

MV V310 Android 4.0 Downloading



Microvision Co., Ltd.

Document Information

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|-----------|-----------------------------------|
| Version | 1.0 |
| File Name | MVV310_Android4.0_Downloading.doc |
| Date | 2012. 4. 23 |
| Satus | Working |

Revision History

| Date | Version | Update Descriptions | Editor |
|--------------|---------|---------------------|-------------|
| 2012. 4. 23. | V1.0 | First Edition | Microvision |
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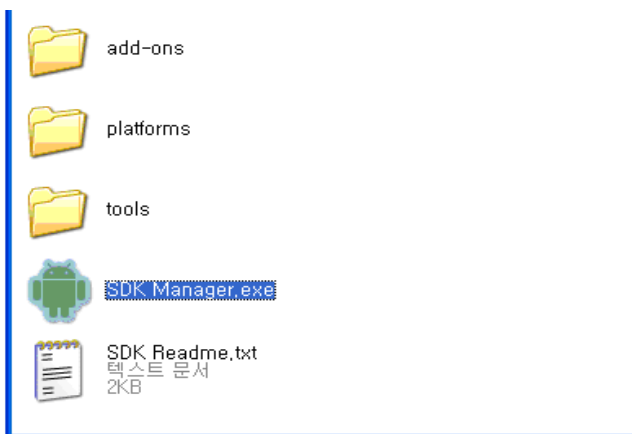
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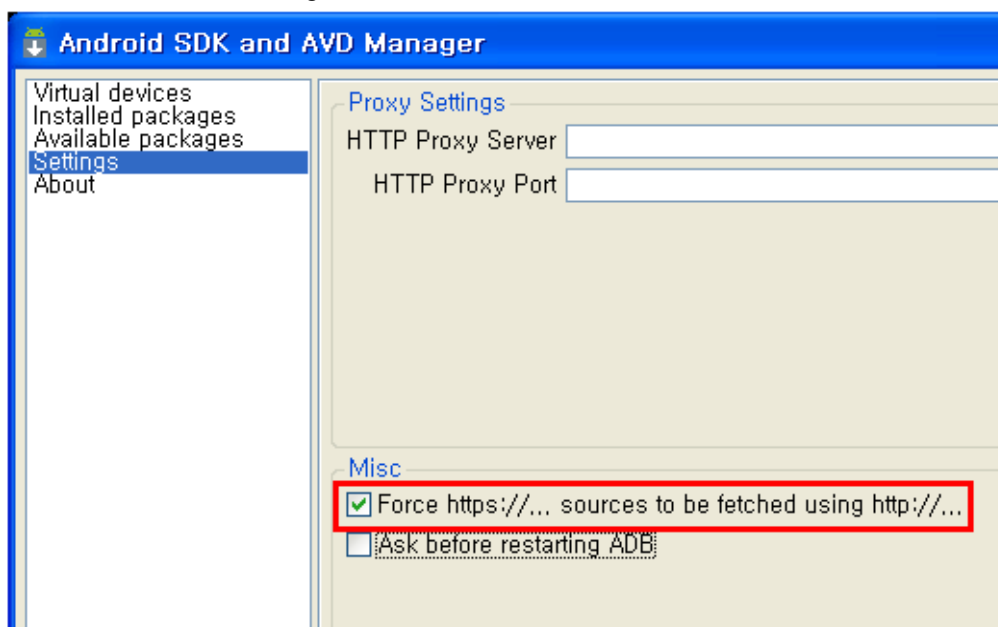
1. SDK Setup

MVV310-LCD uses fastboot to download the image. To use the fastboot, SDK should be installed. (Download link for SDK is <http://developer.android.com/sdk/index.html>)

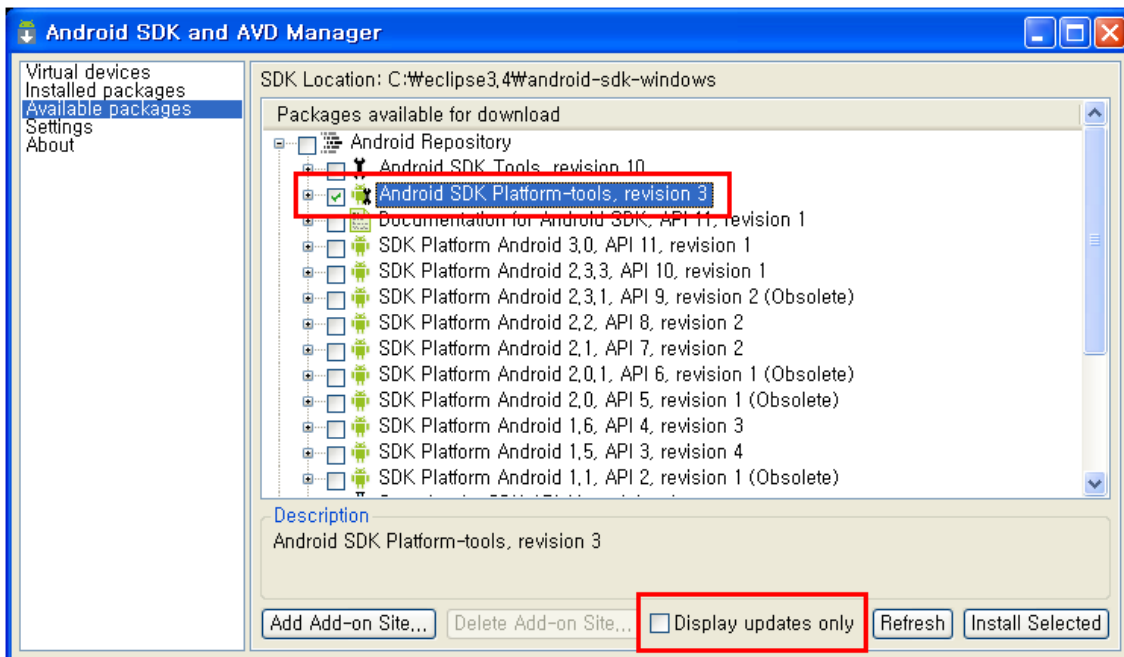
Run "SDK Manager.exe". If asked for update, please proceed all for 2.3 or 4.0.



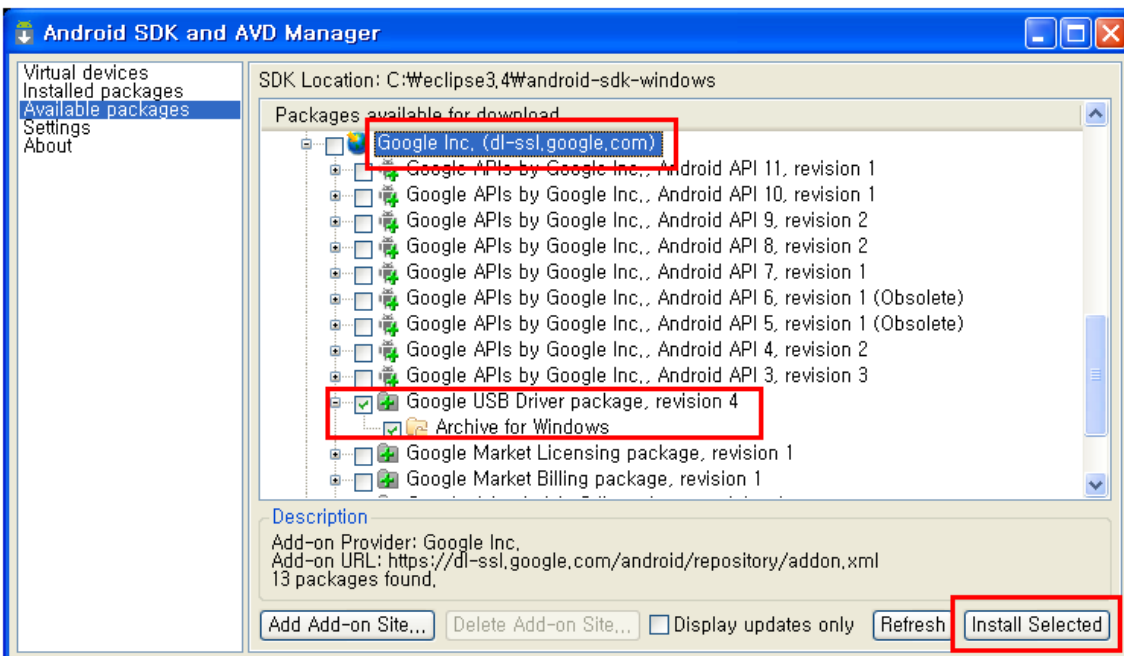
Check "Force" at "Settings"



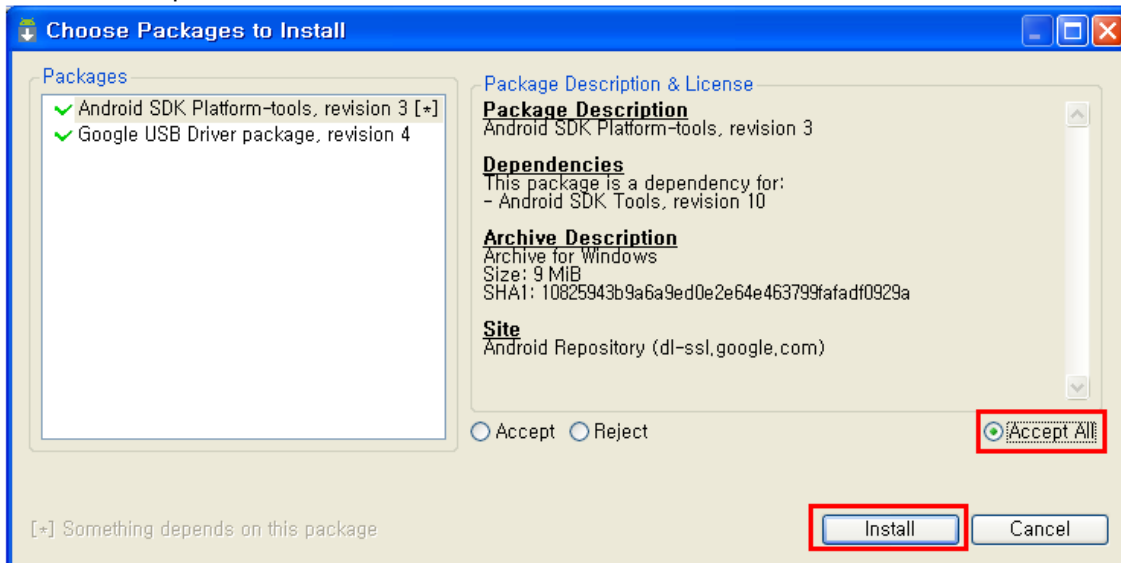
Select "Android SDK Platform-tools" and clear "Display updates only"



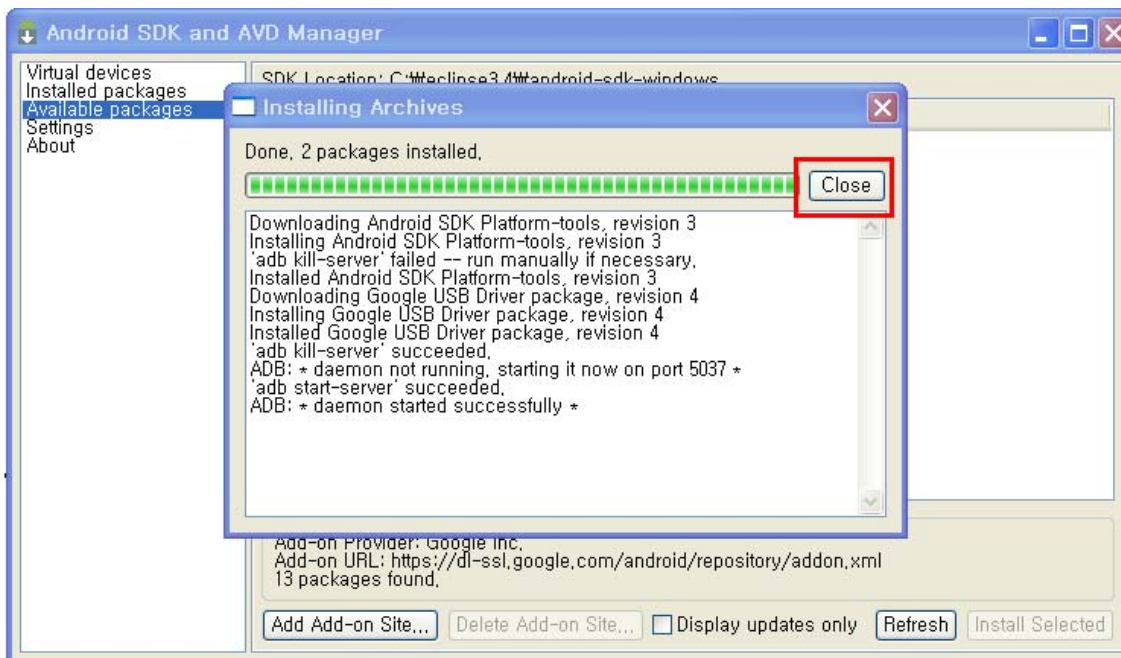
At Google Inc (dl-ssl.google.com), Select “Google USB Driver package...” And click “install Selected”.



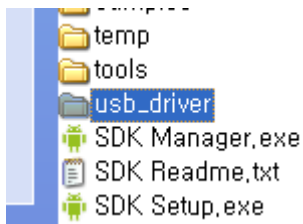
Select "Accept All" and click "install".



Click "Close"



After installation, you will see the below “usb_driver” folder in the SDK.



Open the file “android_winusb.inf” by using editor and modify it as below.

...

```
[Google.NTx86]
; HTC Dream
%SingleAdbInterface% = USB_Install, USBWVID_0BB4&PID_0C01
%CompositeAdbInterface% = USB_Install, USBWVID_0BB4&PID_0C02&MI_01
%SingleBootLoaderInterface% = USB_Install, USBWVID_0BB4&PID_0FFF
; HTC Magic
%CompositeAdbInterface% = USB_Install, USBWVID_0BB4&PID_0C03&MI_01
;
;Moto Sholes
%SingleAdbInterface% = USB_Install, USBWVID_22B8&PID_41DB
%CompositeAdbInterface% = USB_Install, USBWVID_22B8&PID_41DB&MI_01
;
;Google NexusOne
%SingleAdbInterface% = USB_Install, USBWVID_18D1&PID_0D02
%CompositeAdbInterface% = USB_Install, USBWVID_18D1&PID_0D02&MI_01
%SingleAdbInterface% = USB_Install, USBWVID_18D1&PID_4E11
%CompositeAdbInterface% = USB_Install, USBWVID_18D1&PID_4E12&MI_01
%CompositeAdbInterface% = USB_Install, USBWVID_18D1&PID_4E22&MI_01
; Samsung SMDK
%SingleBootLoaderInterface% = USB_Install, USBWVID_18D1&PID_0002
%CompositeAdbInterface% = USB_Install, USBWVID_18D1&PID_0005&MI_01
[Google.NTamd64]
; HTC Dream
%SingleAdbInterface% = USB_Install, USBWVID_0BB4&PID_0C01
%CompositeAdbInterface% = USB_Install, USBWVID_0BB4&PID_0C02&MI_01
%SingleBootLoaderInterface% = USB_Install, USBWVID_0BB4&PID_0FFF
```

; HTC Magic

%CompositeAdbInterface% = USB_Install, USBWVID_0BB4&PID_0C03&MI_01

;

;Moto Sholes

%SingleAdbInterface% = USB_Install, USBWVID_22B8&PID_41DB

%CompositeAdbInterface% = USB_Install, USBWVID_22B8&PID_41DB&MI_01

;

;Google NexusOne

%SingleAdbInterface% = USB_Install, USBWVID_18D1&PID_0D02

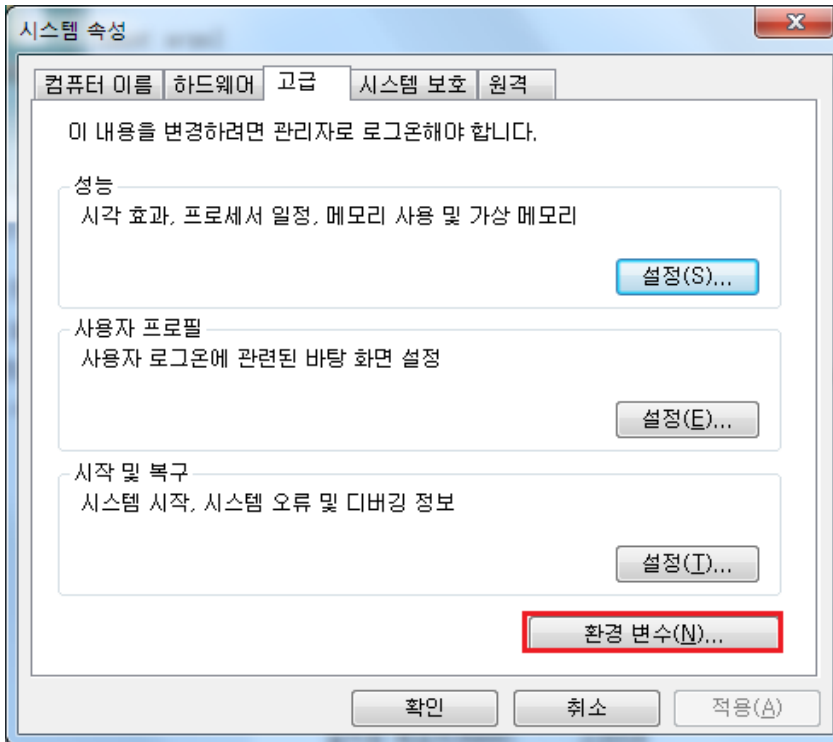
%CompositeAdbInterface% = USB_Install, USBWVID_18D1&PID_0D02&MI_01

%SingleAdbInterface% = USB_Install, USBWVID_18D1&PID_4E11

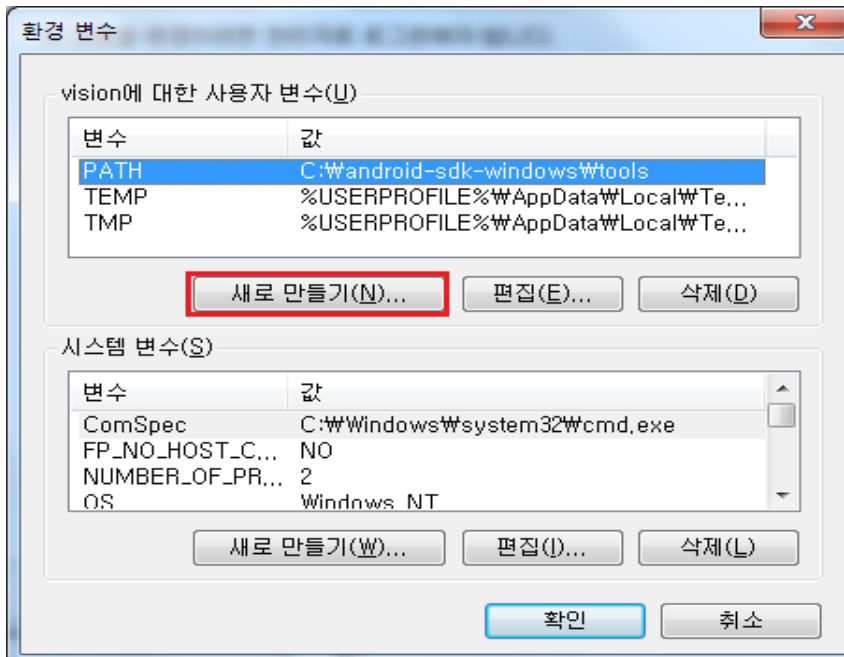
%CompositeAdbInterface% = USB_Install, USBWVID_18D1&PID_4E12&MI_01

%CompositeAdbInterface% = USB_Install, USBWVID_18D1&PID_4E22&MI_01

In the system property, click advanced → environment variable.



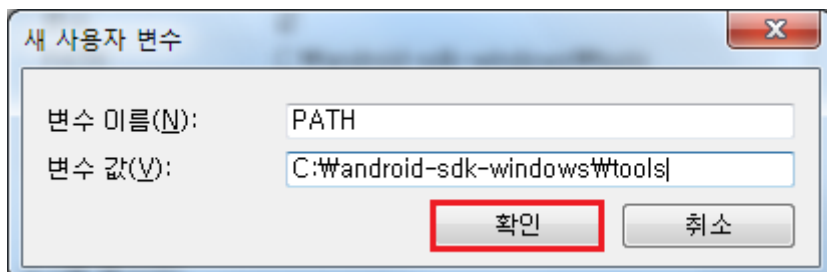
Click "New" at the "Environment Variable".



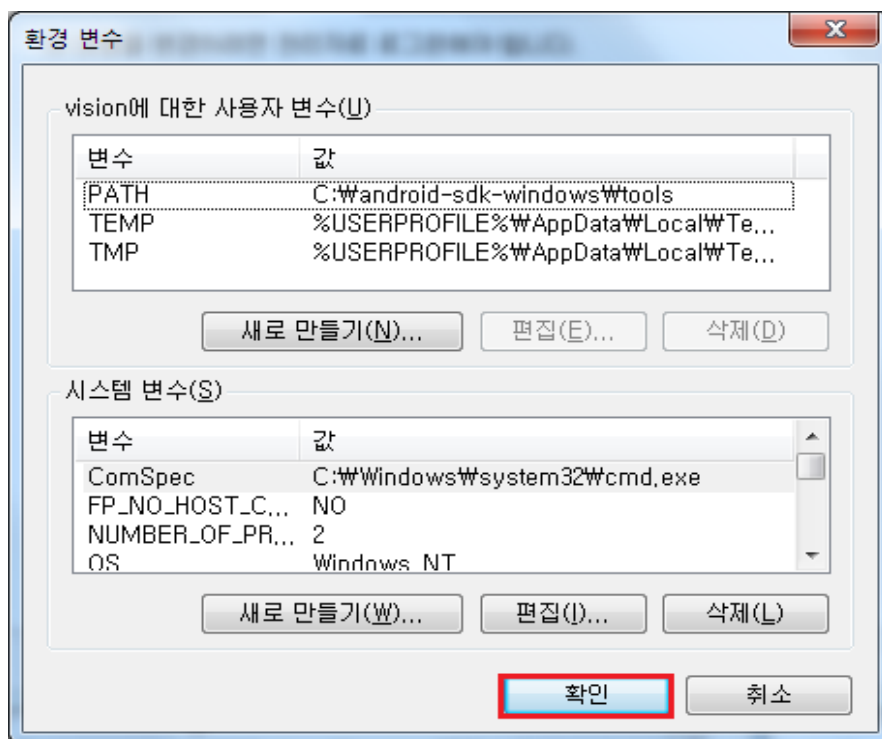
Set the variable name to "PATH" and put the SDK directory path to the value.

PATH

C:\android-sdk-windows\tools

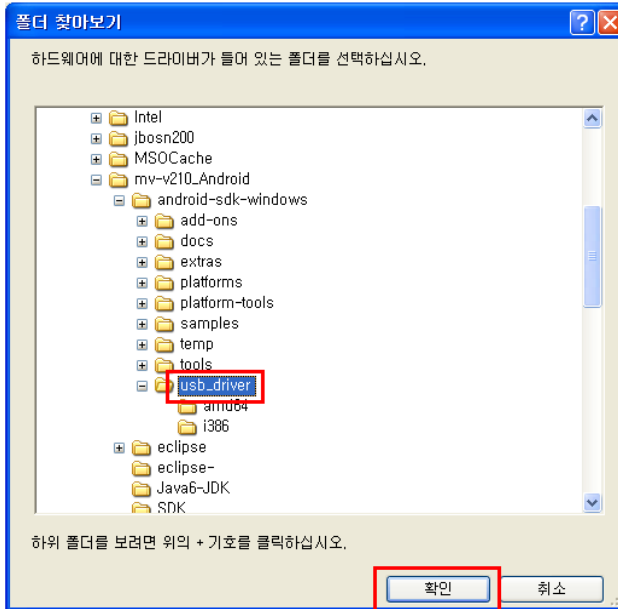


Click "OK"



Connect the board with the USB serial and execute the fastboot at u-boot mode and it will find the USB drive. You will see the installation message on your PC. You can assign the USB driver “android_winusb.inf” which is generated in the SDK installation.

SMDKV310 # fastboot

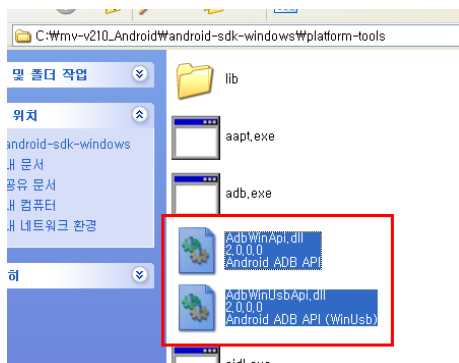


Fastboot.exe file is in C:\android-sdk-windows\tools. Please copy the compiled image to the same directory. and it places the compiled image.

(u-boot.bin/zImage/ramdisk-uboot.img/system.img)

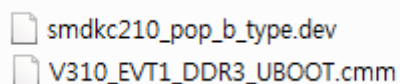
And then, run “cmd” for DOS mode window and run “fastboot” to download the image.

If there is an error message of “AdbWinApi.dll” can’t be found, you can copy AdbWinApi.dll, AdbWinUsbApi.dll at C:\android-sdk-windows\platform-tools to the C:\android-sdk-windows\tools.



2. Downloading

To download the image with the MV 4412-LCD board, we need the emulator called CodeViser from J&D Tech. The cmm script file is in the directory, CD\JTAG



```
smdkc210_pop_b_type.dev
V310_EVT1_DDR3_UBOOT.cmm
```

Below is the screen after the u-boot is executed using CodeViser. After entering the u-boot mode, you can use the u-boot command from now.

```
U-Boot 2010.12-svn125 (Apr 02 2012 - 08:53:24) for SMDKV310

CPU: S5PV310 [Samsung SOC on SMP Platform Base on ARM CortexA9]
APLL = 1000MHz, MPLL = 800MHz
DRAM:  1 GiB

Checking Boot Mode ... EMMC4.3
REVISION: 1.1
MMC Device 0: 3776 MB
MMC Device 1: 0 MB
MMC Device 2 not found
Net:   No ethernet found.
Hit any key to stop autoboot:  0
SMDKV310 # █
```

To download the image, we need to make the partition and format.

```
SMDKV310 # fdisk -c 0
```

```

Checking Boot Mode ... EMMC4.3
REVISION: 1.1
MMC Device 0: 3776 MB
MMC Device 1: 0 MB
MMC Device 2 not found
Net: No ethernet found.
Hit any key to stop autoboot: 0
SMDKV310 # fdisk -c 0
Count: 10000
fdisk is completed

partition #   size(MB)   block start #   block count   partition_Id
  1           2534           2403126         5191659       0x0C
  2            501           136026         1027752       0x83
  3            302           1163778         619674        0x83
  4            302           1783452         619674        0x83
SMDKV310 # █

```

SMDKV310 # fatformat mmc 0:1

```

SMDKV310 # fatformat mmc 0:1
Start format MMC&d partition&d ...
Partition1: Start Address(0x24ab36), Size(0x4f37eb)
size checking ...
Under 8G
write FAT info: 32
Fat size : 0x13cd
Erase FAT region.....
Partition1 format complete.
SMDKV310 #

```

SMDKV310 # ext3format mmc 0:2

```

SMDKV310 # ext3format mmc 0:2
Start format MMC0 partition2 ....
** Partition2 is not ext2 file-system 0 **
Partition2: Start Address(0x2135a), Size(0xfaea8)
Start ext2format...
Wirte 0/4block-group
Reserved blocks for journaling : 4102
Start write addr : 0x2135a
Erase inode table(0) - 0x21472.....
d_indirect_point:0x2546a
Wirte 1/4block-group
Reserved blocks for journaling : 4102
Start write addr : 0x6135a
Erase inode table(1) - 0x61472.....
Wirte 2/4block-group
Reserved blocks for journaling : 4102
Start write addr : 0xa135a
Erase inode table(2) - 0xa136a.....
Wirte 3/4block-group
Reserved blocks for journaling : 4102
Start write addr : 0xe135a
Erase inode table(3) - 0xe1472.....
SMDKV310 #

```

SMDKV310 # ext3format mmc 0:3

```
SMDKV310 # ext3format mmc 0:3
Start format MMC0 partition3 ....
** Partition3 is not ext2 file-system 0 **
Partition3: Start Address(0x11c202), Size(0x9749a)
Start ext2format...
Wirte 0/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x11c202
Erase inode table(0) - 0x11c2b2.....
d_indirect_point:0x11fc8a
Wirte 1/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x15c202
Erase inode table(1) - 0x15c2b2.....
Wirte 2/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x19c202
Erase inode table(2) - 0x19c212.....
SMDKV310 # █
```

SMDKV310 # **ext3format mmc 0:4**

```
SMDKV310 # ext3format mmc 0:4
Start format MMC0 partition4 ....
** Partition4 is not ext2 file-system 0 **
Partition4: Start Address(0x1b369c), Size(0x9749a)
Start ext2format...
Wirte 0/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x1b369c
Erase inode table(0) - 0x1b374c.....
d_indirect_point:0x1b7124
Wirte 1/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x1f369c
Erase inode table(1) - 0x1f374c.....
Wirte 2/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x23369c
Erase inode table(2) - 0x2336ac.....
SMDKV310 #
```

[Boot args]

SMDKV310 # **setenv bootcmd 'movi read kernel 0 40008000;movi read rootfs 0 41000000 10000;bootm 40008000 4100000'**

```
SMDKV310 # setenv bootcmd 'movi read kernel 0 40008000;movi read rootfs 0 41000000 10000;bootm 40008000 4100000'
SMDKV310 #
```

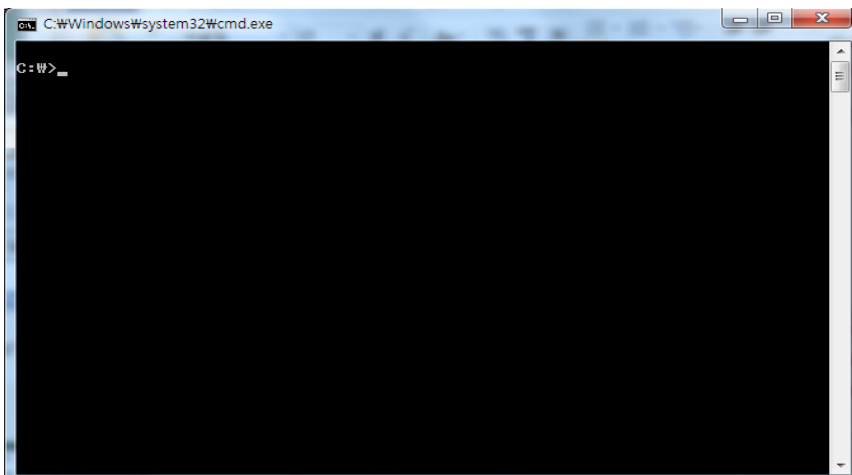
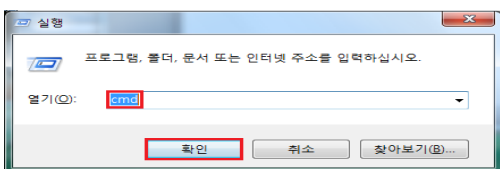
SMDKV310 # **saveenv**

```
SMDKV310 # saveenv
Saving Environment to SMDK bootable device...
done
SMDKV310 # █
```

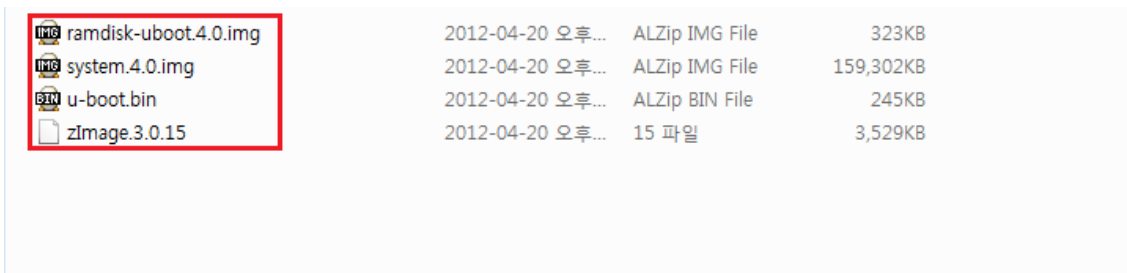
SMDKV310 # **fastboot**

```
SMDKV310 # fastboot
[Partition table on MoviNAND]
ptn 0 name='fwbl1' start=0x8 len=N/A (use hard-coded info. (cmd: movi))
ptn 1 name='bl2' start=N/A len=N/A (use hard-coded info. (cmd: movi))
ptn 2 name='bootloader' start=N/A len=N/A (use hard-coded info. (cmd: movi))
ptn 3 name='tzsw' start=N/A len=N/A (use hard-coded info. (cmd: movi))
ptn 4 name='kernel' start=N/A len=N/A (use hard-coded info. (cmd: movi))
ptn 5 name='ramdisk' start=N/A len=0x6800(~27262976KB) (use hard-coded info. (cmd: movi))
ptn 6 name='system' start=0x426B400 len=0x7D754(~526209024KB)
ptn 7 name='userdata' start=0x23840400 len=0x4BA4D(~317273088KB)
ptn 8 name='cache' start=0x366D3800 len=0x4BA4D(~317273088KB)
ptn 9 name='fat' start=0x49566C00 len=0x279BF5(~-1636837888KB)
OTG cable Connected!
```

After completing the above steps, open “cmd” window for the next step.

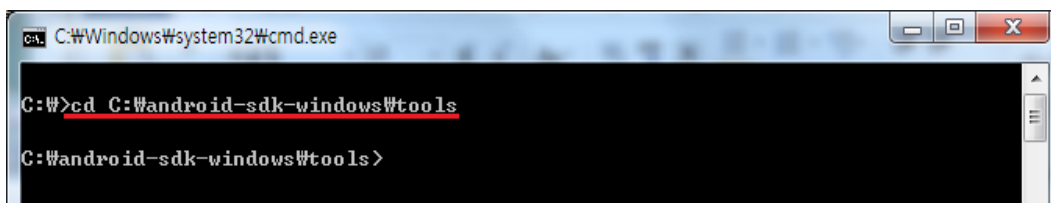


Copy the image to the folder which has the Fastboot execution file.



In the CMD window, please move to the folder where the image is located as below.

C:\W>cd C:\Wandroid-sdk-windows\tools



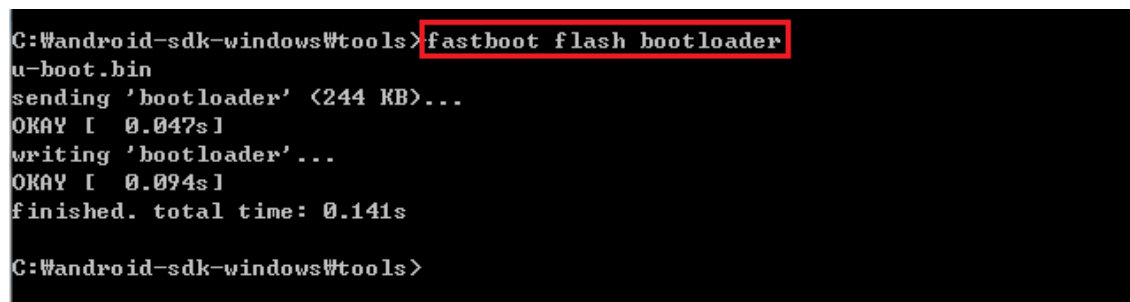
```
C:\Windows\system32\cmd.exe
C:\W>cd C:\Wandroid-sdk-windows\tools
C:\Wandroid-sdk-windows\tools>
```

Execution of the below command will write the image to the board.

[Upgrade]

[uboot]

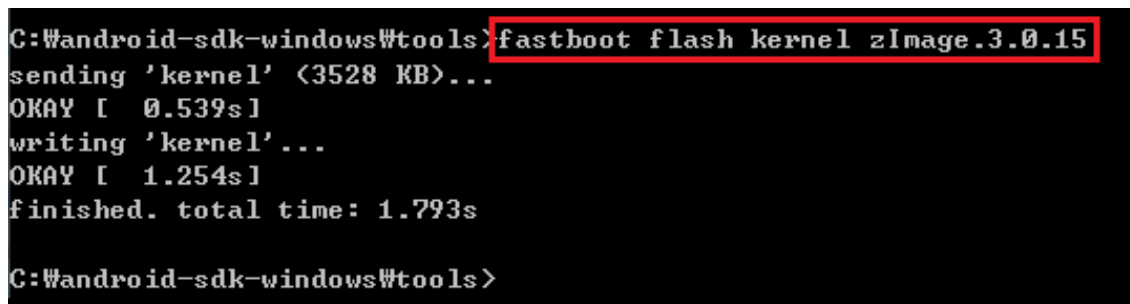
C:\Wandroid-sdk-windows\tools > fastboot flash bootloader u-boot.bin



```
C:\Wandroid-sdk-windows\tools> fastboot flash bootloader
u-boot.bin
sending 'bootloader' (244 KB)...
OKAY [ 0.047s]
writing 'bootloader'...
OKAY [ 0.094s]
finished. total time: 0.141s
C:\Wandroid-sdk-windows\tools>
```

[kernel]

C:\Wandroid-sdk-windows\tools > fastboot flash kernel zImage.3.0.15



```
C:\Wandroid-sdk-windows\tools> fastboot flash kernel zImage.3.0.15
sending 'kernel' (3528 KB)...
OKAY [ 0.539s]
writing 'kernel'...
OKAY [ 1.254s]
finished. total time: 1.793s
C:\Wandroid-sdk-windows\tools>
```

[ramdisk]

C:\Wandroid-sdk-windows\tools > fastboot flash ramdisk ramdisk-uboot.4.0.img


```
C:\Wandroid-sdk-windows\tools>fastboot flash ramdisk ramdisk-uboot.4.0.img
sending 'ramdisk' (322 KB)...
OKAY [ 0.059s]
writing 'ramdisk' ...
OKAY [ 0.063s]
finished. total time: 0.121s

C:\Wandroid-sdk-windows\tools>
```

[system]

C:\Wandroid-sdk-windows\tools > fastboot flash system system.4.0.img

```
C:\Wandroid-sdk-windows\tools>fastboot flash system system.4.0.img
sending 'system' (159301 KB)...
OKAY [ 23.742s]
writing 'system' ...
OKAY [ 29.965s]
finished. total time: 53.707s

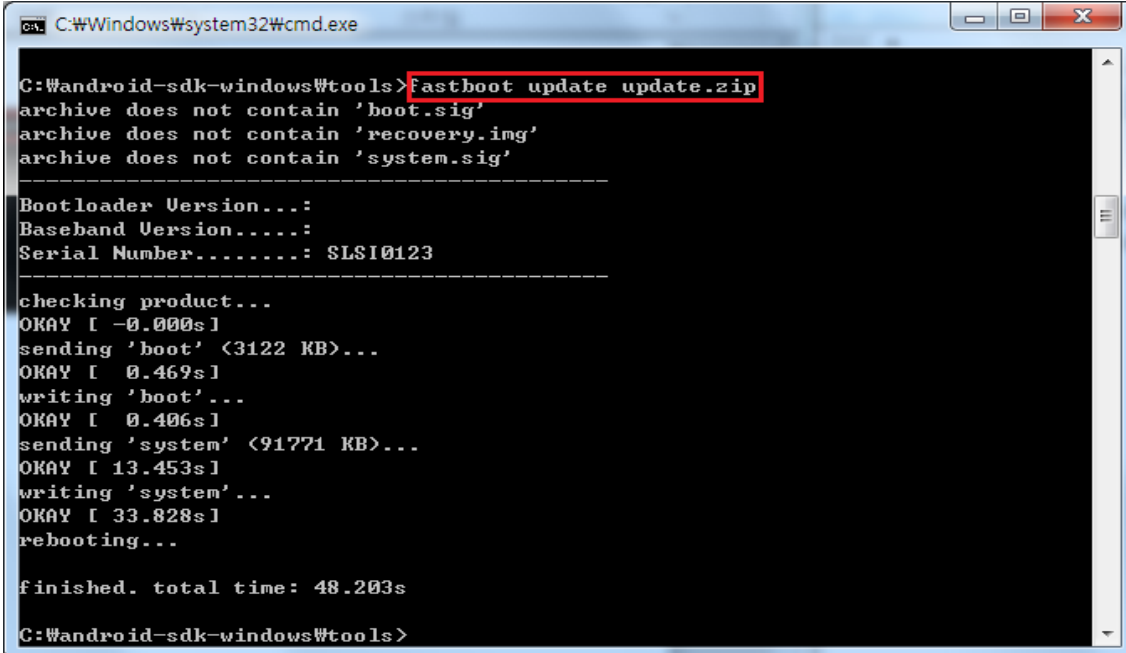
C:\Wandroid-sdk-windows\tools>
```

Previously we run the command each time but now we use the batch file "update.zip" to run all the command at the same time so that all the images can be written.

[update:all]

SMDKV310 # fastboot

C:\Wandroid-sdk-windows\tools > fastboot update update.zip



```
C:\WWindows\system32\cmd.exe

C:\Wandroid-sdk-windows\tools>fastboot update update.zip
archive does not contain 'boot.sig'
archive does not contain 'recovery.img'
archive does not contain 'system.sig'
-----
Bootloader Version...:
Baseband Version.....:
Serial Number.....: SLSI0123
-----
checking product...
OKAY [ -0.000s]
sending 'boot' (3122 KB)...
OKAY [ 0.469s]
writing 'boot' ...
OKAY [ 0.406s]
sending 'system' (91771 KB)...
OKAY [ 13.453s]
writing 'system' ...
OKAY [ 33.828s]
rebooting...

finished. total time: 48.203s

C:\Wandroid-sdk-windows\tools>
```