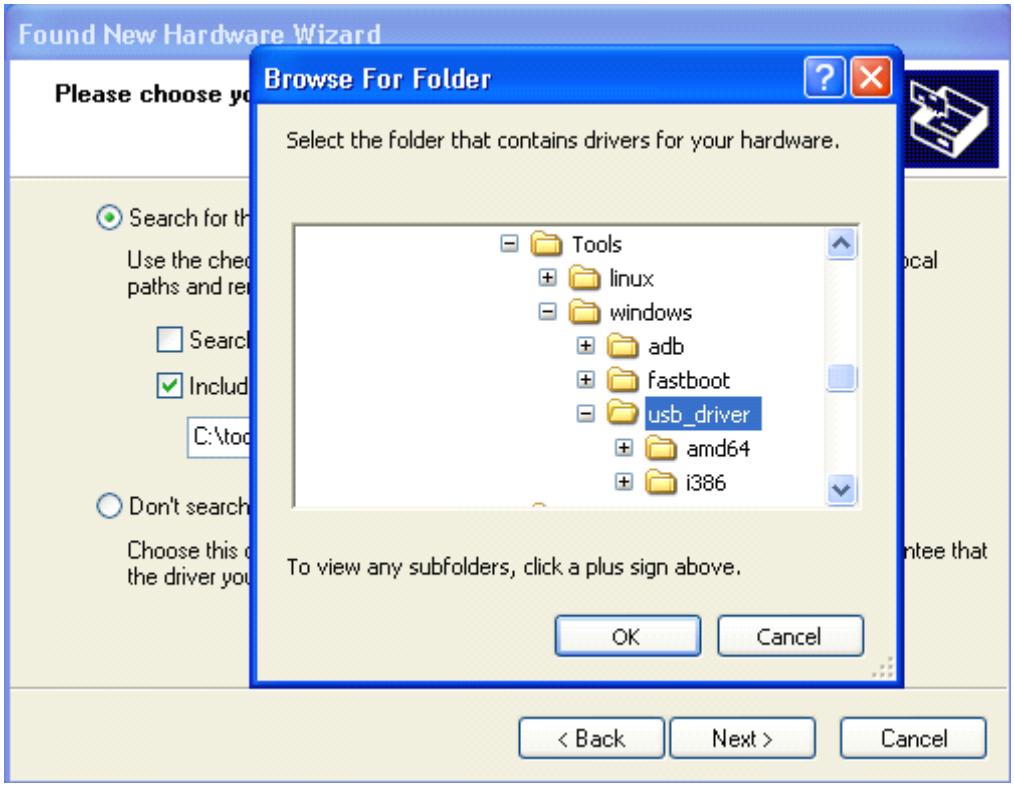
```
##### Select the fuction #####
[1] Flash all image
[2] Flash u-boot
[3] Flash kernel
[4] Flash ramdisk
[5] Flash system
[6] Flash userdata
[7] Erase cache
[8] Exit
Enter your Selection:
```

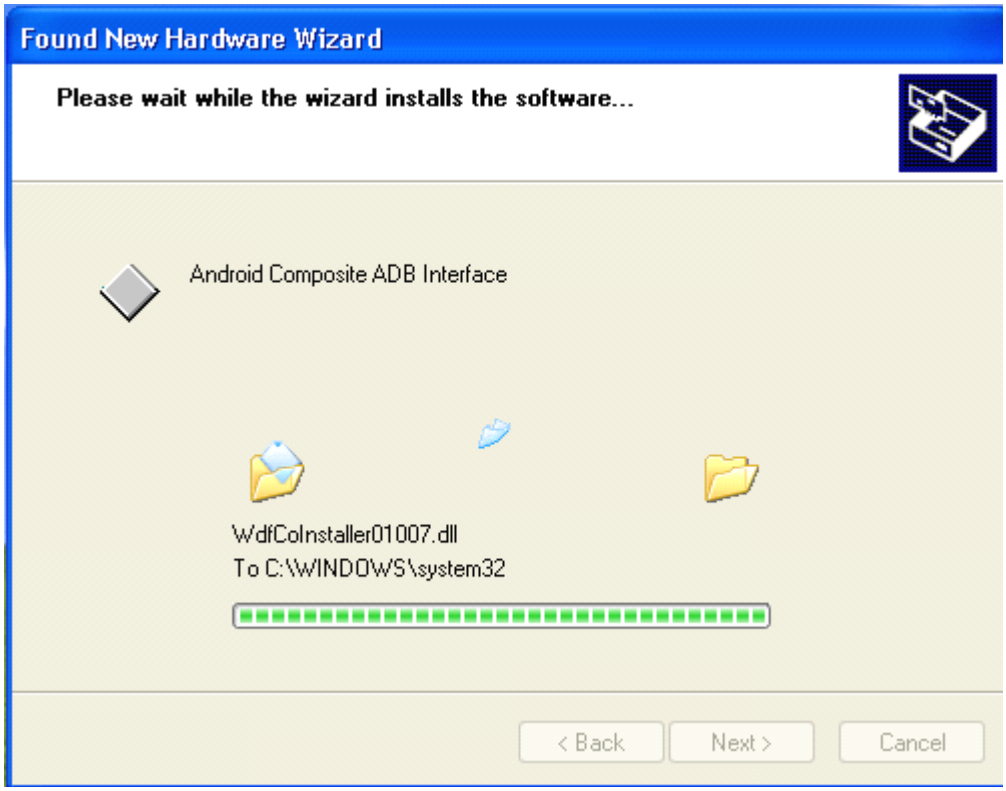
Method 2: Burn images by fastboot.

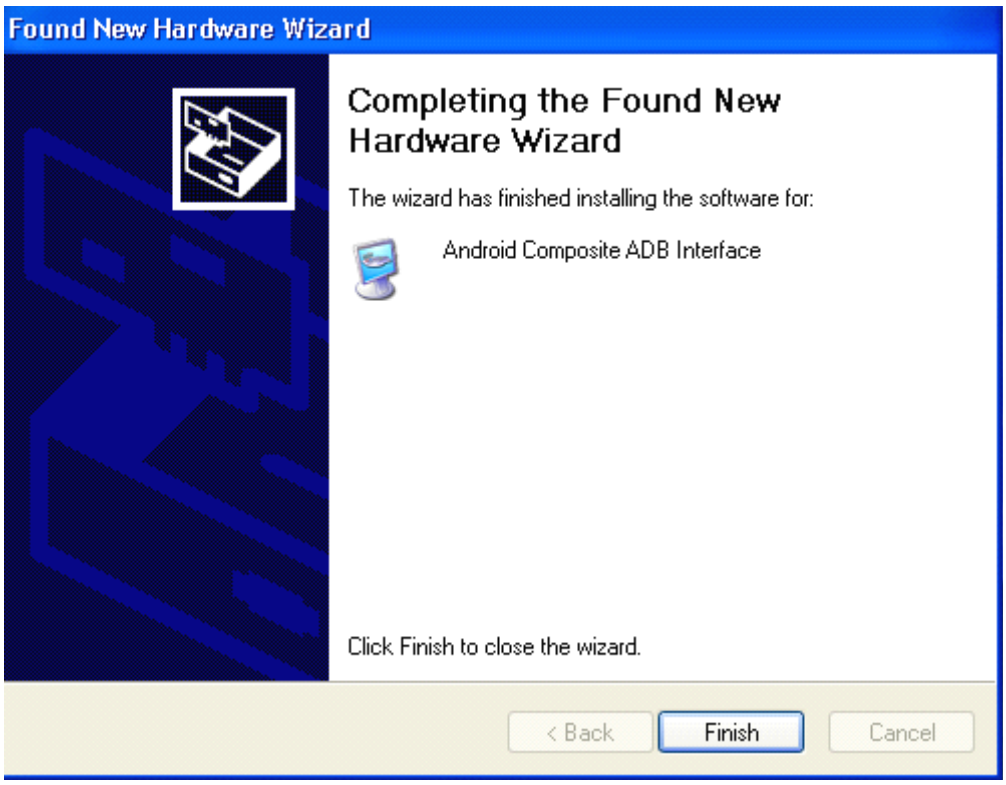
Step 1: Install USB driver.

Turn on the development board and connect computer's USB port with board OTG USB port by a USB cable. Windows will immediately recognize the USB device and prompt to load the driver.

Click "**Next**" and select Tools/usb_driver/**USB_ADB_driver** directory.







Step 2: Burn image by fastboot.

You can do the following operations in SD card mode or Nand flash mode. But you must burn the uboot by SD card boot mode if there is no uboot in nand flash.

Set the DIP switch to nand flash boot mode as follow:

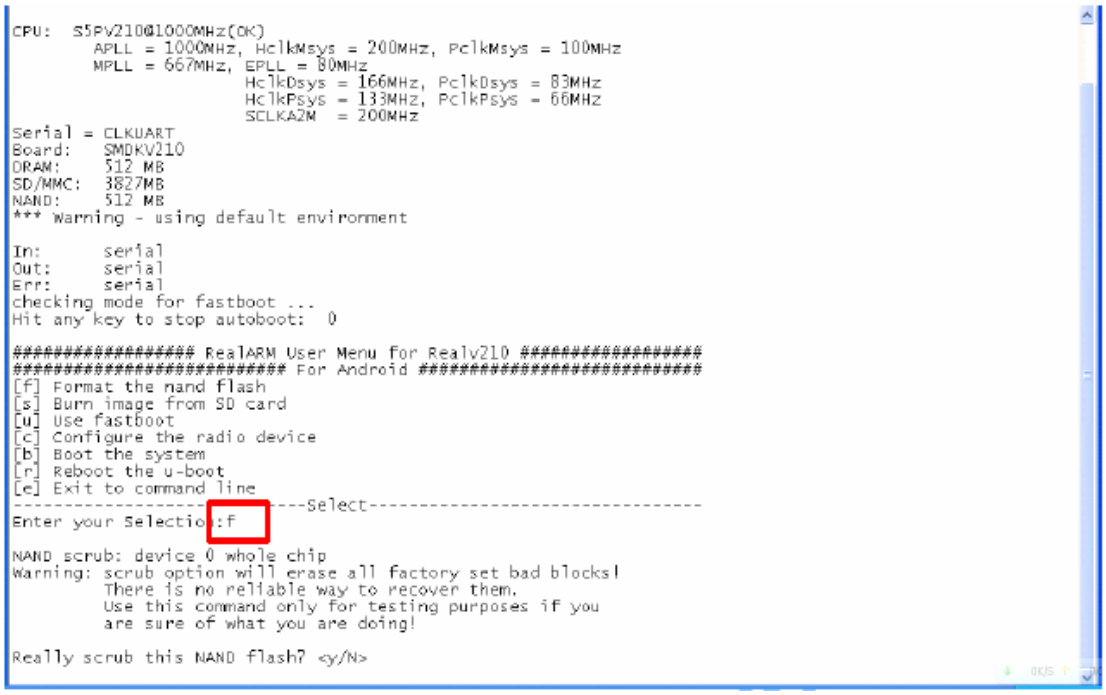
Boot mode	OM 1	OM2	OM3	OM5
SW1 Pin	1	2	3	4

Boot from NAND Flash	**1**	**0**	**0**	**0**

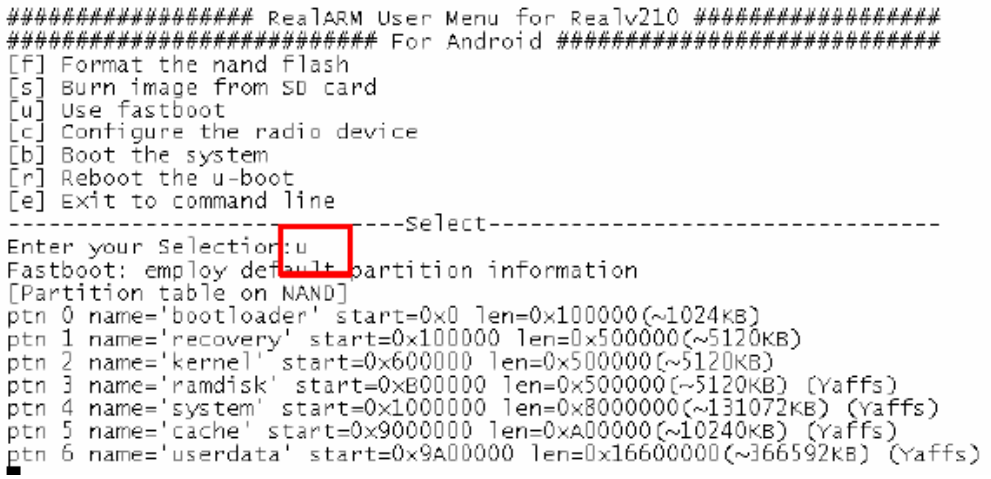
You can use "**fastboot**" until you copy three files as follows from Tools/fastboot directory to C:\\WINDOWS**system32** directory.

Boot from nand flash, erase the nand flash and use fastboot.

Select "**f**" and enter "**y**" to format the nand flash.



Select the "**u**" to use fastboot command.

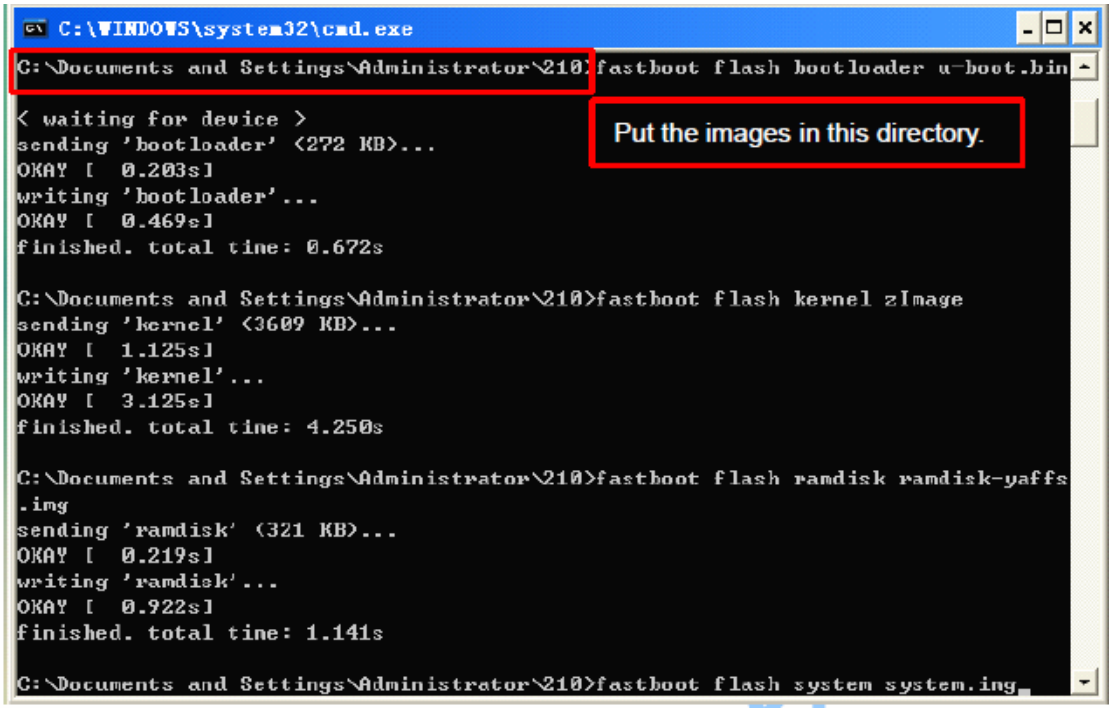


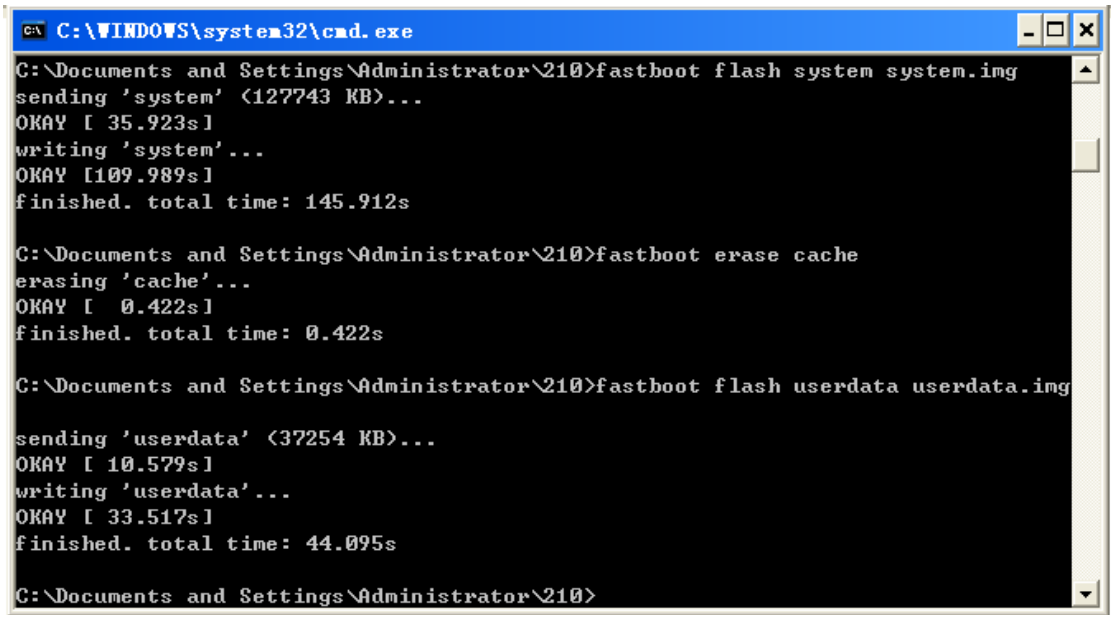
Copy **u-boot.bin, zImage, ramdisk-yaffs.img, system.img, userdata.img** to the C:\Documents and Settings\Administrator\210\, and open "**CDM.exe**" in windows OS. Input following command in the command line to burn the images into nand flash.

fastboot flash bootloader u-boot.bin

fastboot flash kernel zImage

fastboot flash ramdisk ramdisk-yaffs.img
fastboot flash system system.img
fastboot erase cache
fastboot flash userdata userdata.img





Set boot from nand flash mode if it is not nand flash mode. Turn on the development board, then running Android OS. The first startup will takes a long time.