
Installation Manual for S3C2450 (Windows CE 5.0)



Installation Manual for S3C2450 (Windows CE 5.0)
Copyright © 2004 Samsung Electronics Co, Ltd. All Rights Reserved.

Though every care has been taken to ensure the accuracy of this document, Samsung Electronics Co, Ltd. cannot accept responsibility for any errors or omissions or for any loss occasioned to any person, whether legal or natural, from acting, or refraining from action, as a result of the information contained herein. Information in this document is subject to change at any time without obligation to notify any person of such changes.

Samsung Electronics Co, Ltd. may have patents or patent pending applications, trademarks copyrights or other intellectual property rights covering subject matter in this document. The furnishing of this document does not give the recipient or reader any license to these patents, trademarks copyrights or other intellectual property rights.

No part of this document may be communicated, distributed, reproduced or transmitted in any form or by any means, electronic or mechanical or otherwise, for any purpose, without the prior written permission of Samsung Electronics Co, Ltd.

The document is subject to revision without further notice.

All brand names and product names mentioned in this document are trademarks or registered trademarks of their respective owners.

Contact Address

Samsung Electronics Co., Ltd.
San #24 Nongseo-Ri, Giheung-EUP,
Yongin- City, Gyeonggi-Do, Korea
C.P.O Box #37, Suwon 449-900
Home Page: <http://www.samsungsemi.com>

Revision History

Date	Version	Author	Amendment
2008.03.31	1.0	WINCE Team	Preliminary draft
2008.05.02	1.1	WINCE Team	

Contents

1	OVERVIEW.....	1
2	COPYING BSP AND SETTING UP PLATFORM BUILDER.....	2
3	CREATING A NEW PLATFORM.....	8
4	BUILDING OS IMAGE – WITHOUT KITL	17
4.1	BUILDING NK.NB0(SINGLE.BIN) IMAGE	17
4.2	BUILDING CHAIN.LST(MULTIPLE XIP) IMAGE.....	30
5	SINGLE.BIN IMAGE	32
5.1	RUNNING NK.NB0 IMAGE.....	32
5.2	FUSING WINDOWS CE IMAGE ON SMC VIA USB (USING UBOOT)	39
5.3	BUILDING AND RUNNING SINGLE.BIN OS IMAGE – WITH KITL	56
5.4	USB SERIAL KITL	59
6	MULTIPLE XIP IMAGE.....	66
6.1	RUNNING CHAIN.LST IMAGE	66
6.2	FUSING WINDOWS CE IMAGE ON SMC VIA USB (USING UBOOT)	66
6.3	BUILDING AND RUNNING MULTIPLE XIP OS IMAGE – WITH KITL	85
6.4	USB SERIAL KITL	88

Figures

Figure 4-9 Removing KITL Setting in the Platform Settings Window	26
Figure 4-10 Build and Sysgen	27
Figure 4-11 Building Process.....	28
Figure 4-12 After Building the OS Image.....	29
Figure 5-1 Jumper Setting for crystal	32
Figure 5-2 Jumper Setting for SDR Memory	32
Figure 5-3 Jumper Setting for DDR Memory.....	33
Figure 5-4 Switch Setting on CPU board for AMD flash boot.....	33
Figure 5-5 DNW Window.....	34
Figure 5-6 UART/USB Options	35
Figure 5-7 DNW Window after Board Power ON	36
Figure 5-8 SDRAM Test.....	36
Figure 5-9 Download & Run	37
Figure 5-10 Selecting NK.nb0 for Download.....	37
Figure 5-11 Downloading Status of NK.nb0	38
Figure 5-12 Jumper Setting for crystal	39
Figure 5-13 Jumper Setting for SDR Memory.....	39
Figure 5-14 Jumper Setting for DDR Memory	40
Figure 5-15 Switch Setting on CPU board for AMD flash boot	40
Figure 5-16 Switch Setting on Base board for NandAccess.....	40
Figure 5-17 DNW Window	41
Figure 5-18 UART/USB Options.....	42
Figure 5-19 DNW Window after Board Power ON.....	42
Figure 5-20 Selecting EBOOT.nb0 for Download.....	43
Figure 5-21 After EBOOT.nb0 Download	44
Figure 5-22 Boot Loader Configurations	45
Figure 5-23 Boot Loader Status after format	47
Figure 5-24 Boot Loader configurations	48
Figure 5-25 Selecting block0img.nb0 for Download.....	49
Figure 5-26 Messages via UART Port after block0img.nb0 Download	49
Figure 5-27 USB Boot Loader Configurations.....	50
Figure 5-28 Selecting EBOOT.bin for Download	51
Figure 5-29 Messages via UART Port after eboot.bin Download	52
Figure 5-30 USB Boot Loader Configurations.....	53
Figure 5-31 Selecting NK.bin for Download	54
Figure 5-32 Messages via UART Port during NK.bin Download	55
Figure 5-33 Switch setting for Nand Advanced NAND(page 2KB, Addr 5) card booting.....	55
Figure 5-34 Platform Settings 1	56
Figure 5-35 Platform Settings 2	57
Figure 5-36 Platform Setting for KITL.....	58
Figure 5-37 Build and Sysgen	59
Figure 5-38 Selecting Connectivity Options	61
Figure 5-39 Target Device Connectivity Options Window.....	62
Figure 5-40 Messages via UART Port after NK.nb0 Download	63
Figure 5-41 Attach Device	64
Figure 5-42 Platform Builder Window after USB Serial KITL connected	65
Figure 6-1 Jumper Setting for crystal	66
Figure 6-2 Jumper Setting for SDR Memory	67
Figure 6-3 Jumper Setting for DDR Memory.....	67
Figure 6-4 Switch Setting on CPU board for AMD flash boot.....	67
Figure 6-5 Switch Setting on Base board for NandAccess	67

Figure 6-6 DNW Window	68
Figure 6-7 UART/USB Options	69
Figure 6-8 DNW Window after Board Power ON	69
Figure 6-9 Selecting EBOOT.nb0 for Download	70
Figure 6-10 After EBOOT.nb0 Download	71
Figure 6-11 Boot Loader Configurations	72
Figure 6-12 Boot Loader Status after format	74
Figure 6-13 Boot Loader configurations	75
Figure 6-14 Selecting block0img.nb0 for Download.....	76
Figure 6-15 Messages via UART Port after block0img.nb0 Download	76
Figure 6-16 USB Boot Loader Configurations.....	77
Figure 6-17 Selecting EBOOT.bin for Download	78
Figure 6-18 Messages via UART Port after eboot.bin Download	79
Figure 6-19 USB Boot Loader Configurations.....	80
Figure 6-20 Selecting UBOOT(WINCE500).....	81
Figure 6-21 Selecting Chain.lst for Download.....	82
Figure 6-22 Messages via UART Port during Chain.lst Download.....	82
Figure 6-23 Messages via UART Port after fusing chain.lst	83
Figure 6-24 Switch setting for Nand Advanced NAND(page 2KB, Addr 5) card booting.....	84
Figure 6-25 Platform Settings 1	85
Figure 6-26 Platform Settings 2	86
Figure 6-27 Platform Setting for KITL.....	87
Figure 6-28 Build and Sysgen	88
Figure 6-29 Selecting Connectivity Options	91
Figure 6-30 Target Device Connectivity Options Window.....	92
Figure 6-31 Messages via UART Port after NK.nb0 Download	93
Figure 6-32 Attach Device	94
Figure 6-33 Platform Builder Window after USB Serial KITL connected	95

1 Overview

This Installation Manual guides you to install the Samsung S3C2450 Windows CE 5.0 BSP.

The manual explains the following topics:

- Copying BSP and Setting up Platform Builder
- Creating a New Platform
- Building OS Image - Without KITL
- Fusing WinCE Image via Ethernet

A detailed explanation of each topic is explained in the following chapters.

2 Copying BSP and Setting up Platform Builder

In this chapter, you can understand how to copy the Samsung S3C2450 Windows CE 5.0 BSP and setup the Platform Builder.

1. To start the BSP installation, copy **SMDK2450** BSP to **X:\WINCE500\PLATFORM** directory on your host PC. Make sure that the cec file and batch file in **X:\WINCE500\PLATFORM\SMDK2450** directory has the same name as that of the BSP, i.e. **smdk2450.cec** and **smdk2450.bat**.

Note: If you want, you can use a different BSP directory name. But make sure that the cec file and batch file has the same name as that of the BSP directory name.

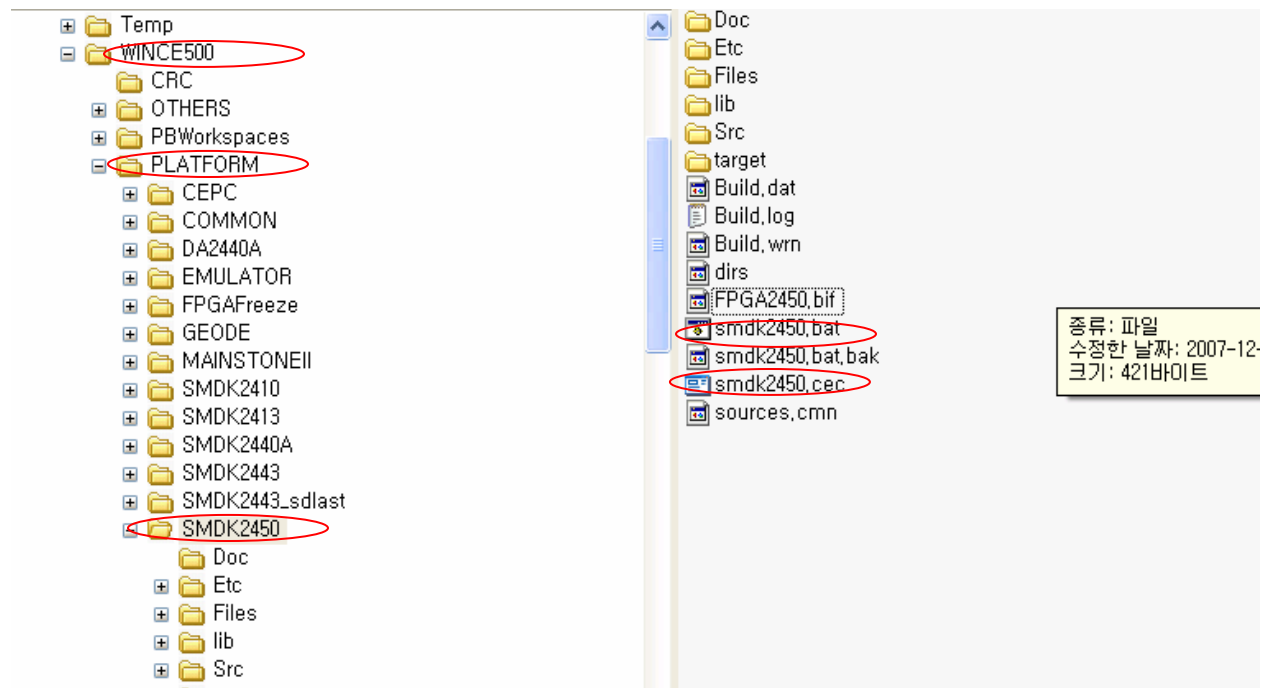


Figure 2-1 Source Files

2. To start S3C2450 Windows CE 5.0 BSP Porting, on your host PC click **Start**, point to **All Programs**, point to **Microsoft Windows CE 5.0** and then click on **Platform Builder 5.0**. The following window appears on your screen.

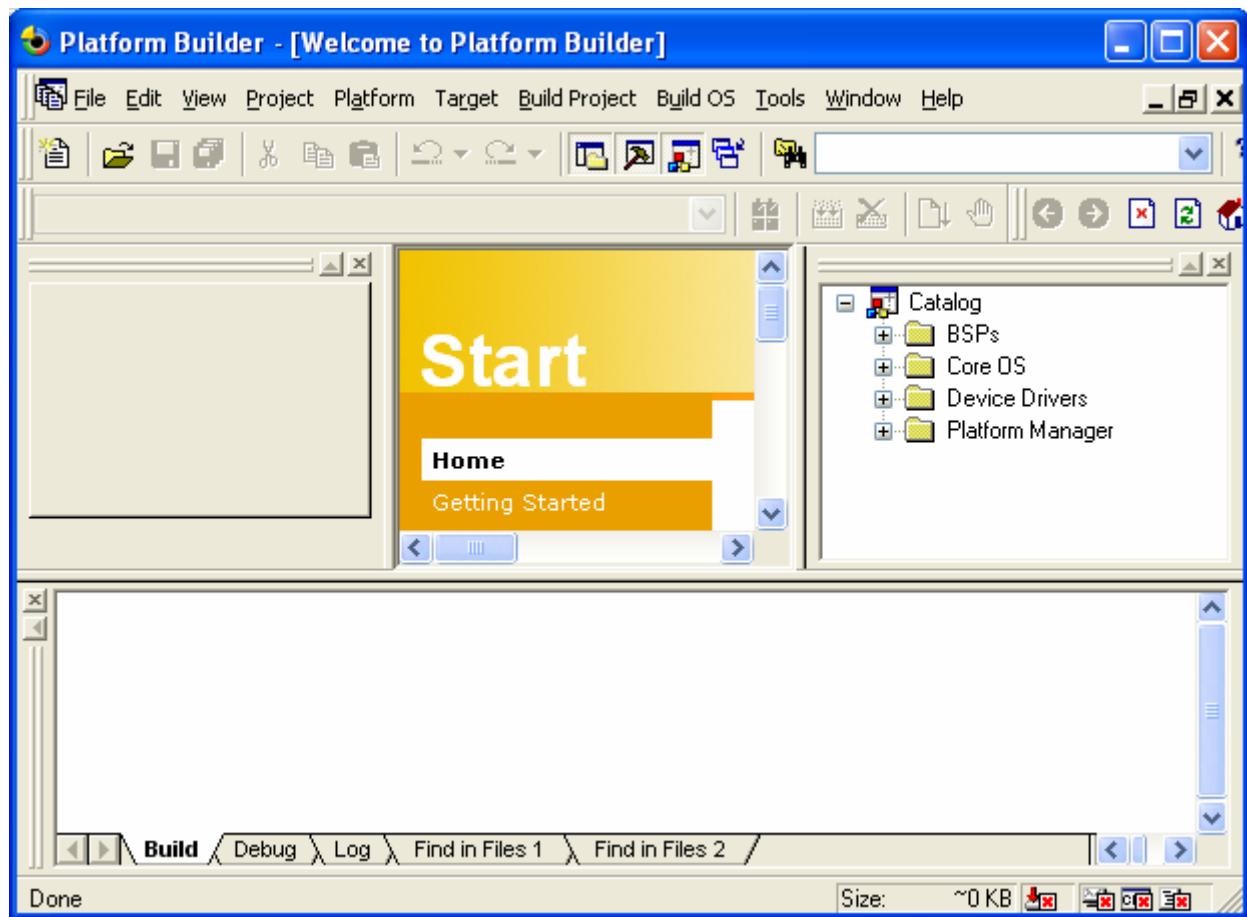


Figure 2-2 Platform Builder Window

- On the File menu, click Manage Catalog Items.... as shown in the figure below.

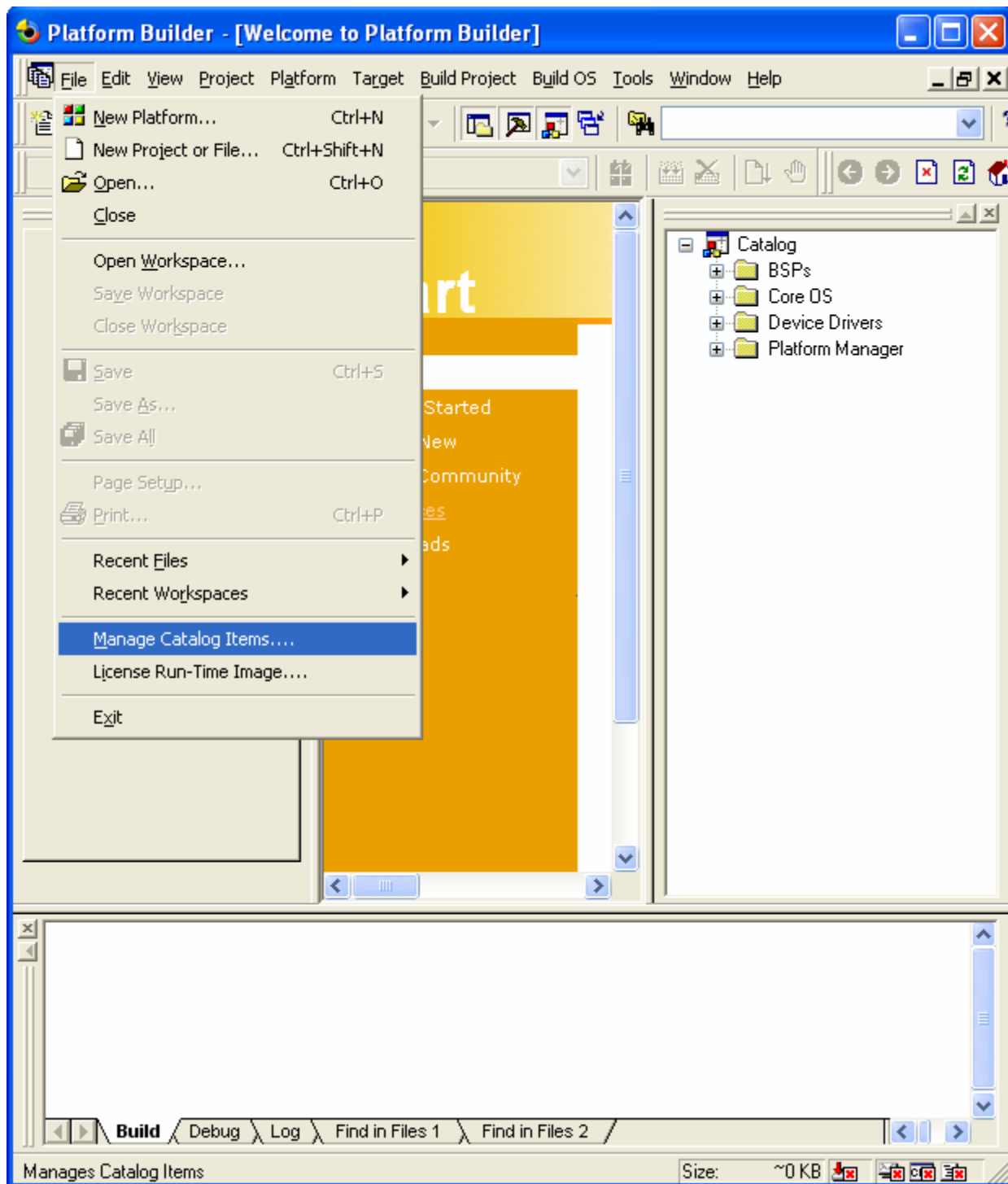


Figure 2-3 Opening Manage Catalog Items Window

4. Manage Catalog Items window appears on your screen as shown below. Click **Import...** button.

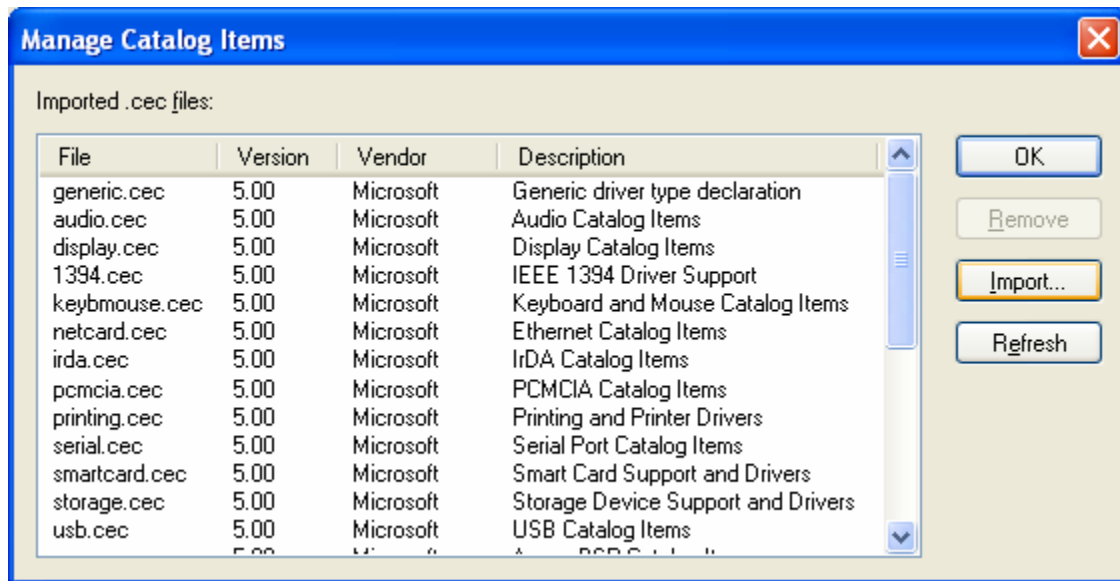


Figure 2-4 Manage Catalog Items Window

5. Import Catalog Items window appears on your screen. Select **SMDK2450.cec** file from **X:\WINCE500\PLATFORM\SMDK2450** directory and then click **Open** button.

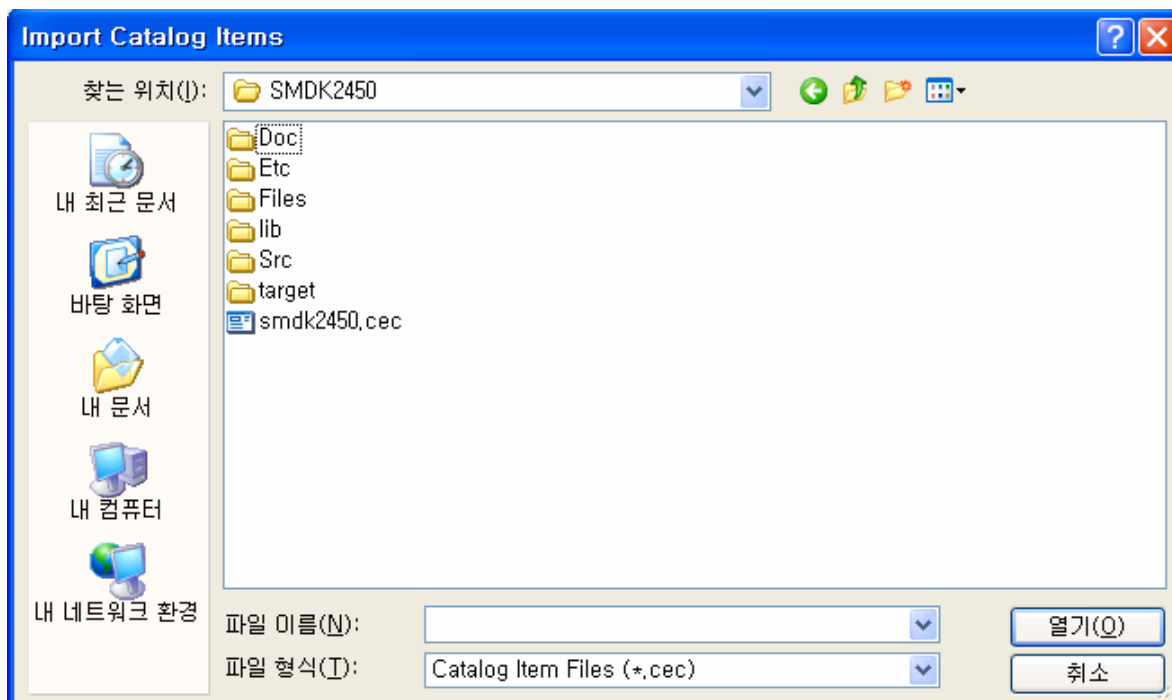


Figure 2-5 Import Catalog Items Window

- Now SMDK2450.cec is added to Imported .cec files: list in Manage Catalog Items window as shown in figure 2-6. Click Refresh button first and then OK click button.

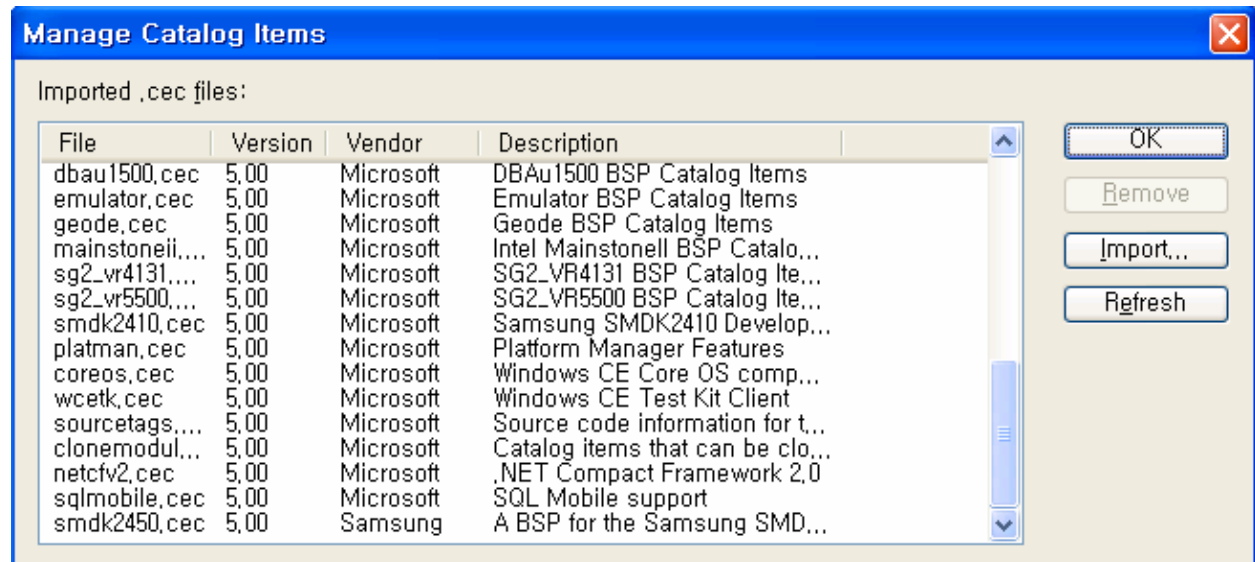


Figure 2-6 Catalog Items Window after Adding SMDK2450.cec File

- Look at Catalog\Third Party\BSPs directory on Catalog window. Confirm whether SMDK2450: ARMV4I BSP is added properly as shown below. If not added properly, then remove SMDK2450.cec file in the Imported .cec files: list from Manage Catalog Items window and then repeat steps 4~7 again.

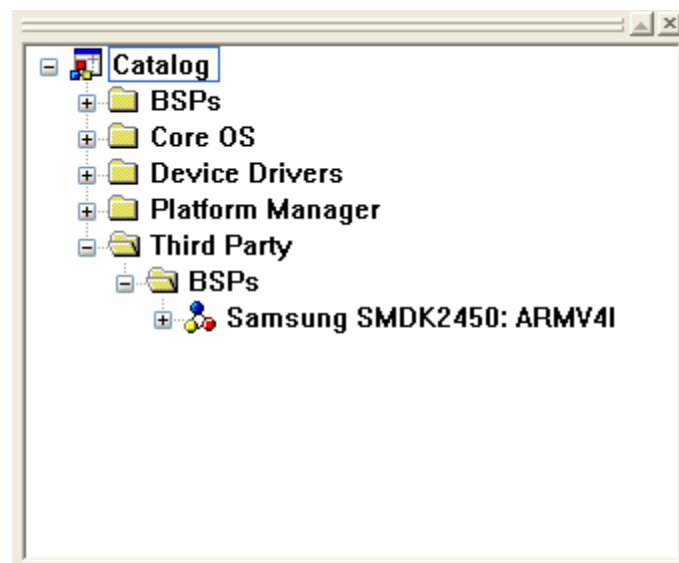


Figure 2-7 Catalog window in Platform Builder

3 Creating a New Platform

In this chapter, you can understand how to create a new platform using the Platform Builder.

1. On the File menu in the Platform Builder window, click New Platform... as shown in figure 3-1.

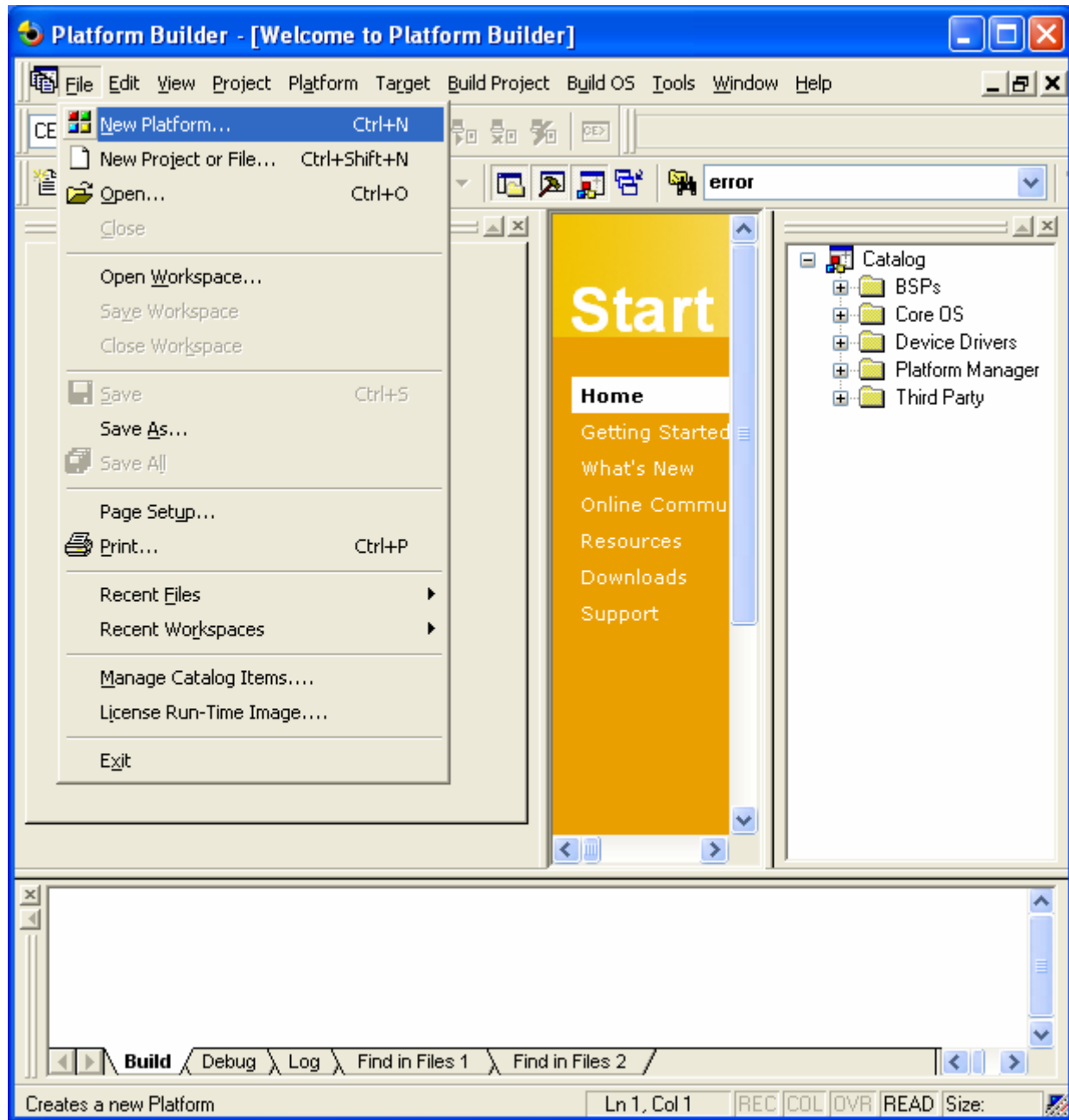


Figure 3-1 Creating New Platform

- The following window appears on your screen. Click **Next** button to continue.

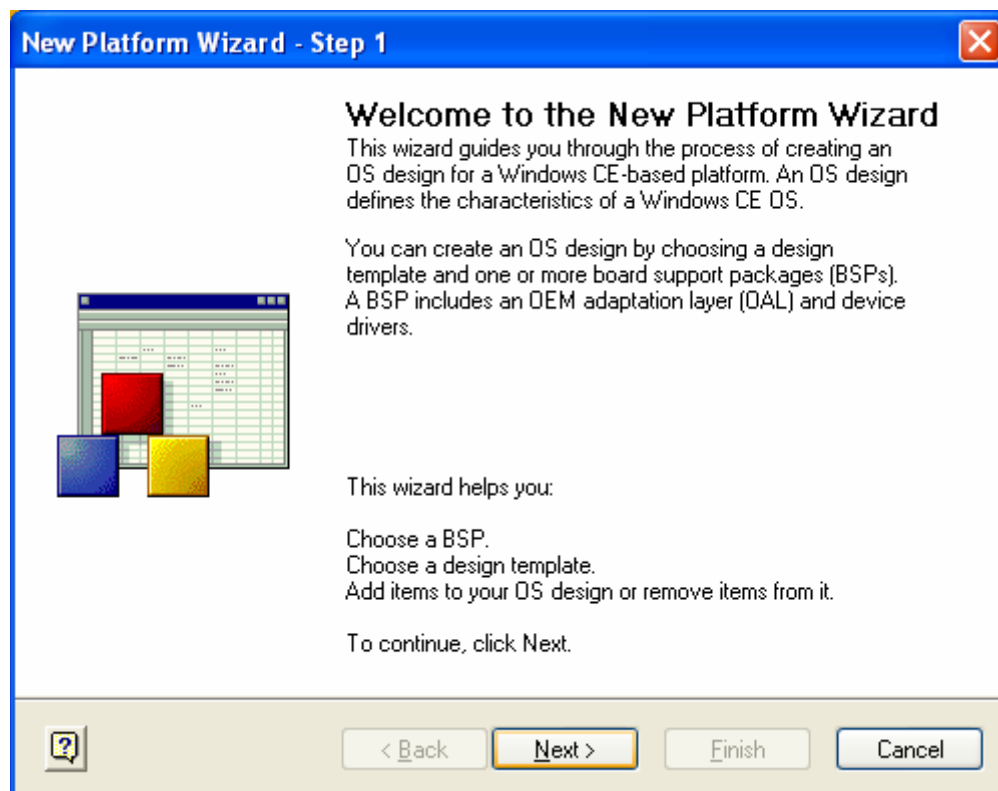


Figure 3-2 New Platform Wizard - Step 1

3. The Workspace Name And Location window appears on your screen. Type a platform name in the Name box and then click Next button.

New Platform Wizard - Step 2

Workspace Name And Location
Choose a friendly name for your workspace.

Name:
SMDK2450

Path:
D:#WINCE500#PBWorkspaces#SMDK2450

< Back Next > Finish Cancel

Figure 3-3 Platform Wizard - Step 2

4. The Board Support Packages (BSPs) window appears on your screen. Select SMDK2450: ARMV4I and then click Next button.

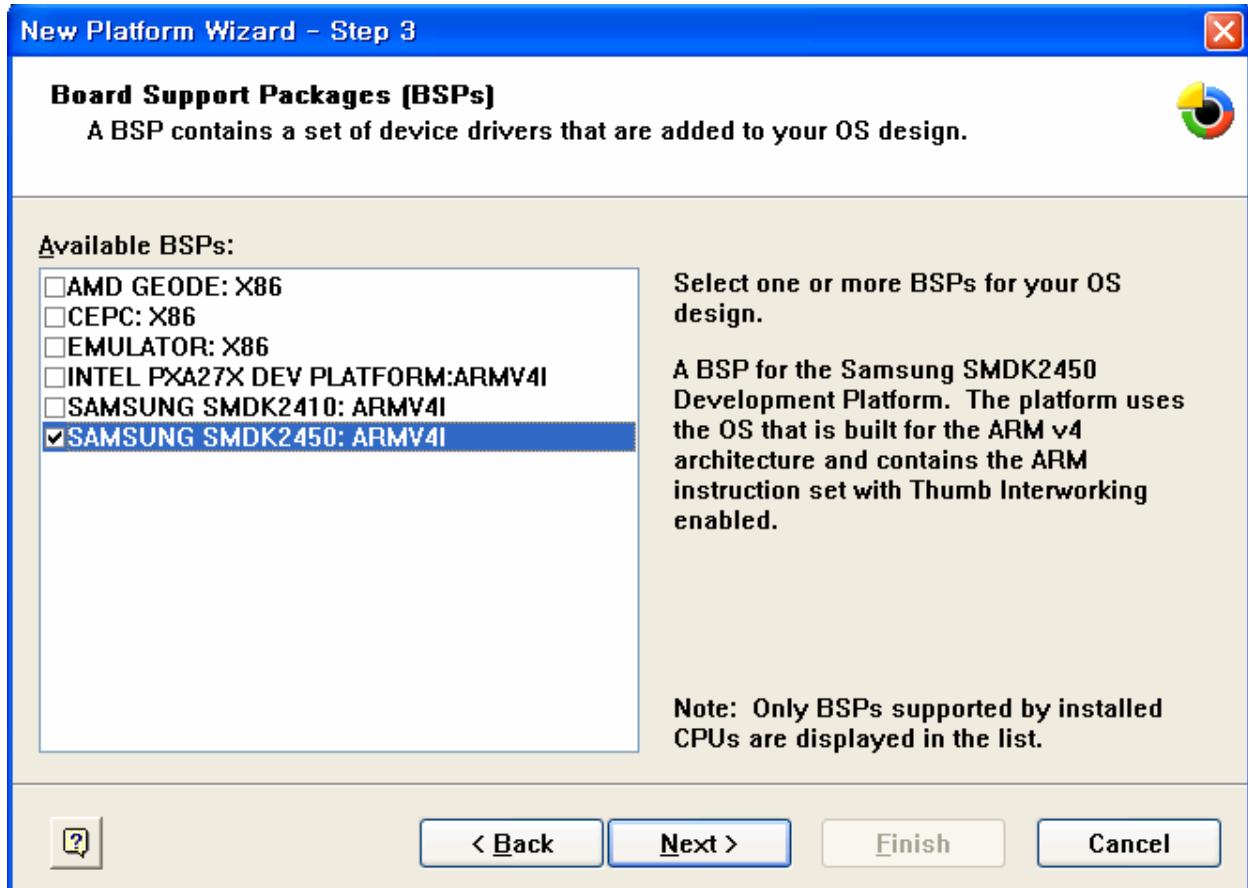


Figure 3-4 New Platform Wizard - Step 3

5. The Design Template wizard window appears on your screen. Please select **Mobile Handheld** from Available design templates list and then click **Next** button.

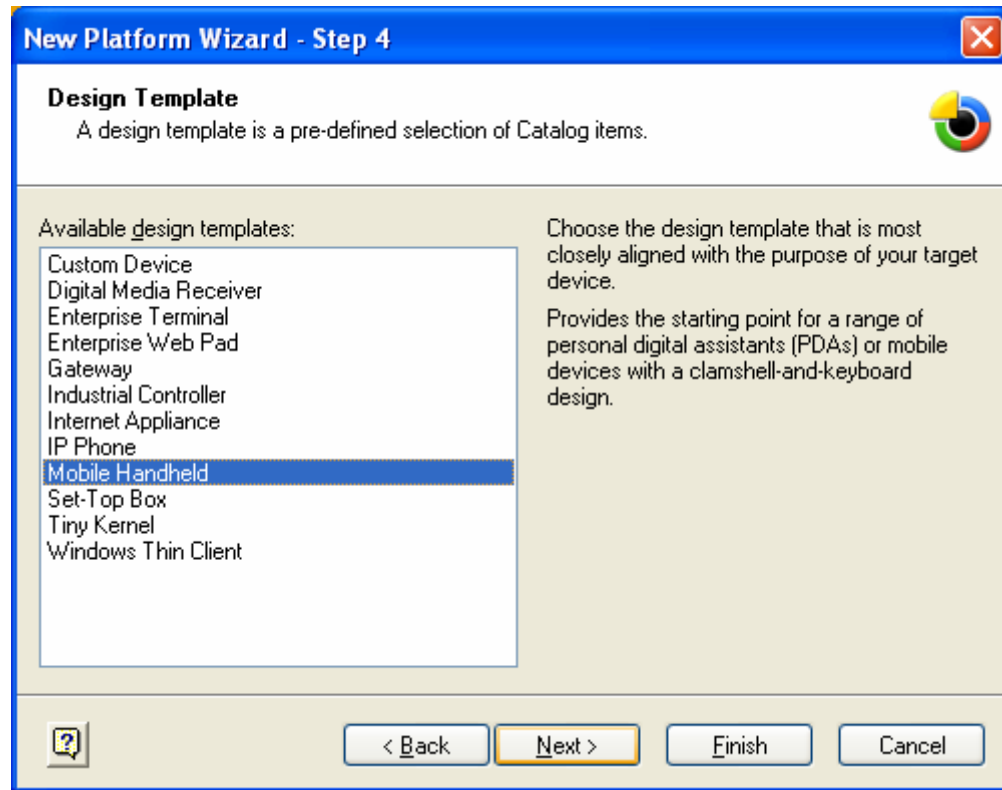


Figure 3-5 New Platform Wizard - Step 4

6. The following window appears on your screen. Here you select the **Application & Media** you want to include in your platform and then click **Next** button.

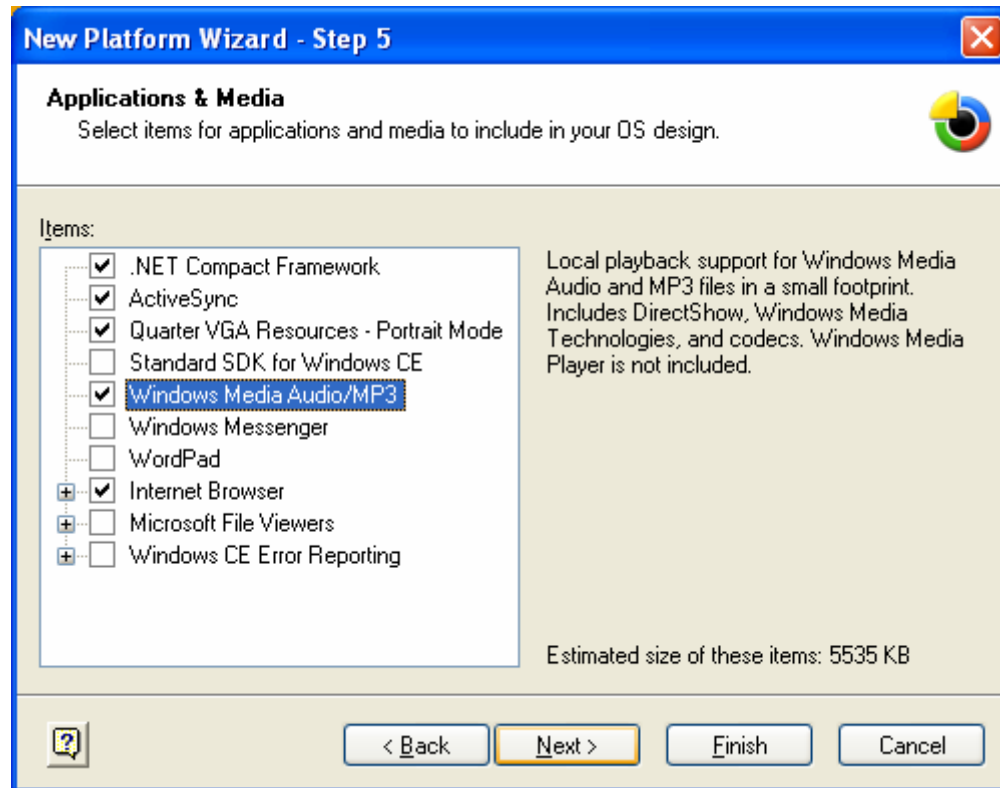


Figure 3-6 New Platform Wizard - Step 5

7. The Networking & Communications wizard window appears on your screen. Click Next button.

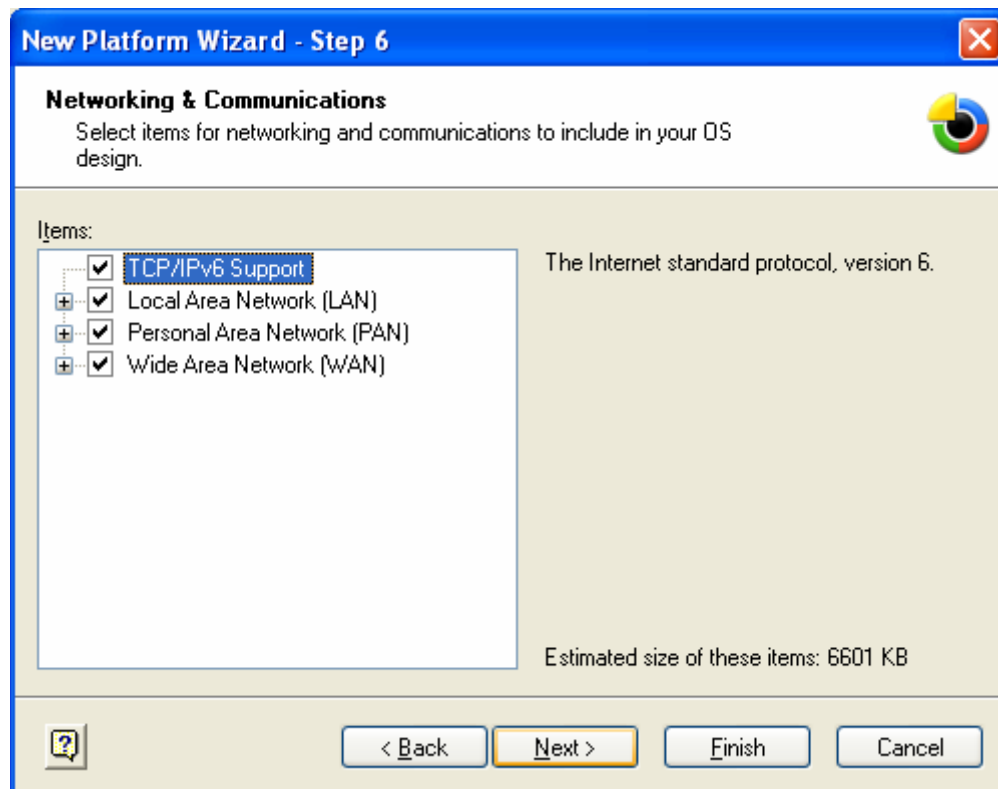


Figure 3-7 New Platform Wizard - Step 6

8. The following window appears on your screen. Please read all the security warnings and then click Next button.



Figure 3-8 New Platform Wizard - Step 7

9. The following window appears on your screen. Click **Finish** button to complete the process.

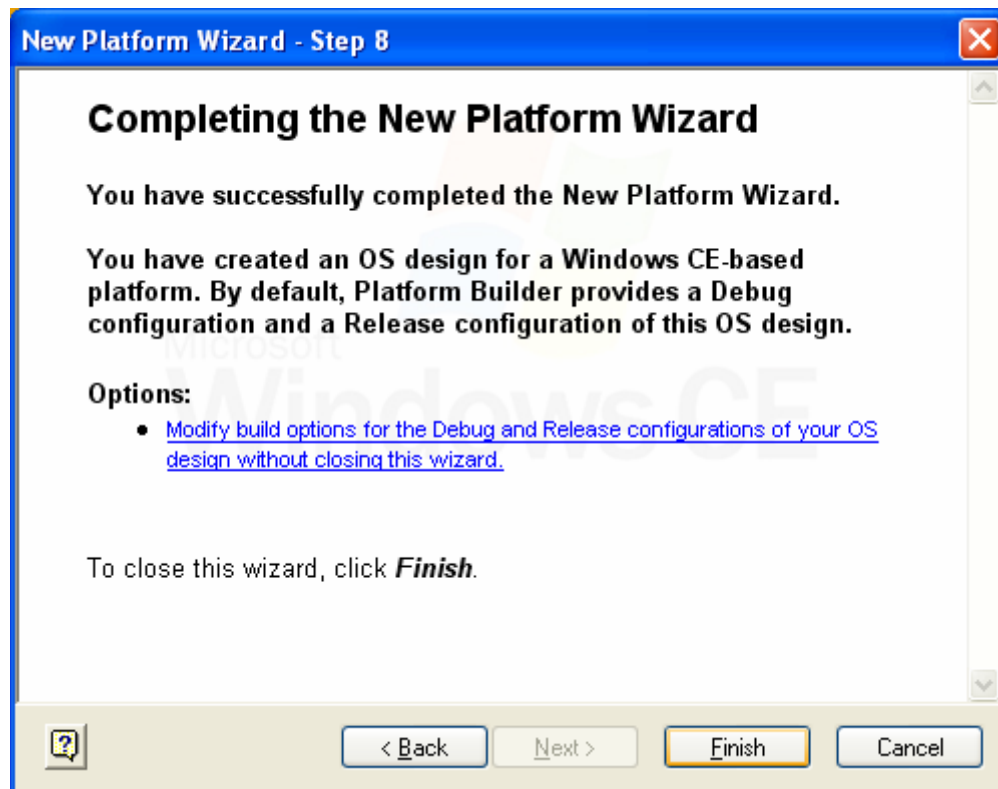


Figure 3-9 New Platform Wizard - Step 8

4 Building OS Image - Without KITL

4.1 Building NK.nb0(Single.bin) Image

1. set smdk2450.bat File

```
set BSP_NOUSB=  
set BSP_NOUSBFN=  
set BSP_NOCS8900=1  
set BSP_NOBACKLIGHT=1  
set BSP_NOBATTERY=1  
set BSP_NONANDFS=1  
set BSP_NOPCCARD=1
```

```
@REM 2450 can select MULTIPLEXIP or Single.bin  
set IMGMULTIXIP=
```

```
@REM - To support PocketMory  
call %_TARGETPLATROOT%\src\Whimory\wmrenv.bat
```

2. In the Platform Builder window on your host PC, you can see the new platform created along with its various sub-directories on the left hand side as shown in figure 4-1.

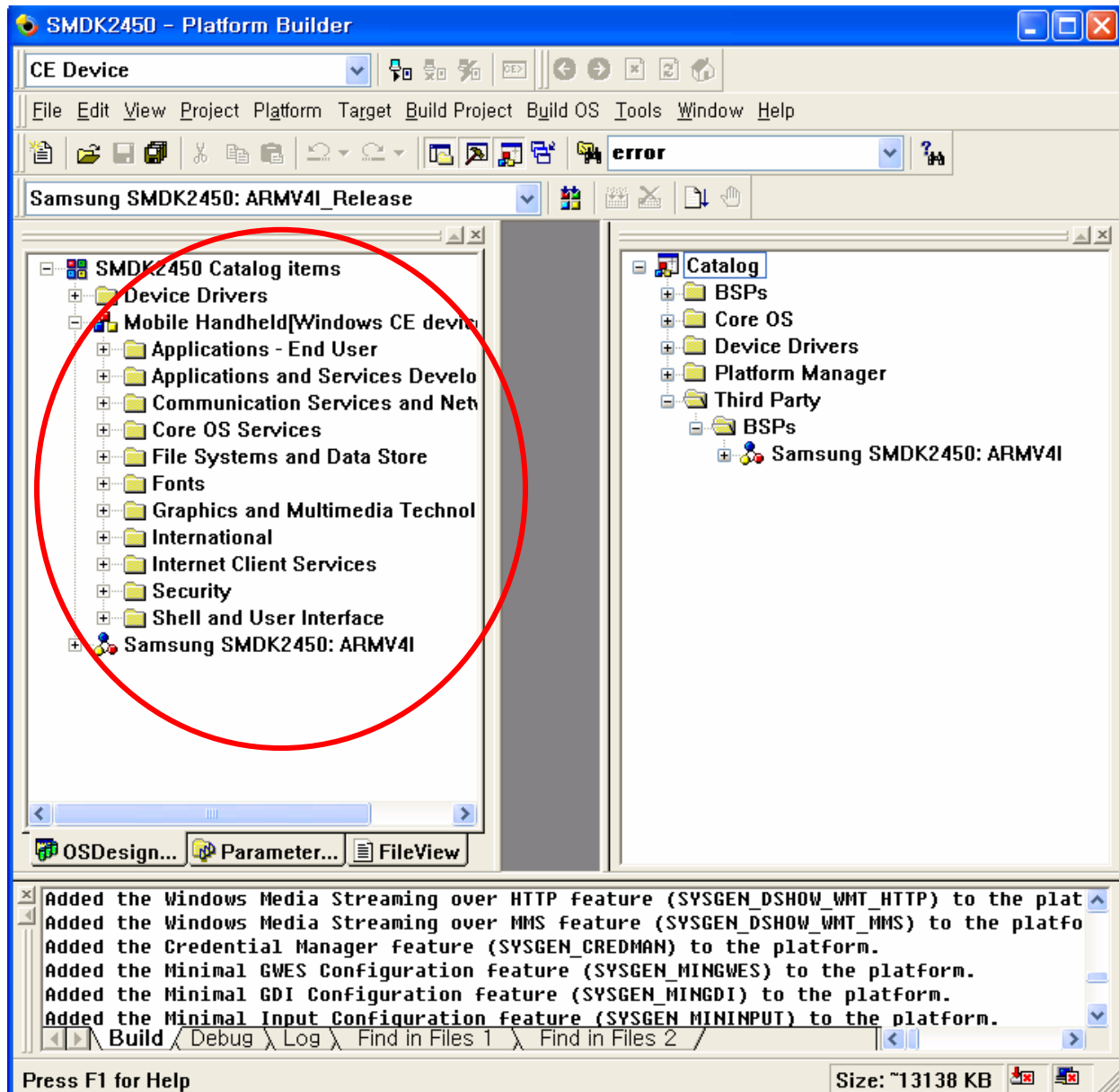


Figure 4-1 New Platform Items

- Expand Core OS node in Catalog window, then expand Windows CE devices -> File Systems and Data Store -> Storage Manager, right click on FAT File System and click Add to OS Design as shown in the figure below.

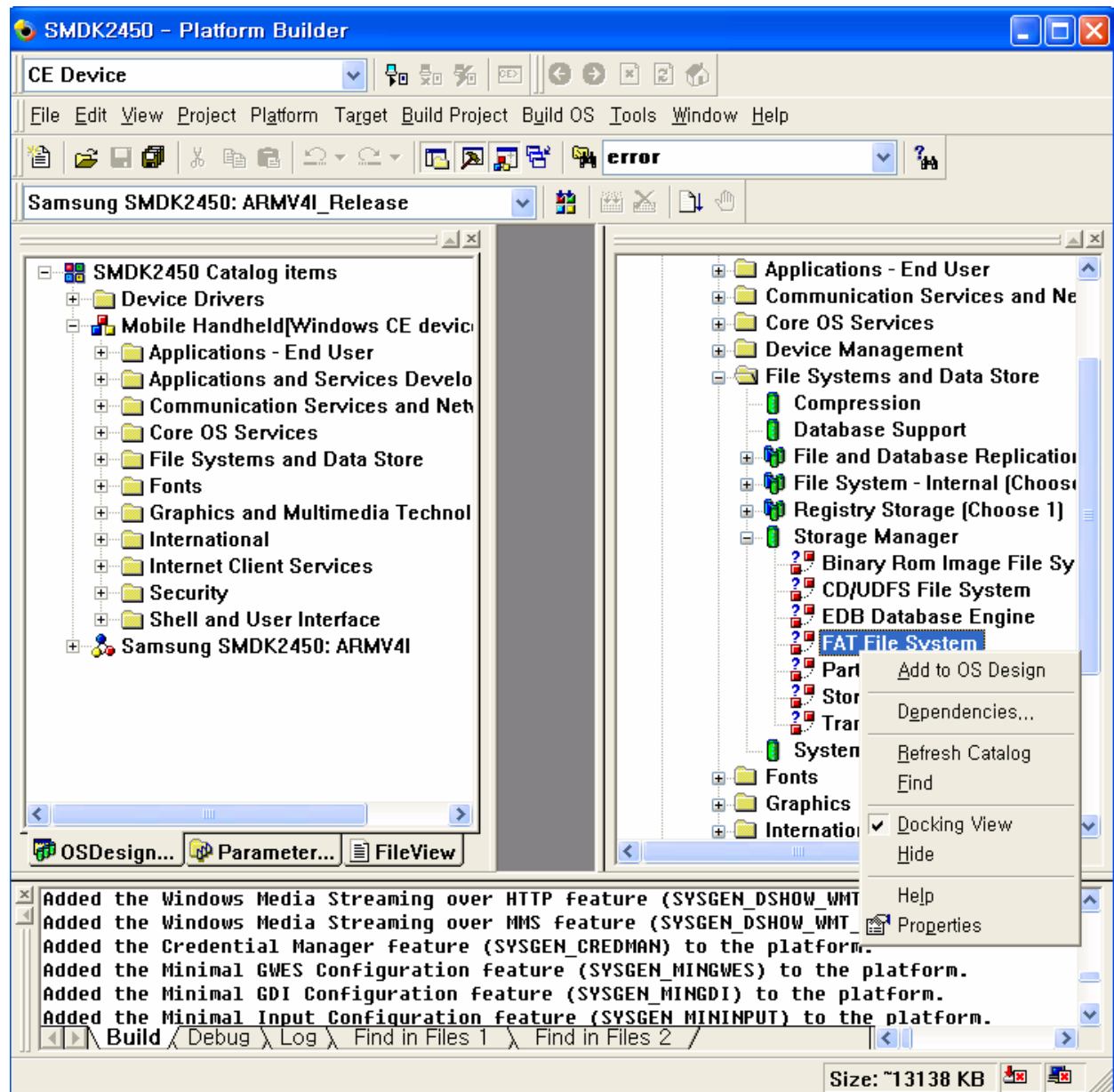



Figure 4-2 Adding FAT File System to the Platform

4. Similarly, please do follow steps to add the various features to your platform. You can also add other features which you want to install in your platform.  of follow picture indicate one which you should add to OS Design.

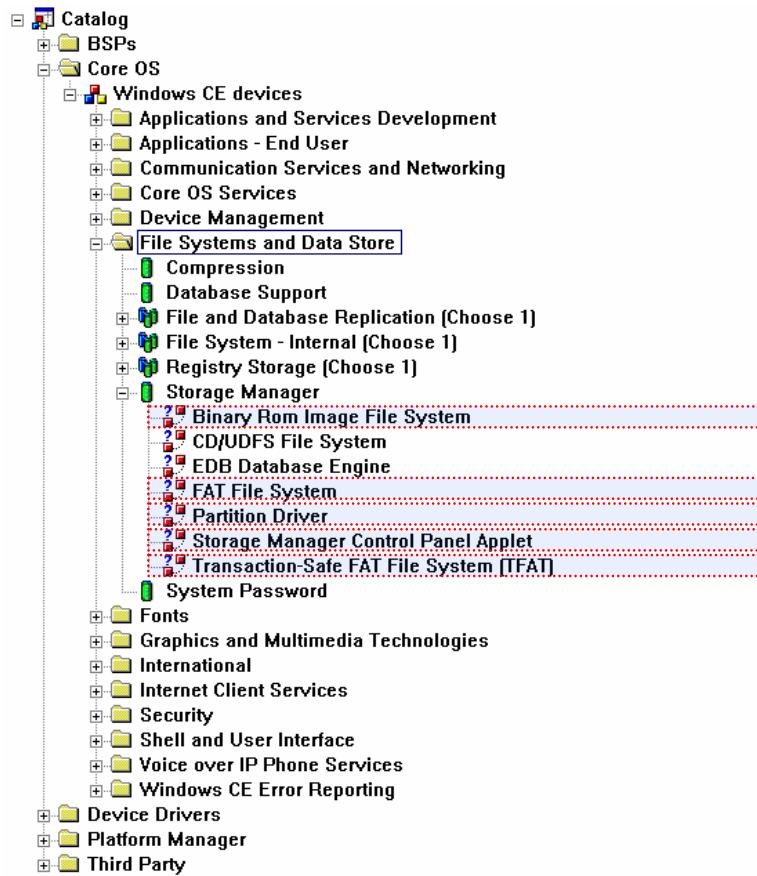


Figure 4-3 which you should add to OS Design

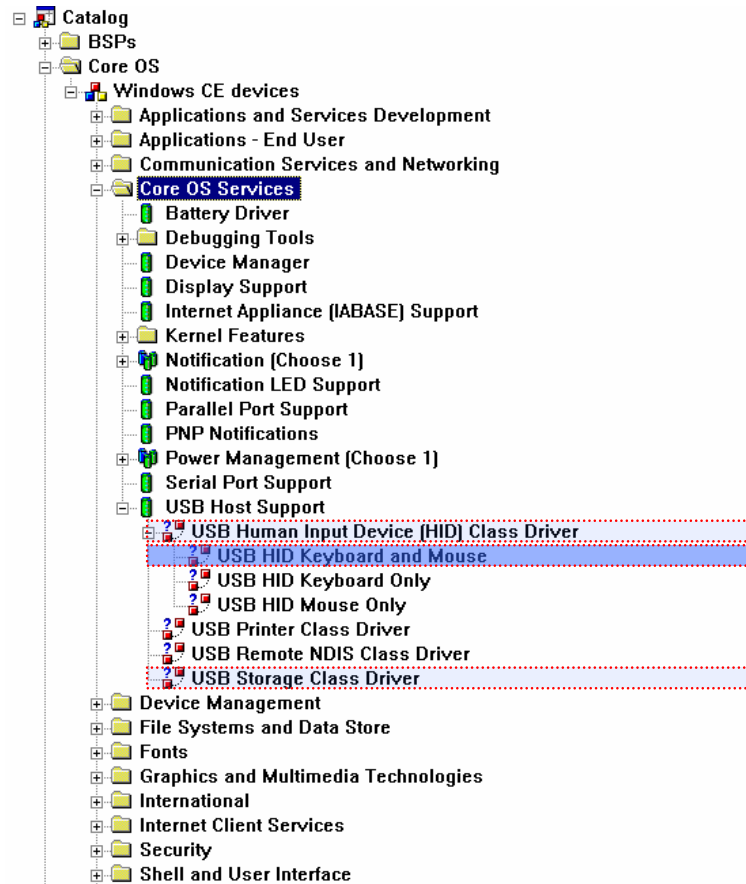


Figure 4-4 Some which you should add to OS Design

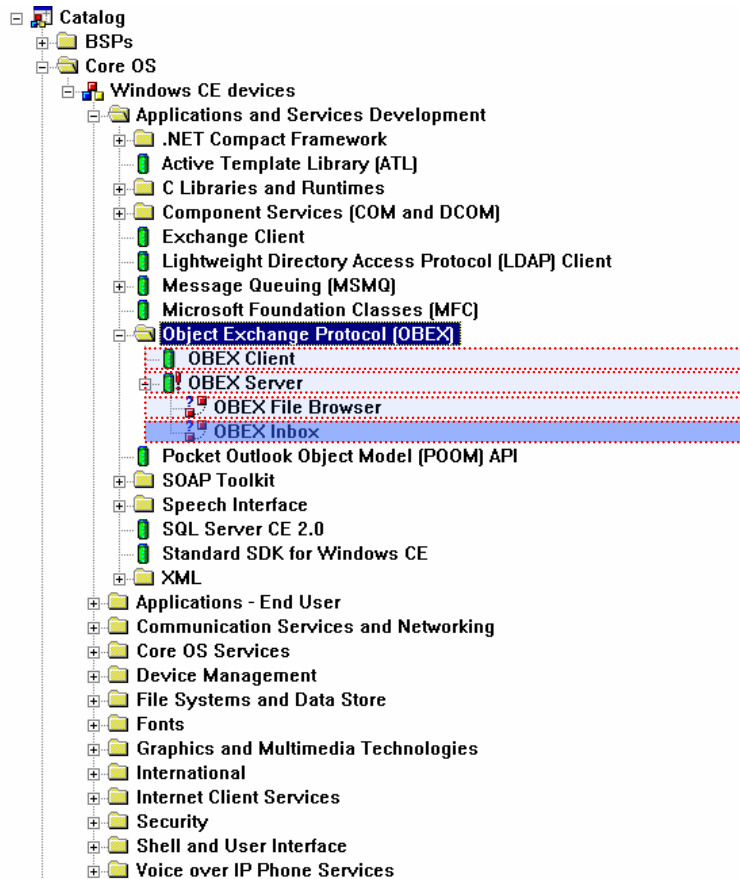


Figure 4-5 Some which you should add to OS Design

When you click right click on OBEX Server and click Add to OS Design. Special Feature Notification window appears on your screen. Click Close button.

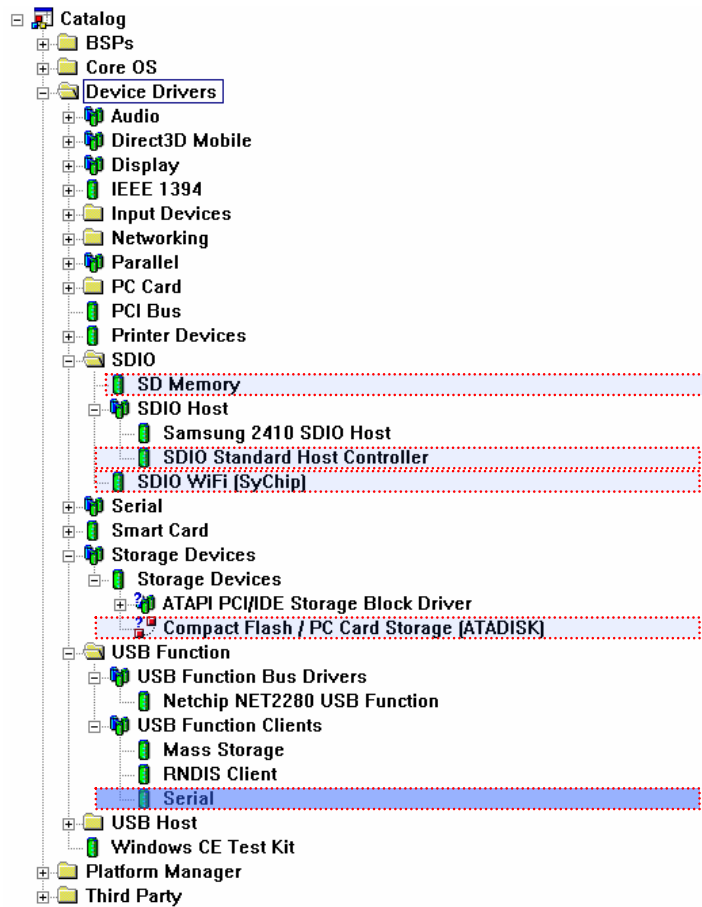


Figure 4-6 Some which you should add to OS Design

- Expand Core OS node in Catalog window, then expand Windows CE devices -> Graphics and Multimedia Technologies, select all the required Media Components and then Add to OS Design.

6. On the Platform menu, click Settings... as shown in figure 4-7.

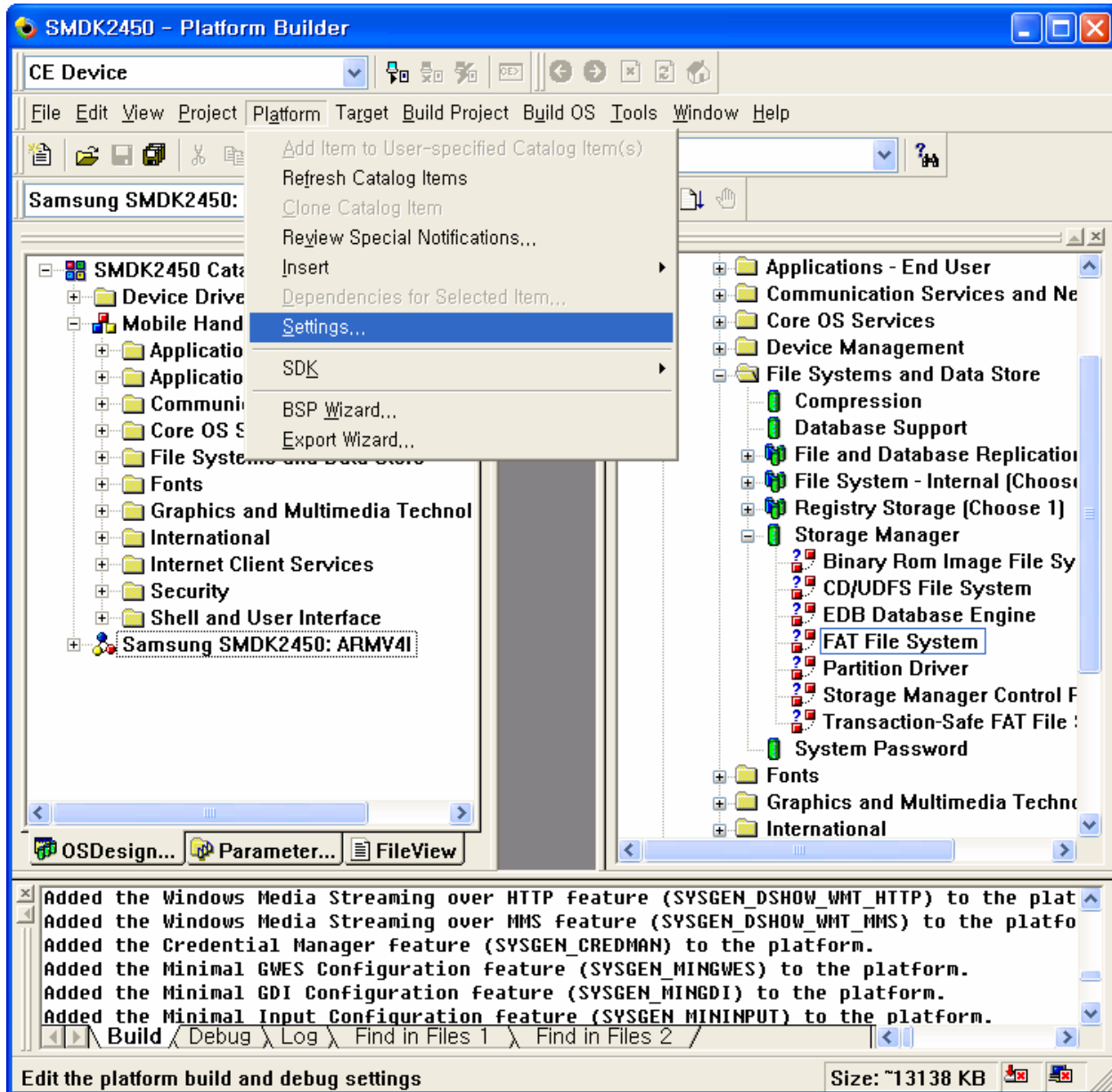


Figure 4-7 Platform Settings

7. The **Platform Settings** window appears on your screen. Select **Locale** tab and click **Clear All** button. It clears all the language settings in your platform. Now select **English (United States)** as shown in figure 4-8.

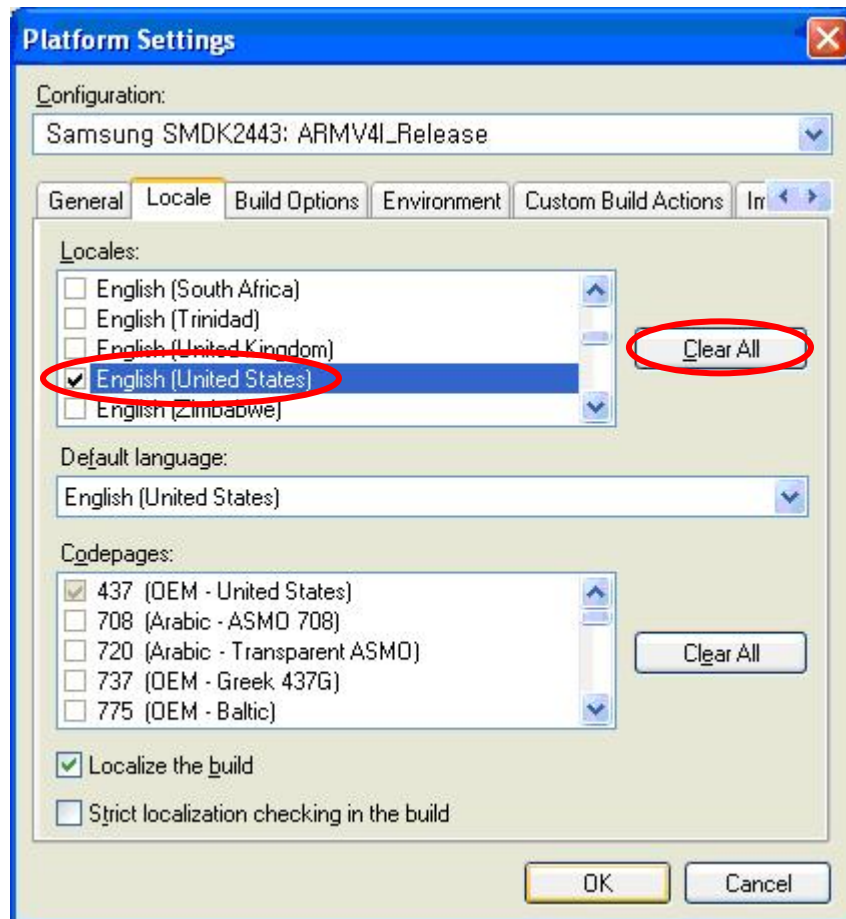


Figure 4-8 Selecting Language in the Platform Settings Window

8. Now please uncheck the square boxes **Enable CE Target Control Support (SYSGEN_SHELL=1)**, **Enable Full Kernel Mode (no IMGNOTALLKMODE=1)** and **Enable KITL (no IMGNOKITL=1)** in the **Build Options** tab in **Platform Settings** window and then click **OK** button.

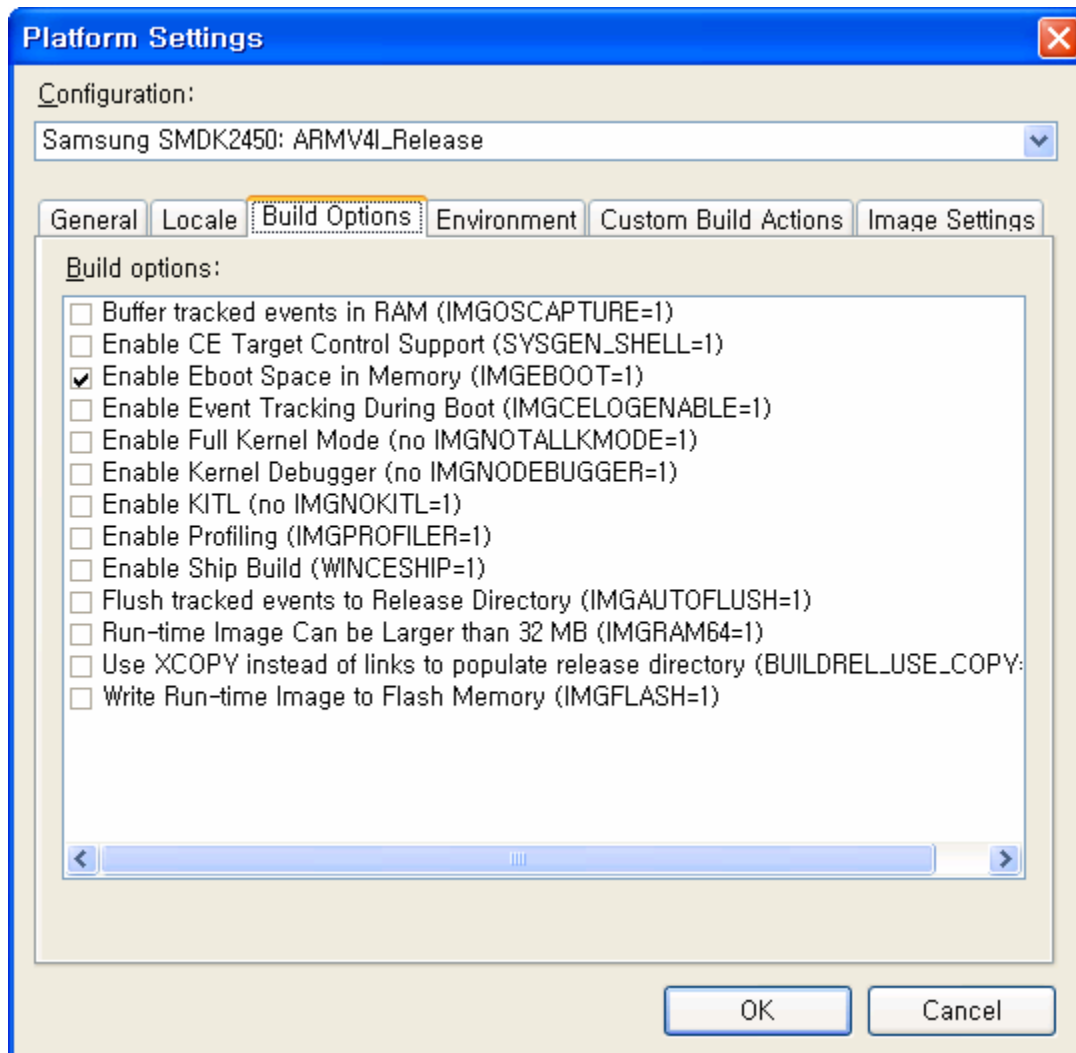


Figure 4-9 Removing KITL Setting in the Platform Settings Window

9. Enable **Clean Before Building**, **Copy Files to Release Directory After Build** and **Make Run-Time Image After Build** if they are not enabled in the **Build OS** menu on the **Platform Builder** window.
10. On the **Build OS** menu, click **Build and Sysgen** as shown in figure 4-10 to build the **Eboot** image.

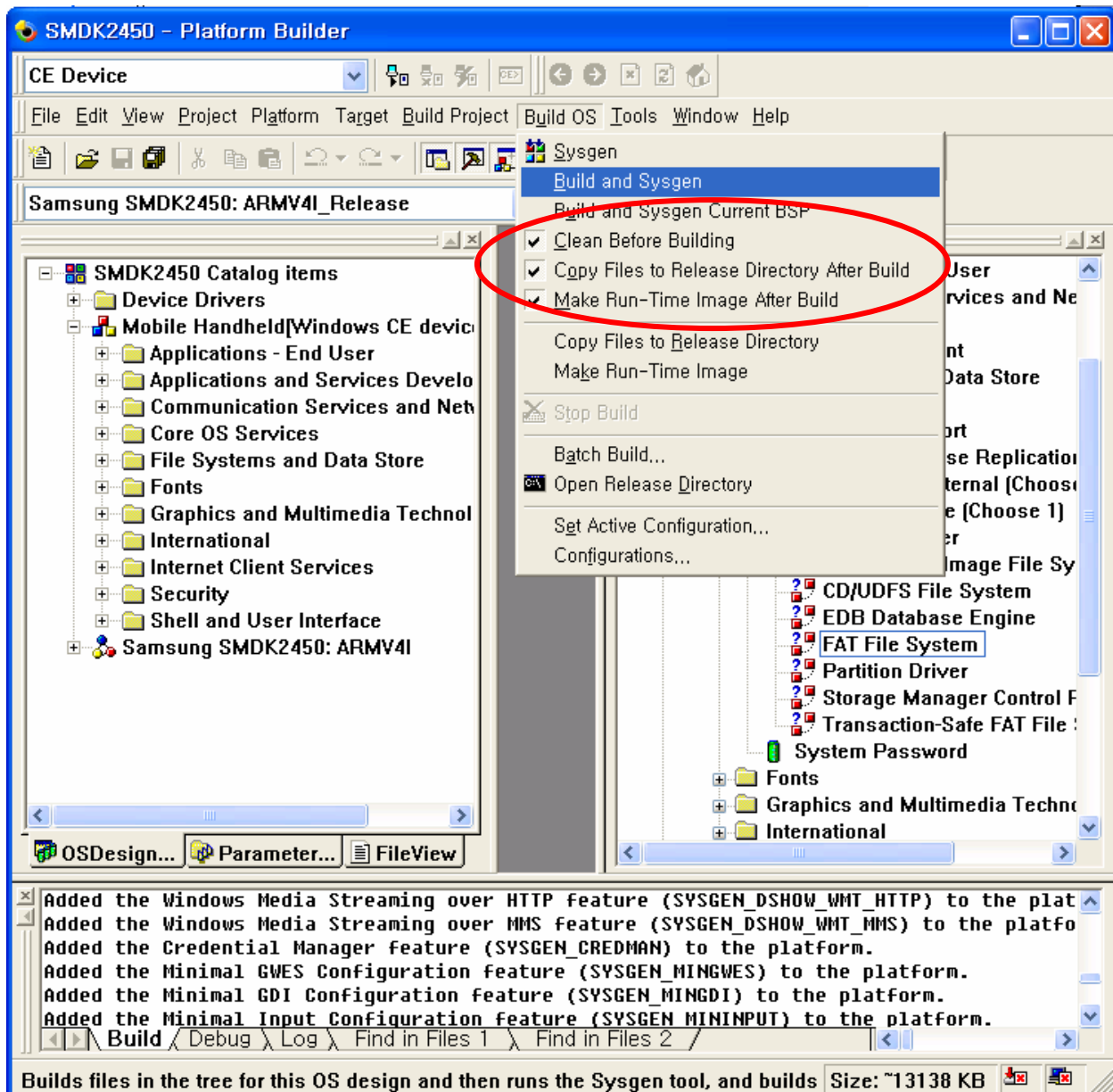


Figure 4-10 Build and Sysgen

11. The arrow pointing to the icon in the following figure indicates the **Building** process.

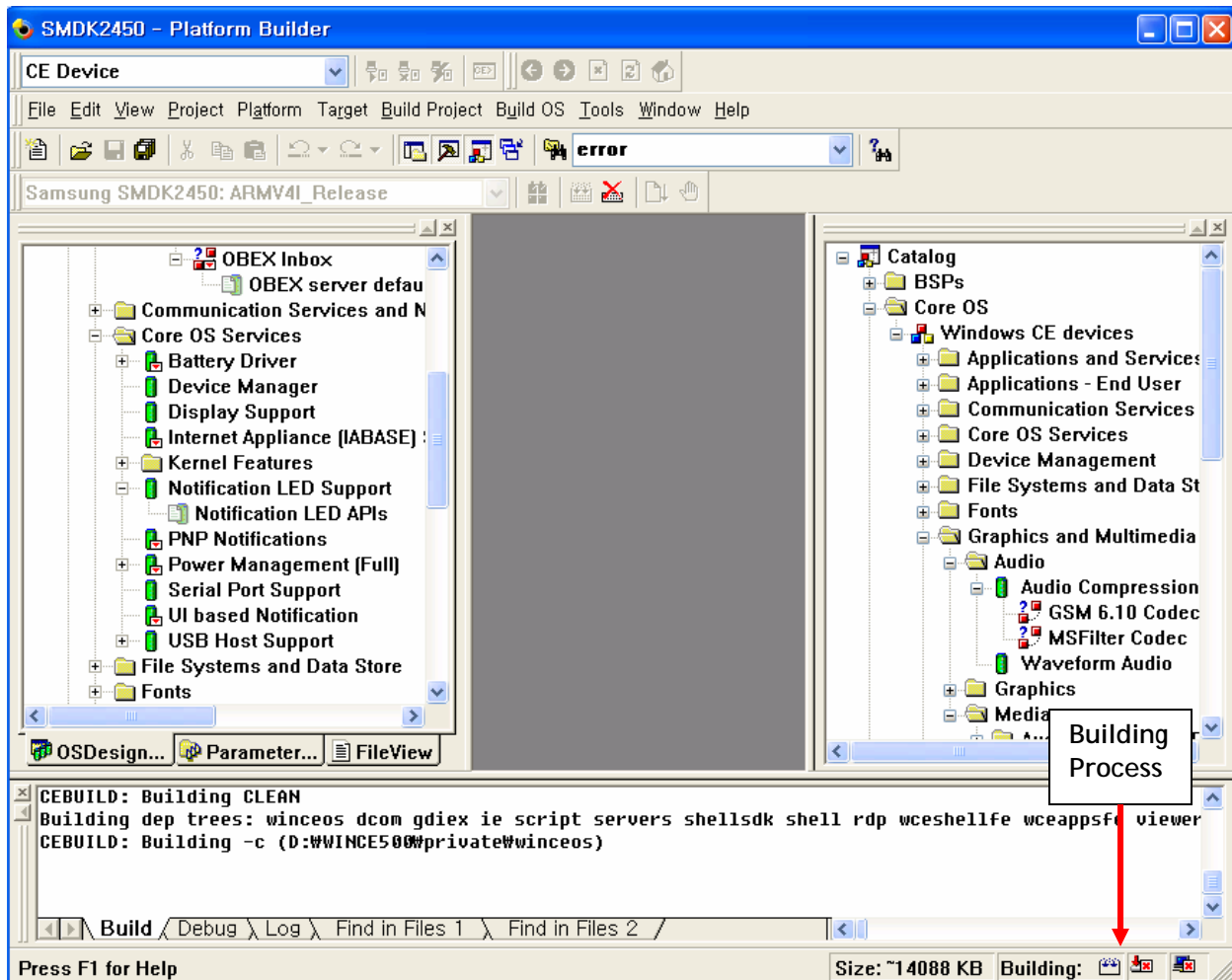


Figure 4-11 Building Process

Note: Building process may take some time depending on your system capability. So, please wait for the build process to be completed. It might take around 1 hour.

12. After completion of build process, following messages appear as shown below. In Case of Single .bin, EBOOT.nb0, EBOOT.bin, Block0img.nb0, NK.bin and NK.nb0 is now available in X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\SMDK2450_ARMV4I_Release directory.

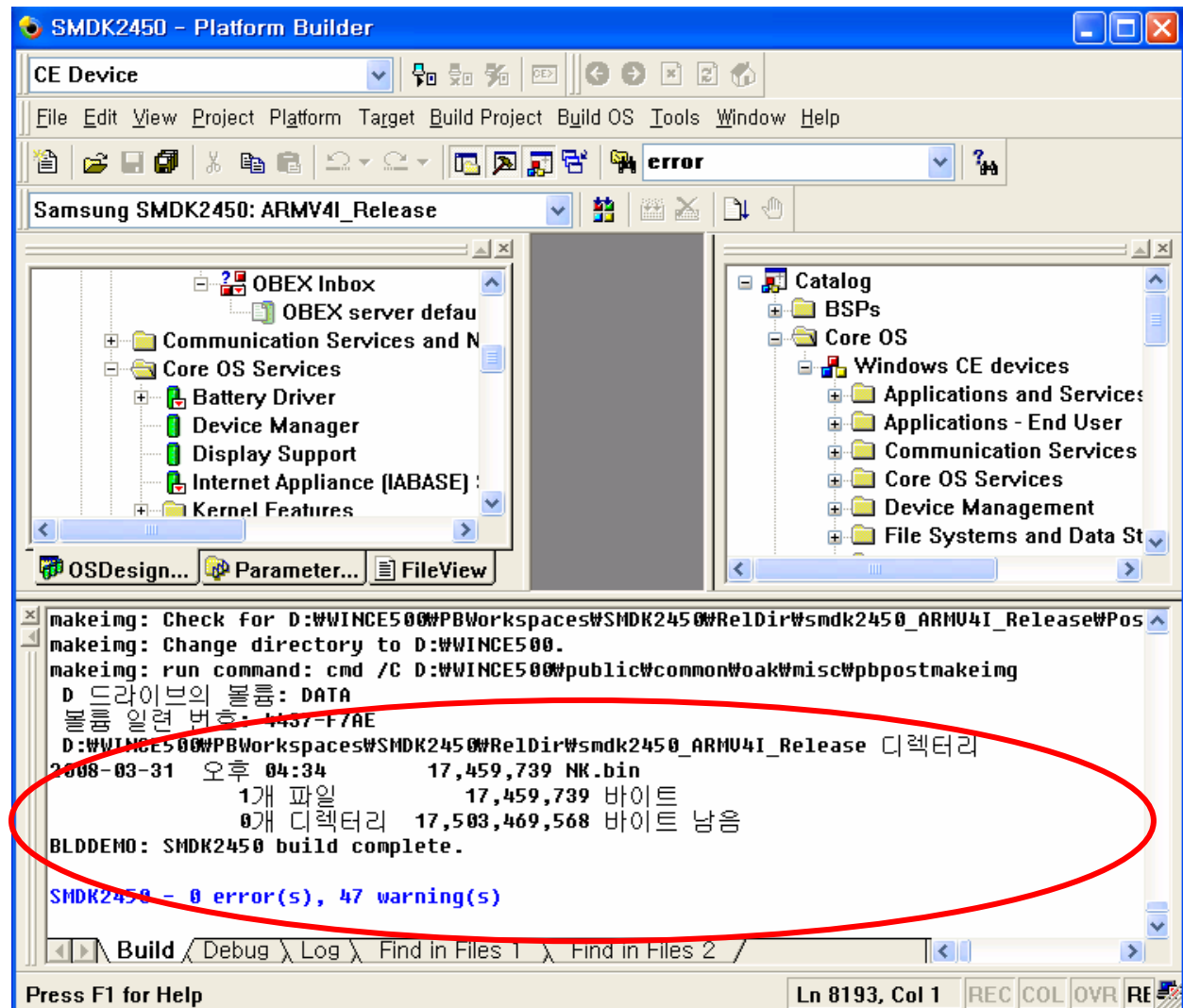


Figure 4-12 After Building the OS Image

4.2 Building Chain.lst(Multiple XIP) Image

In case of MultipleXIP, you cannot generate the Nk.nb0 image. So you cannot download the Nk.nb0 image directly. Instead of Nk.nb0, you can generate following files.

- Chain.bin
- Nk.bin
- Xipkernel.bin
- Chain.lst

To generate above files, you must do following procedures.

1. Set smdk2450.bat File

```
set BSP_NOUSB=
set BSP_NOUSBFN=
set BSP_NOCS8900=1
set BSP_NOBACKLIGHT=1
set BSP_NOBATTERY=1
set BSP_NONANDFS=
set BSP_NOPCCARD=1

@REM 2450 can select MULTIPLEXIP or Single.bin
set IMGMULTIXIP=1

@REM - To support PocketMory
call %_TARGETPLATROOT%\src\Whimory\wmrenv.bat
```

2. repeat step 2 to 8 of previous chapter.

3. Copy blocmmon.c file

To fusing multiple XIP images, Copy blcommon.c file present in the [BSP]\Doc\ directory to X:\WINCE500\PLATFORM\COMMON\SRC\COMMON\BOOT\BLCOMMON and X:\WINCE500\PUBLIC\COMMON\OAK\DRIVERS\ETHDBG\BLCOMMON directory. If you don't copy this file, there will be error during fusing the OS image to NAND flash.

4. repeat step 9 to 12 of previous chapter

5. Change the ce.bib file in release directory

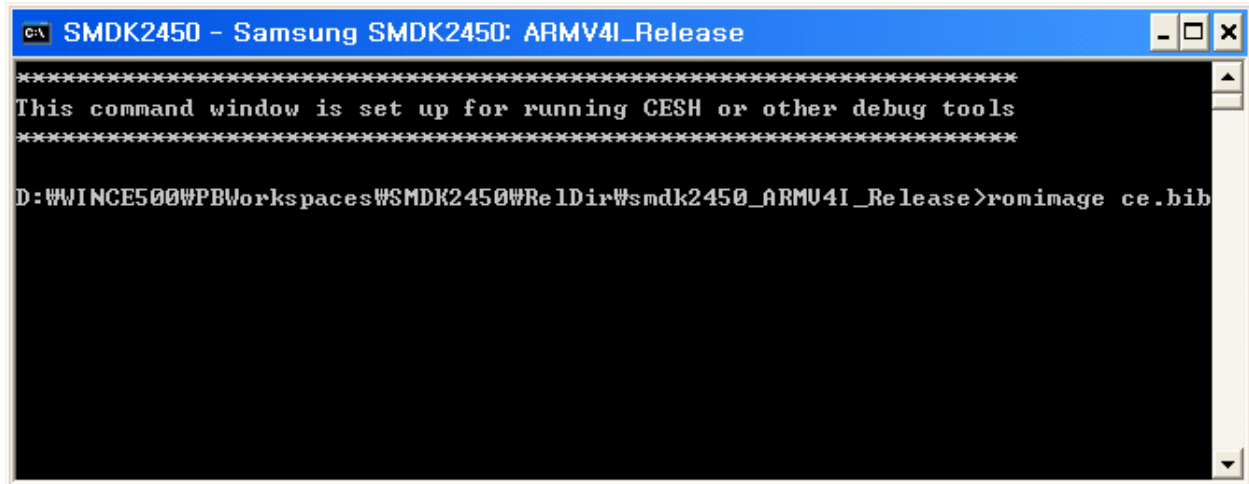
Change the region definition from NK to XIPKERNEL like as below.

The "[ReleaseDirectory]" string can be different depends on your build environment.

```
nk.exe [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\nk.exe XIPKERNEL SH
coredll.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\coredll.dll XIPKERNEL SH
filesys.exe [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\filesys.exe XIPKERNEL SH
binfs.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\binfs.dll XIPKERNEL SH
fsdmgr.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\fsdmgr.dll XIPKERNEL SH
mspart.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\mspart.dll XIPKERNEL SH
default.fdf [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\default.fdf XIPKERNEL SH
```

6. Open the command window using platform builder menu [Build OS]->[Open Release Directory].

Enter the "romimage ce.bib" command



```
C:\ SMDK2450 - Samsung SMDK2450: ARMV4I_Release
*****
This command window is set up for running CESH or other debug tools
*****
D:\WINCE500\WPBWorkspaces\SMDK2450\RelDir\smdk2450_ARMV4I_Release>romimage ce.bib
```

Then below files will be generated.

- Chain.bin
- Nk.bin
- Xipkernel.bin
- Chain.lst

5 Single.bin Image

5.1 Running NK.nb0 Image

In this chapter, you can understand how to download and run the NK.nb0 image.

1. Before you download the WinCE image through the USB, you must have USB monitor image in your AMD Flash.
2. Set the Jumpers to use crystal for clock source.

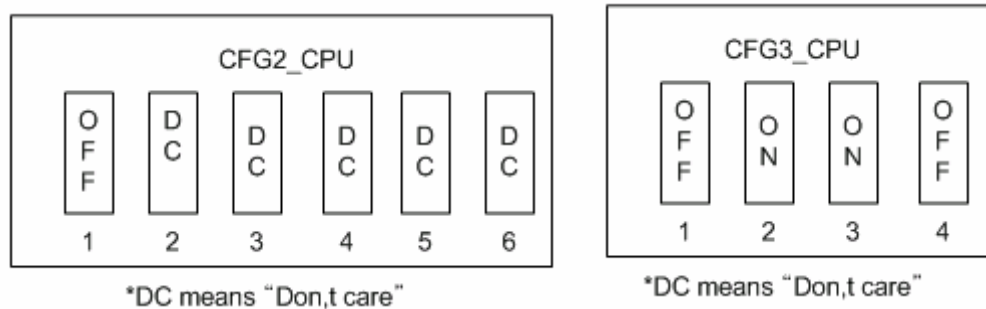


Figure 5-1 Jumper Setting for crystal

3. Set the Jumpers for memory type

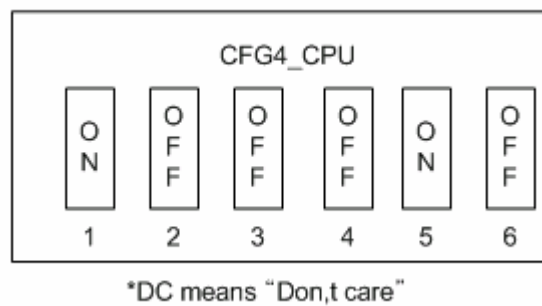


Figure 5-2 Jumper Setting for SDR Memory

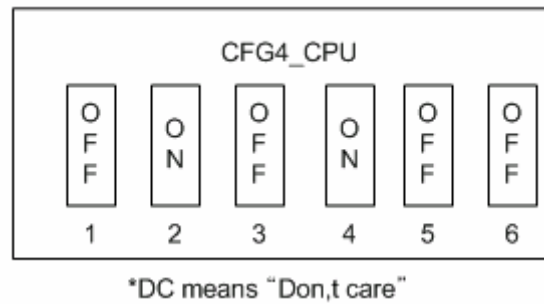


Figure 5-3 Jumper Setting for DDR Memory

* NOTE : After set memory type jumper, check memory config which is defined is correct in platform\smdk2450\src\inc\s3c2450.inc file

- Set the Switches on SMDK2450 board as shown below for AMD flash boot.

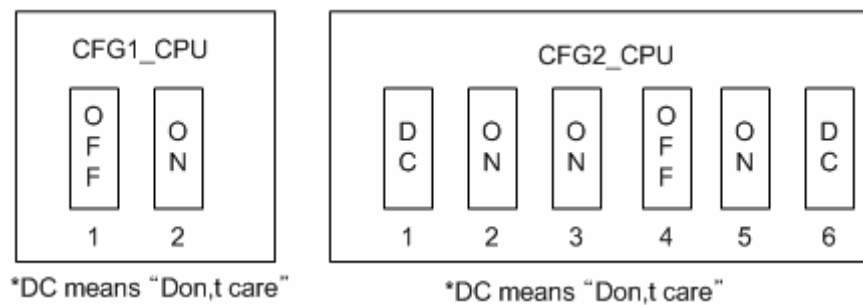


Figure 5-4 Switch Setting on CPU board for AMD flash boot

- Please install the USB Driver and DNW application on your host PC.
- After installing the USB driver, run dnw.exe on the host PC. The following window appears on your screen.

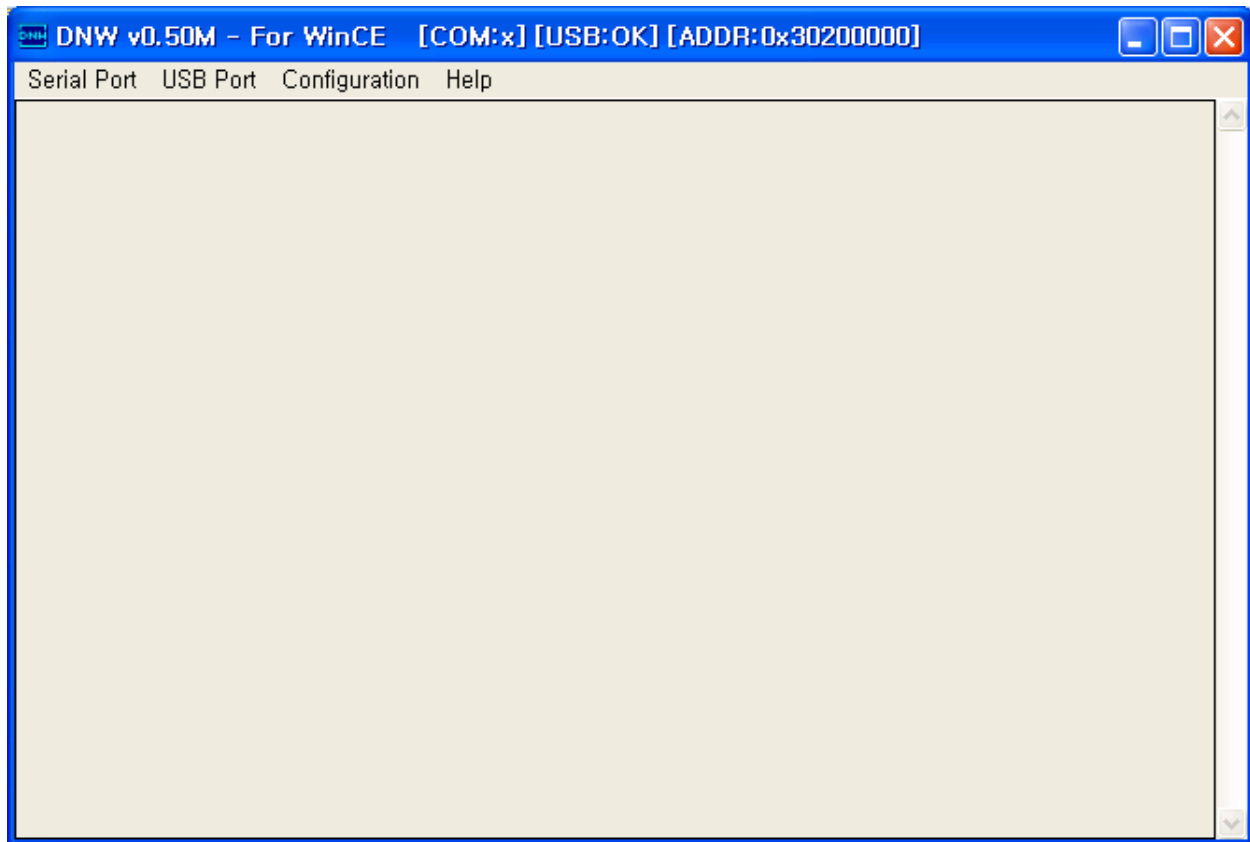


Figure 5-5 DNW Window

- On the **Configuration** menu, click **Options** to set the UART/USB options. The following window appears on your screen. Select Baud Rate and COM Port as shown in figure 5-6, enter the download address as 0x30200000 and then click OK button.

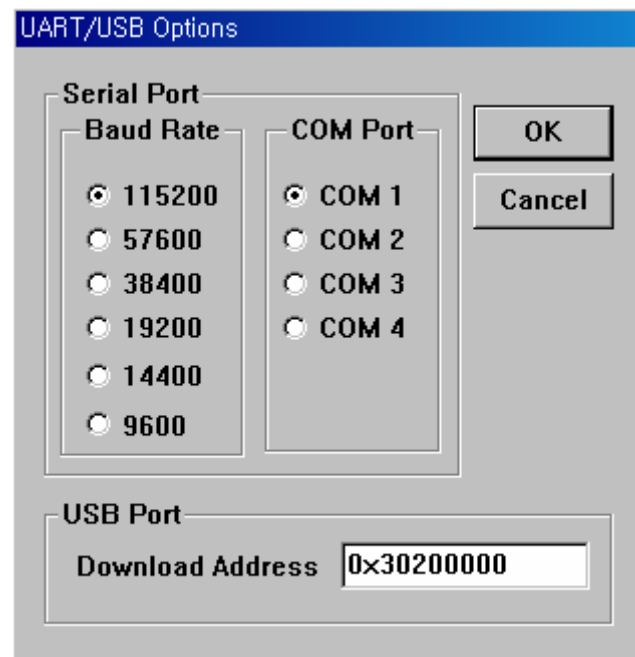


Figure 5-6 UART/USB Options

- On the **Serial Port** menu, click **Connect**. Switch ON the reference board and then press any key. The DNW window appears as shown in figure 5-7.

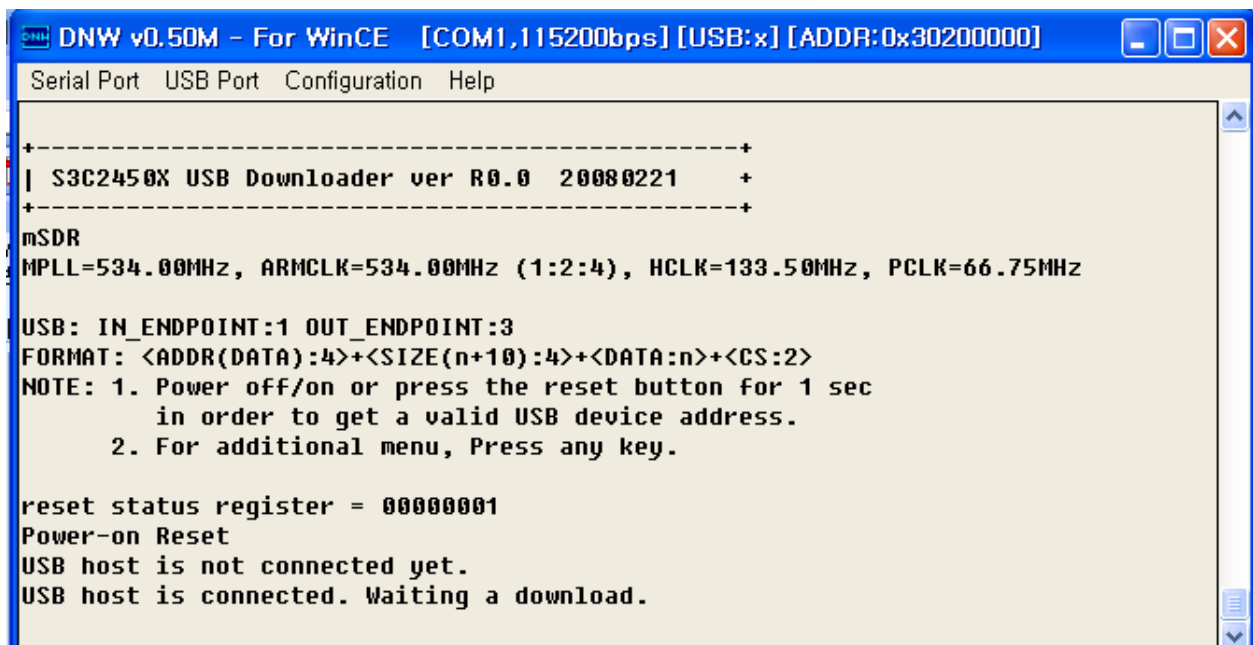


Figure 5-7 DNW Window after Board Power ON

9. Enter 2 to check whether SDRAM can Read and Write. Now DNW window appears as shown below.

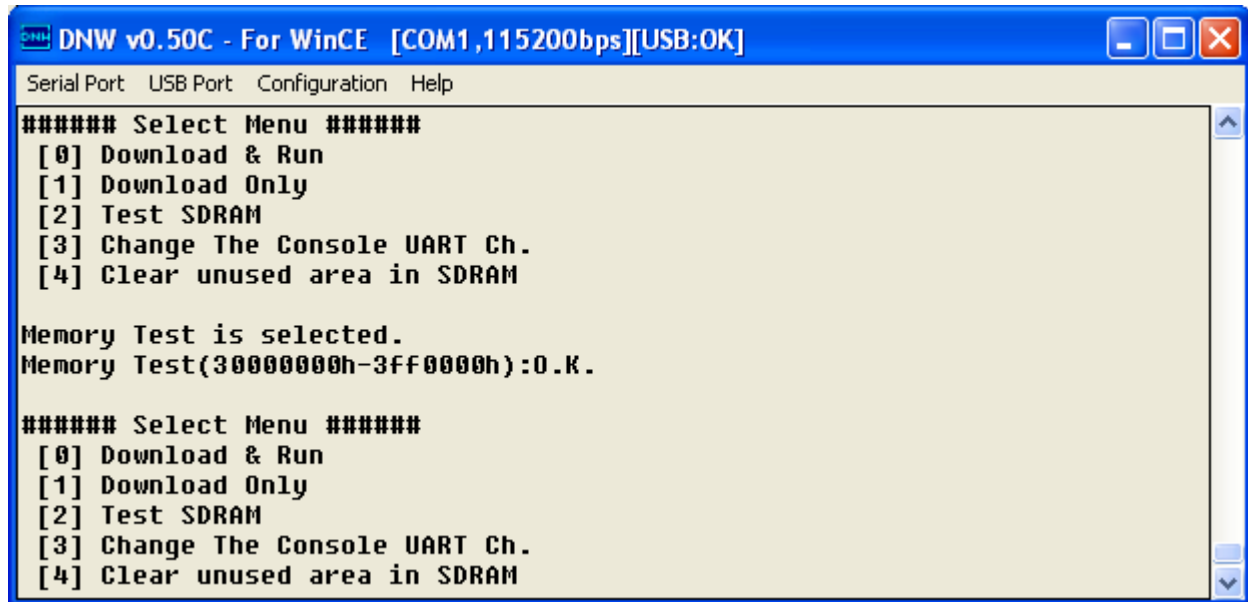


Figure 5-8 SDRAM Test

10. Enter 0 to download and run the Image on the board. DNW window appears as shown in figure 5-9.

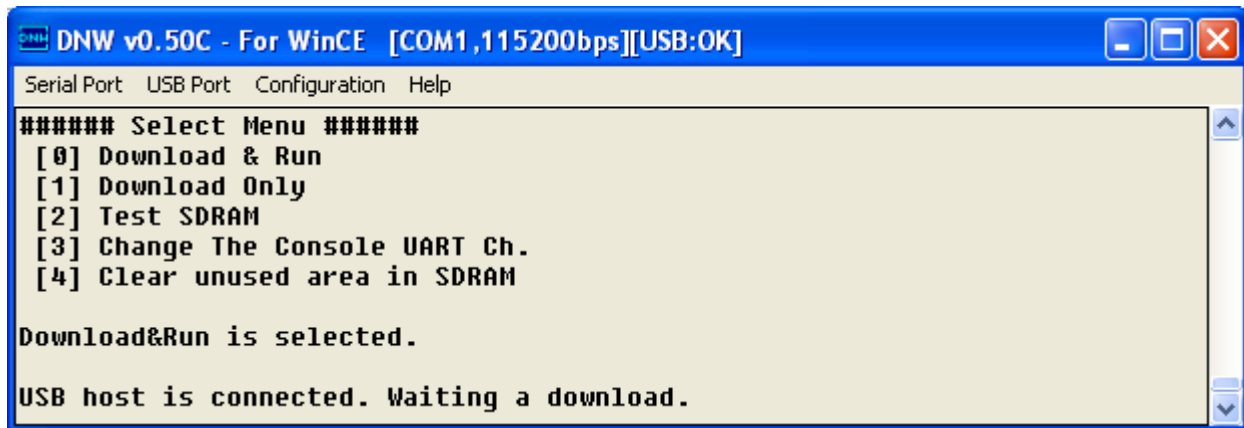


Figure 5-9 Download & Run

11. On the USB Port menu, click Transmit and the following window appears on your screen. Select NK.nb0 from X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

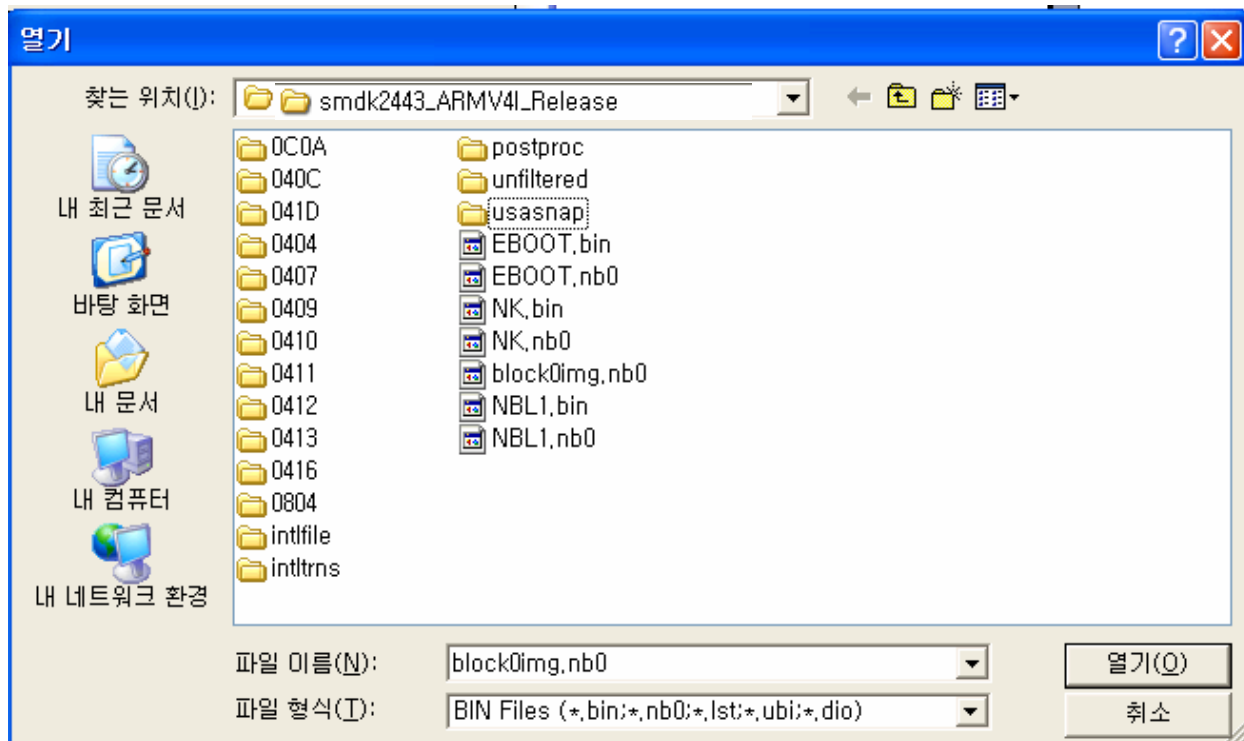


Figure 5-10 Selecting NK.nb0 for Download

12. Once download begins, a download status bar appears on your screen as shown in figure 5-11.

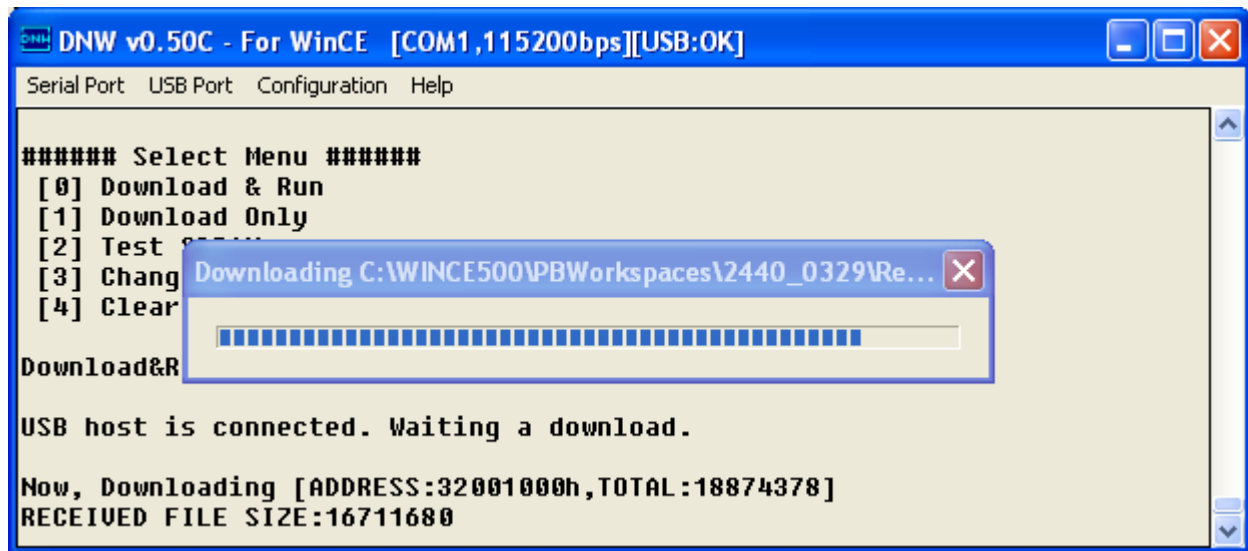


Figure 5-11 Downloading Status of NK.nb0

13. After NK.nb0 download is over, Windows CE 5.0 boots on the target Board.

5.2 Fusing Windows CE Image on SMC via USB (using UBOOT)

In this chapter, you can understand how to fuse the block0img.nb0, eboot.bin and OS image to the SOP NAND via USB download.

1. Before you download the WinCE image through the USB, you must have USB monitor image in your AMD Flash.
2. Set the Jumpers for clock source.

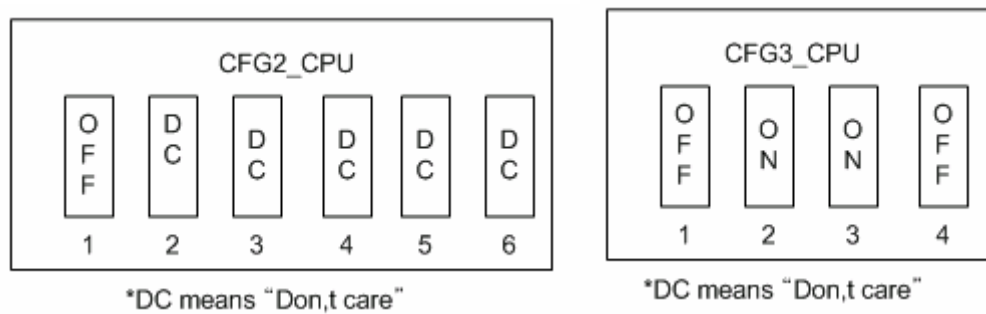


Figure 5-12 Jumper Setting for crystal

3. Set the Jumpers for memory type

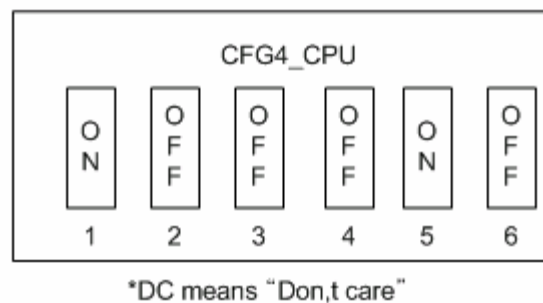


Figure 5-13 Jumper Setting for SDR Memory

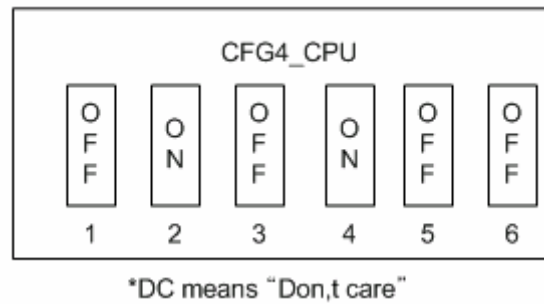


Figure 5-14 Jumper Setting for DDR Memory

* NOTE : After set memory type jumper, check memory config which is defined is correct in platform\smdk2450\src\inc\s3c2450.inc file

- Set the Jumpers on SMDK2450 board as shown below for AMD flash boot

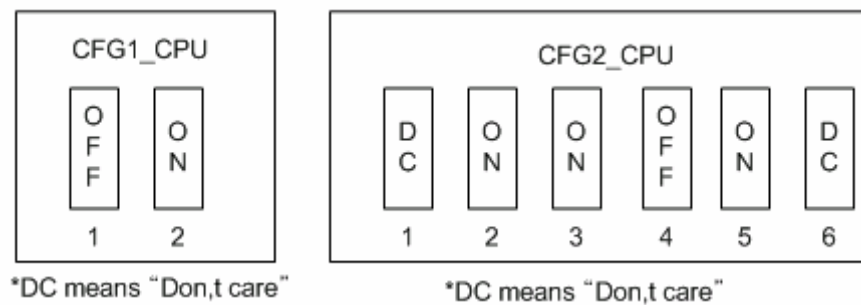


Figure 5-15 Switch Setting on CPU board for AMD flash boot

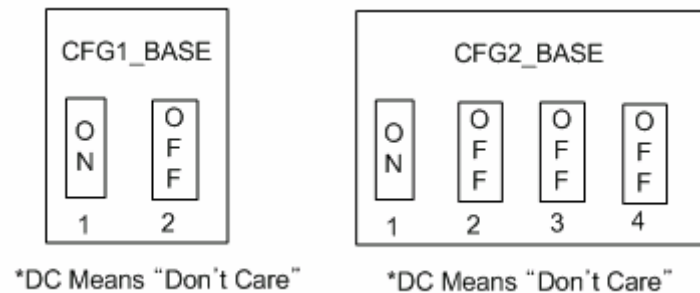


Figure 5-16 Switch Setting on Base board for NandAccess

- Please install the USB Driver and DNW application on your host PC.
- Run **dnw.exe** on the host PC. The following window appears on your screen.

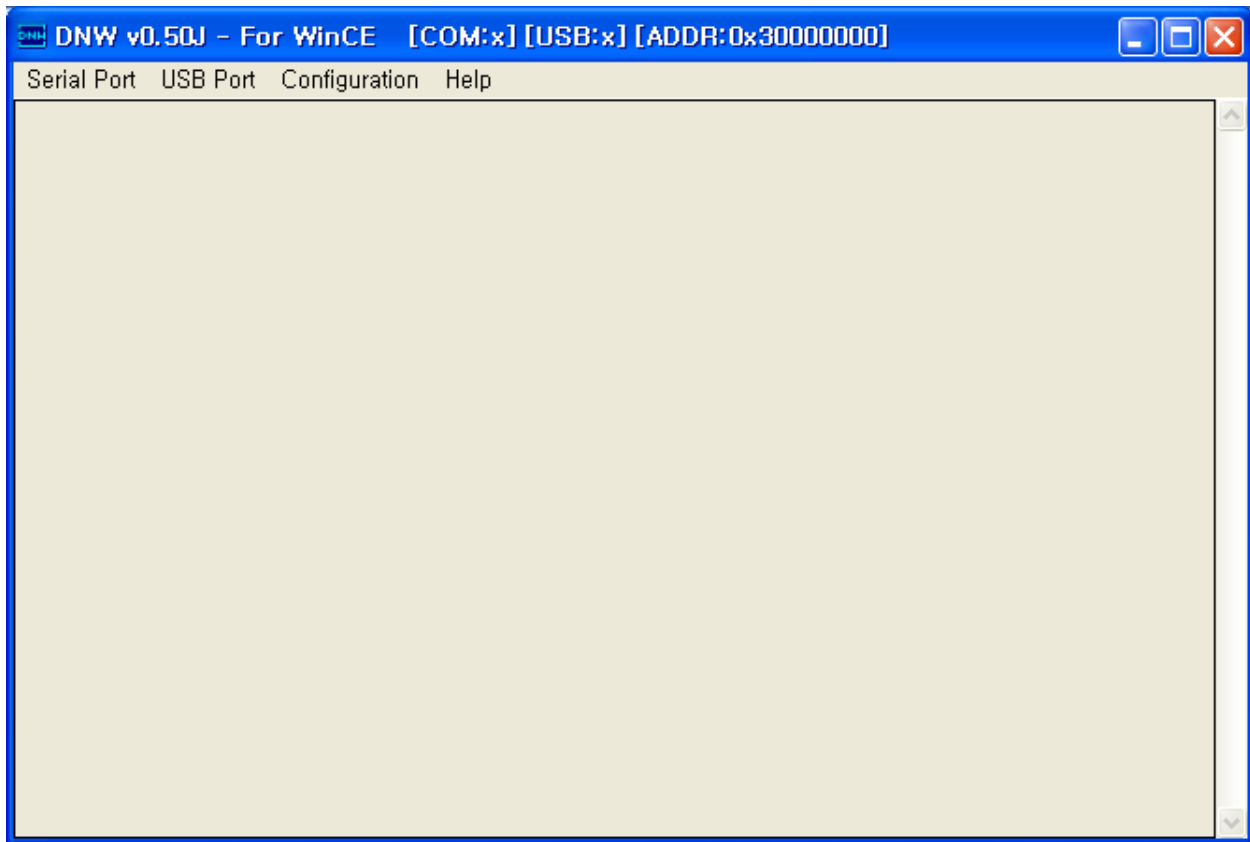


Figure 5-17 DNW Window

7. On the **Configuration** menu, click **Options** to set the UART/USB options. The following window appears on your screen. Select Baud Rate and COM Port as shown in figure 5-18, enter the download address as **0x30038000** and then click **OK** button.

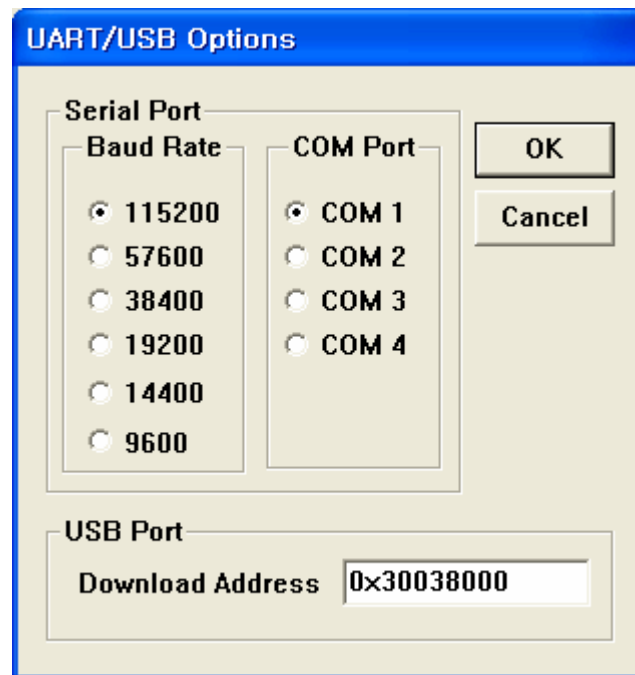


Figure 5-18 UART/USB Options

8. On the Serial Port menu, click Connect. Switch ON the reference board. The DNW window appears as shown in figure 5-19.

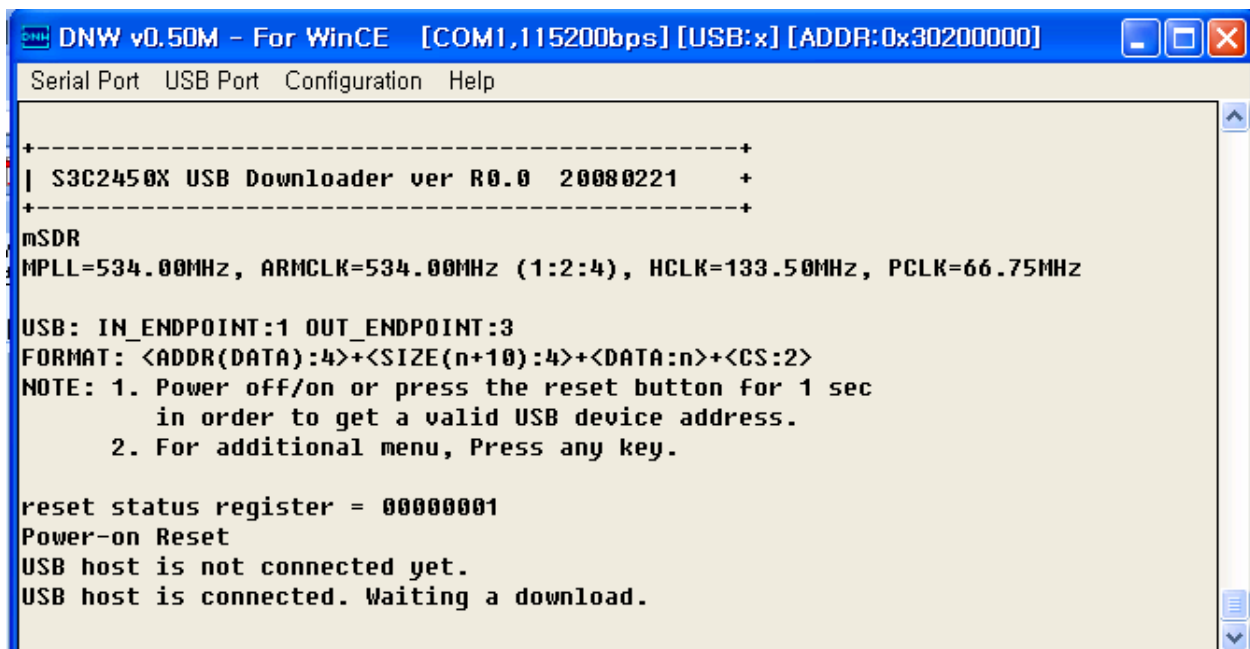


Figure 5-19 DNW Window after Board Power ON

9. On the USB Port menu, click Transmit and the following window appears on your screen. Select EBOOT.nb0 file from X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

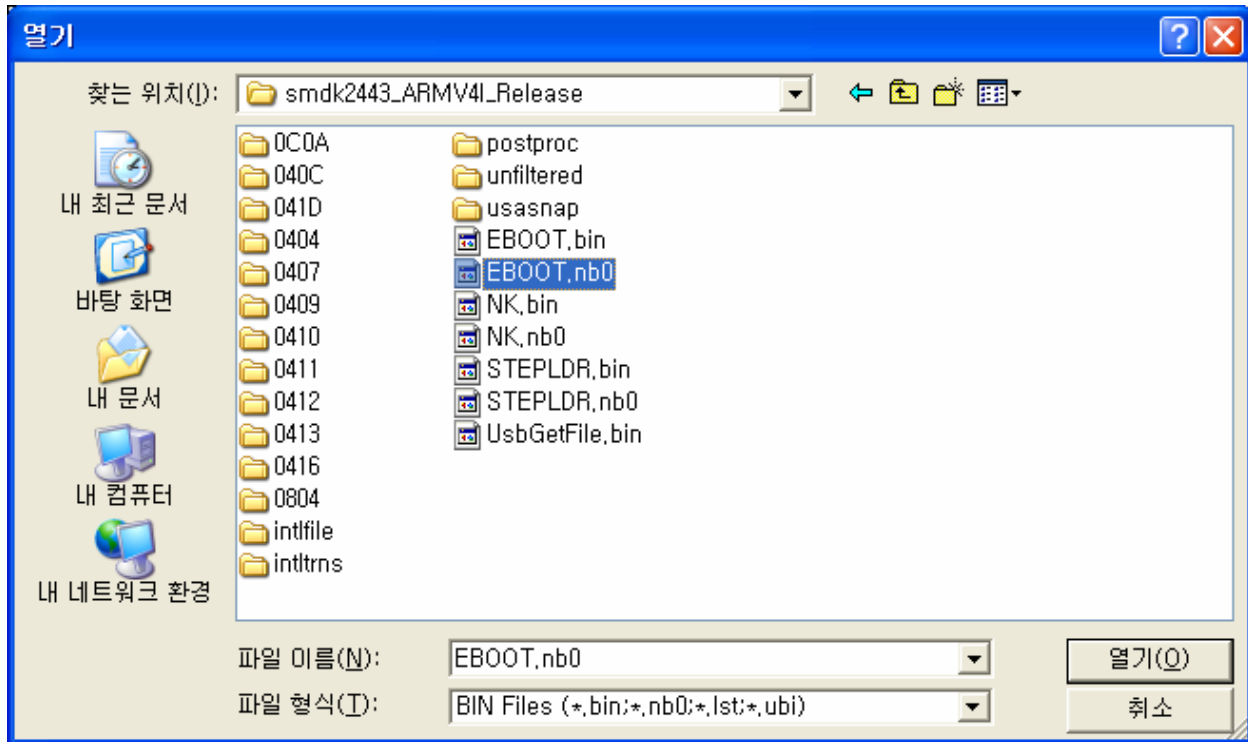


Figure 5-20 Selecting EBOOT.nb0 for Download

10. As soon as EBOOT.nb0 download is over, the following messages appear in the DNW window.

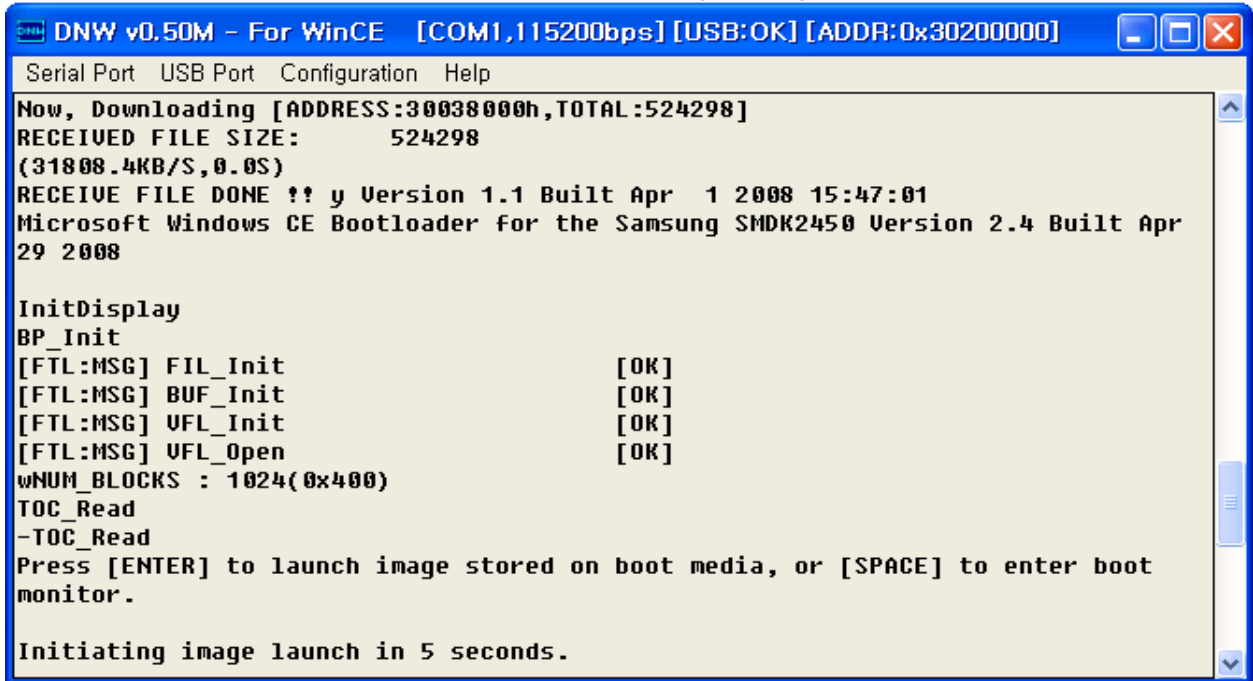


Figure 5-21 After EBOOT.nb0 Download

11. Please hit the **SPACE BAR** key to view the current Boot Loader Configuration. Configure the Ethernet Boot loader as follows by entering the respective options:

- Enter [6] to make Program disk Image into Nand Flash: **ENABLED**
- Enter [W] to Write Configuration Right Now
- Enter [A] to Format FIL (Erase All Blocks)

DNW v0.50M - For WinCE [COM1,115200bps] [USB:OK] [ADDR:0x30200000]

Serial Port USB Port Configuration Help

```

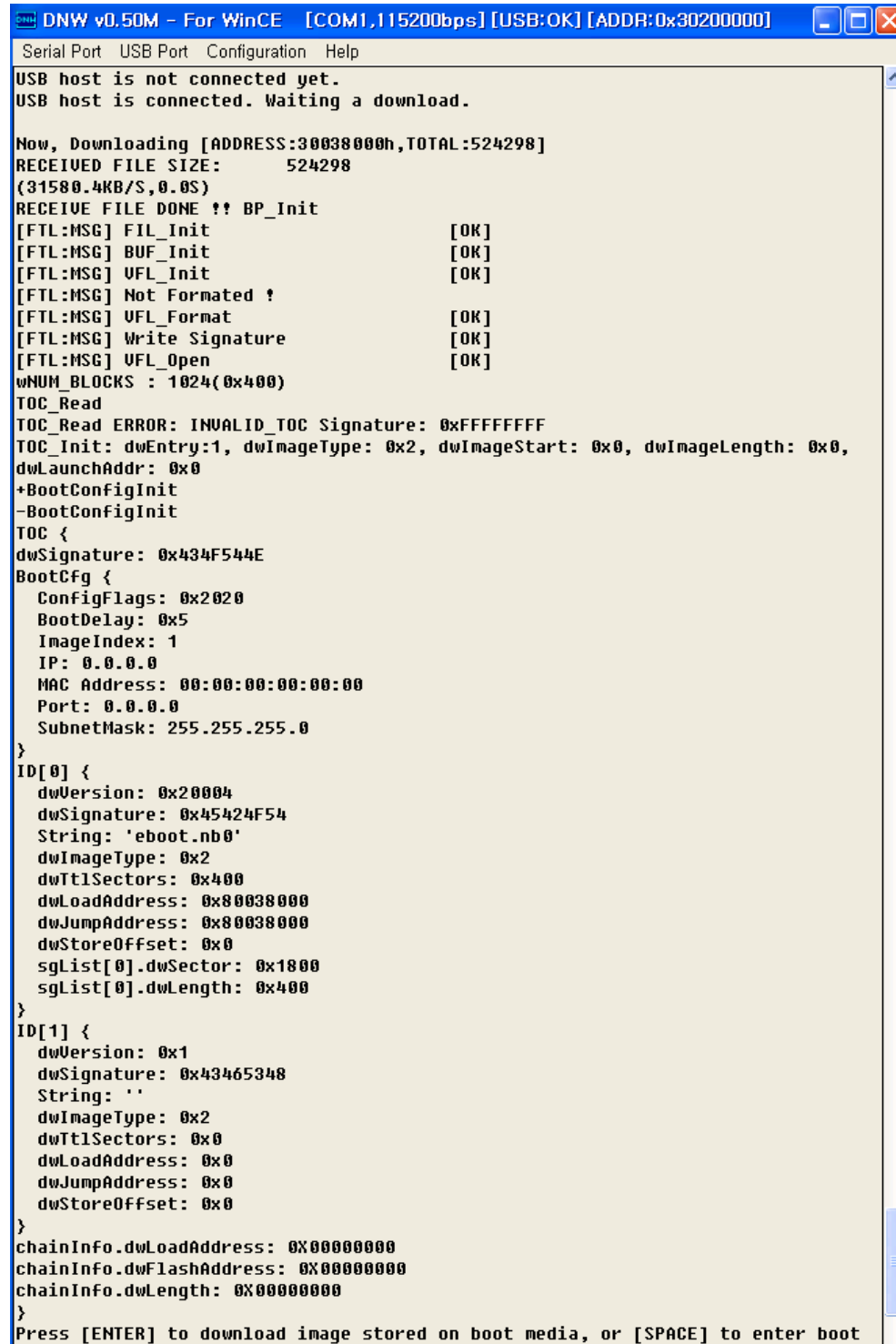
1) Subnet mask: 255.255.255.0
2) DHCP: Disabled
3) Boot delay: 5 seconds
4) Reset to factory default configuration
5) Startup image: LAUNCH EXISTING
6) Program disk image into NAND Flash: Enabled
7) Program CS8900 MAC address (00.00.00:00:00:00)
8) Kernel Debugger: ENABLED
A) Format FIL (Erase All Blocks)
B) Format UFL (Format FIL + UFL Format)
C) Format FTL (Erase FTL Area + FTL Format)
E) Erase Physical Block 0
F) Make Initial Bad Block Information (Warning)
T) MLC Low level test
D) Download image now
L) LAUNCH existing Boot Media image
R) Read Configuration
U) DOWNLOAD image now(USB)
W) Write Configuration Right Now
a
++Format FIL (Erase All Blocks)
[WMR ] ++WMR_Format_FIL()
[WMR:INF] WMR_Format_FIL() : Initial Bad @ 1st plane of Block 778
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 878
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 885
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 906
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 917
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 949
[WMR:INF] WMR_Format_FIL() : All Block in the Bank 0 Erased
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 488
[WMR:INF] WMR_Format_FIL() : All Block in the Bank 1 Erased
[WMR:INF] WMR_Format_FIL() : All Block Erased including Block 0 !!!
[WMR ] --WMR_Format_FIL()
[INF] You can not use UFL before Format UFL
--Format FIL (Erase All Blocks)

Ethernet Boot Loader Configuration:

0) IP address: 0.0.0.0
1) Subnet mask: 255.255.255.0
  
```

Figure 5-22 Boot Loader Configurations

12. Reboot SMDK board. Retry to download Eboot.nb0 image. You can see following Message.



```

DNW v0.50M - For WinCE [COM1,115200bps] [USB:OK] [ADDR:0x30200000]
Serial Port USB Port Configuration Help
USB host is not connected yet.
USB host is connected. Waiting a download.

Now, Downloading [ADDRESS:30038000h,TOTAL:524298]
RECEIVED FILE SIZE:      524298
(31580.4KB/S,0.0S)
RECEIVE FILE DONE !! BP_Init
[FTL:MSG] FIL_Init          [OK]
[FTL:MSG] BUF_Init          [OK]
[FTL:MSG] UFL_Init          [OK]
[FTL:MSG] Not Formated ?
[FTL:MSG] UFL_Format        [OK]
[FTL:MSG] Write Signature   [OK]
[FTL:MSG] UFL_Open          [OK]
wNUM_BLOCKS : 1024(0x400)
TOC_Read
TOC_Read ERROR: INVALID_TOC Signature: 0xFFFFFFFF
TOC_Init: dwEntry:1, dwImageType: 0x2, dwImageStart: 0x0, dwImageLength: 0x0,
dwLaunchAddr: 0x0
+BootConfigInit
-BootConfigInit
TOC {
dwSignature: 0x434F544E
BootCfg {
  ConfigFlags: 0x2020
  BootDelay: 0x5
  ImageIndex: 1
  IP: 0.0.0.0
  MAC Address: 00:00:00:00:00:00
  Port: 0.0.0.0
  SubnetMask: 255.255.255.0
}
ID[0] {
  dwVersion: 0x20004
  dwSignature: 0x45424F54
  String: 'eboot.nb0'
  dwImageType: 0x2
  dwTtlSectors: 0x400
  dwLoadAddress: 0x80038000
  dwJumpAddress: 0x80038000
  dwStoreOffset: 0x0
  sgList[0].dwSector: 0x1800
  sgList[0].dwLength: 0x400
}
ID[1] {
  dwVersion: 0x1
  dwSignature: 0x43465348
  String: ''
  dwImageType: 0x2
  dwTtlSectors: 0x0
  dwLoadAddress: 0x0
  dwJumpAddress: 0x0
  dwStoreOffset: 0x0
}
chainInfo.dwLoadAddress: 0X00000000
chainInfo.dwFlashAddress: 0X00000000
chainInfo.dwLength: 0X00000000
}
Press [ENTER] to download image stored on boot media, or [SPACE] to enter boot
  
```

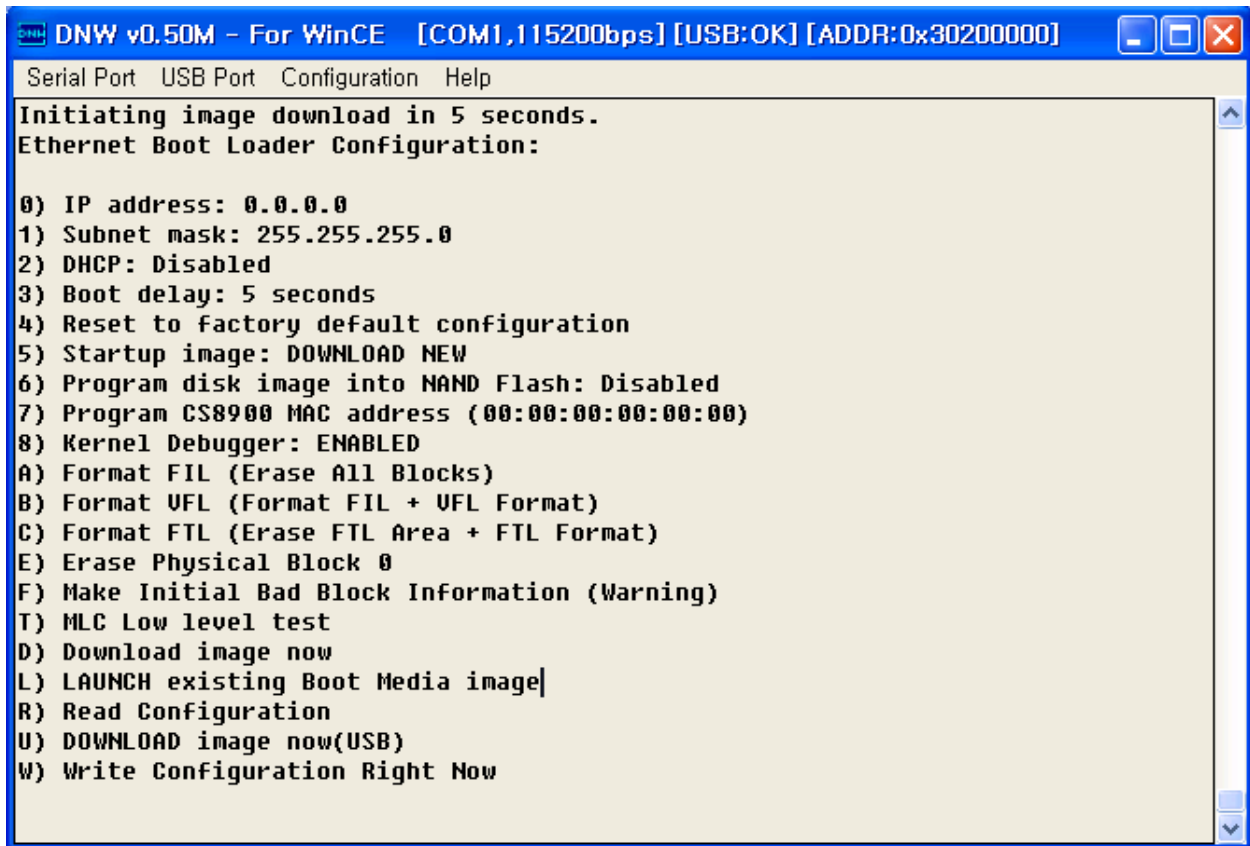


Figure 5-23 Boot Loader Status after format

13. Please hit the SPACE BAR key to view the current Boot Loader Configuration. Configure the Ethernet Boot loader as follows by entering the respective options:

- Enter [6] to make Program disk Image into Nand Flash: **ENABLED**
- Enter [5] to make Startup image: LAUNCH EXISTING
- Enter [W] to Write Configuration Right Now
- Enter [U] to Download image now(USB)

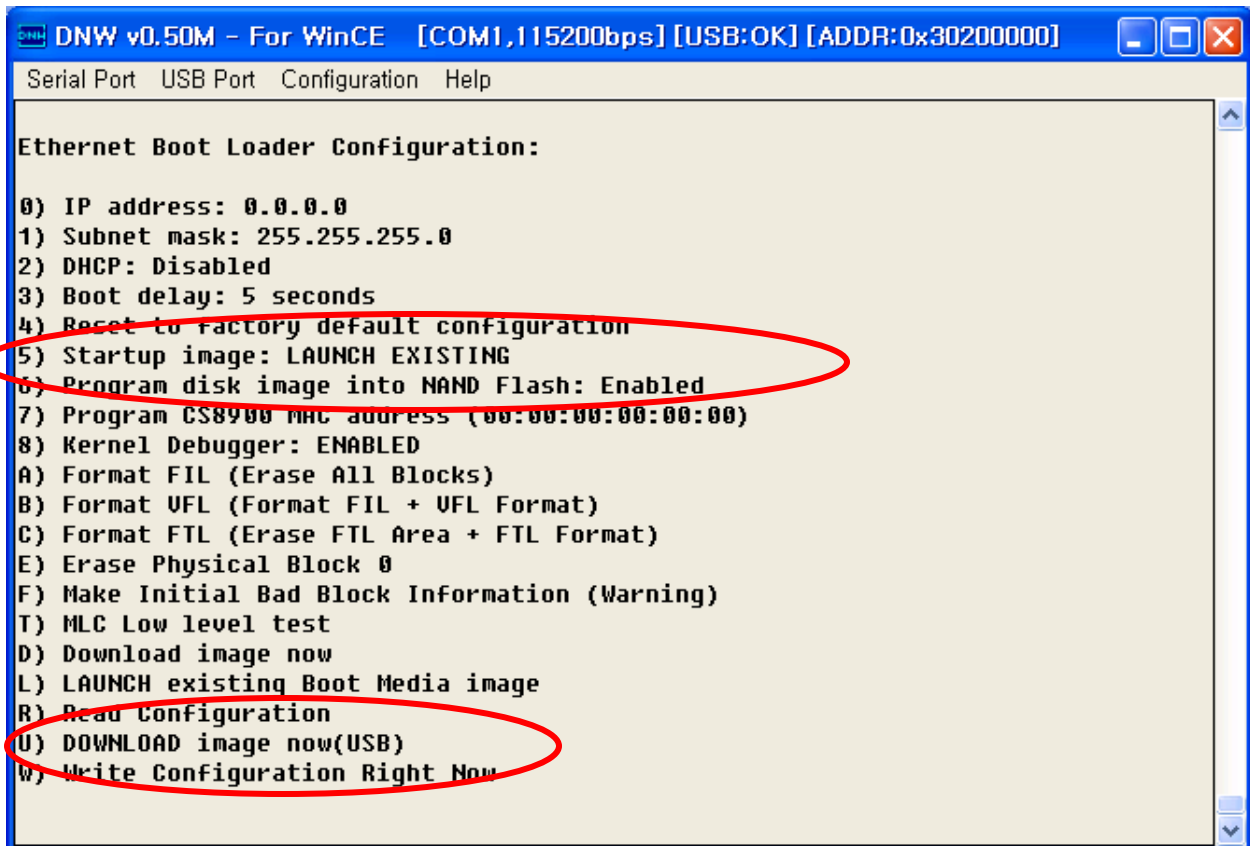


Figure 5-24 Boot Loader configurations

14. On the USB Port menu click UBOOT and the following window appears on your screen. Select block0img.nb0 from
X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

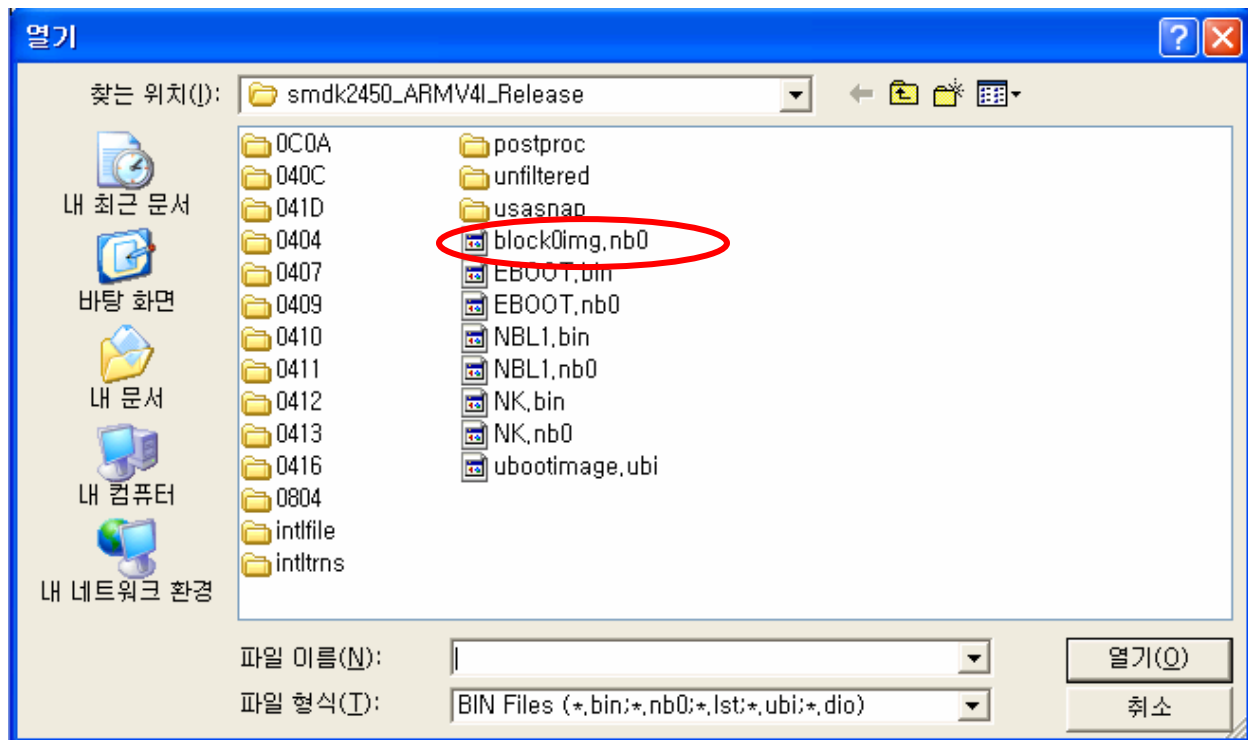


Figure 5-25 Selecting block0img.nb0 for Download

15. You can see the following messages on the DNW window after block0img.nb0 download is over.

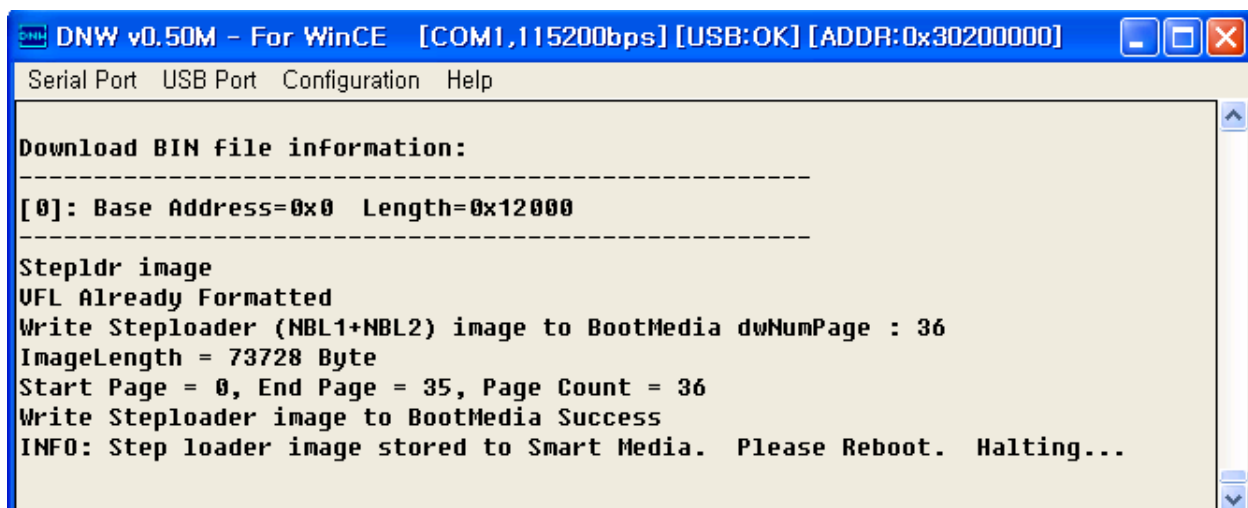


Figure 5-26 Messages via UART Port after block0img.nb0 Download

Reset the board and repeat step 6 to 8. Configure the USB Boot loader as follows by entering the respective options:

- Enter [U] to Download image now(USB)

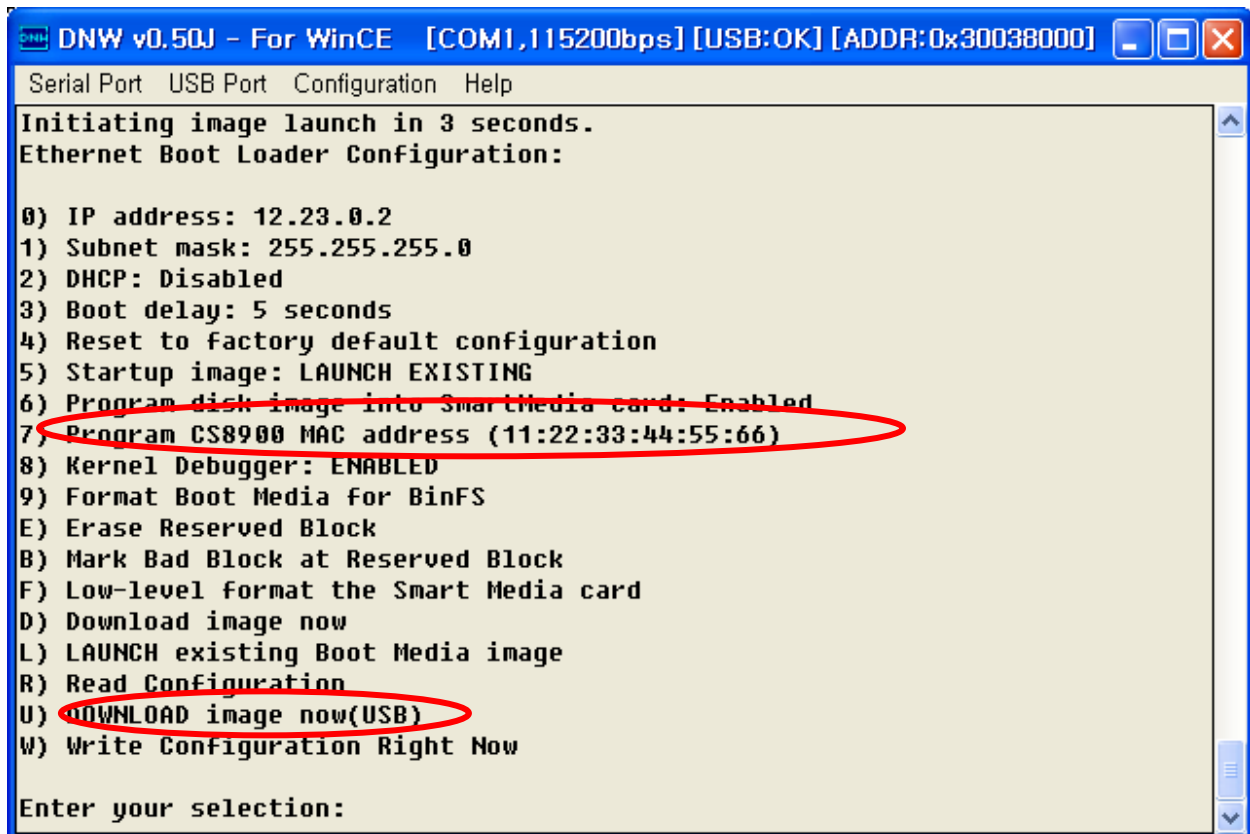


Figure 5-27 USB Boot Loader Configurations

16. On the USB Port menu click UBOOT and the following window appears on your screen. Select Eboot.bin from X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

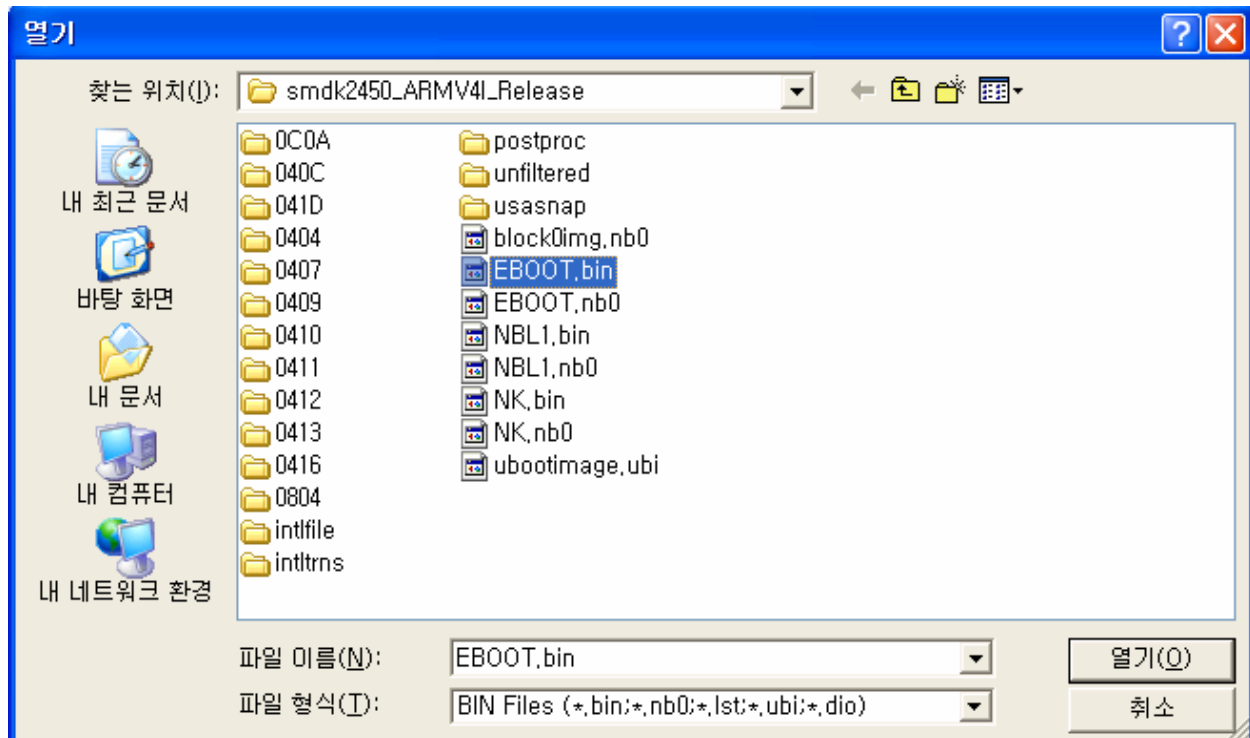


Figure 5-28 Selecting EBOOT.bin for Download

17. You can see the following messages on the DNW window after Eboot.bin download is over.

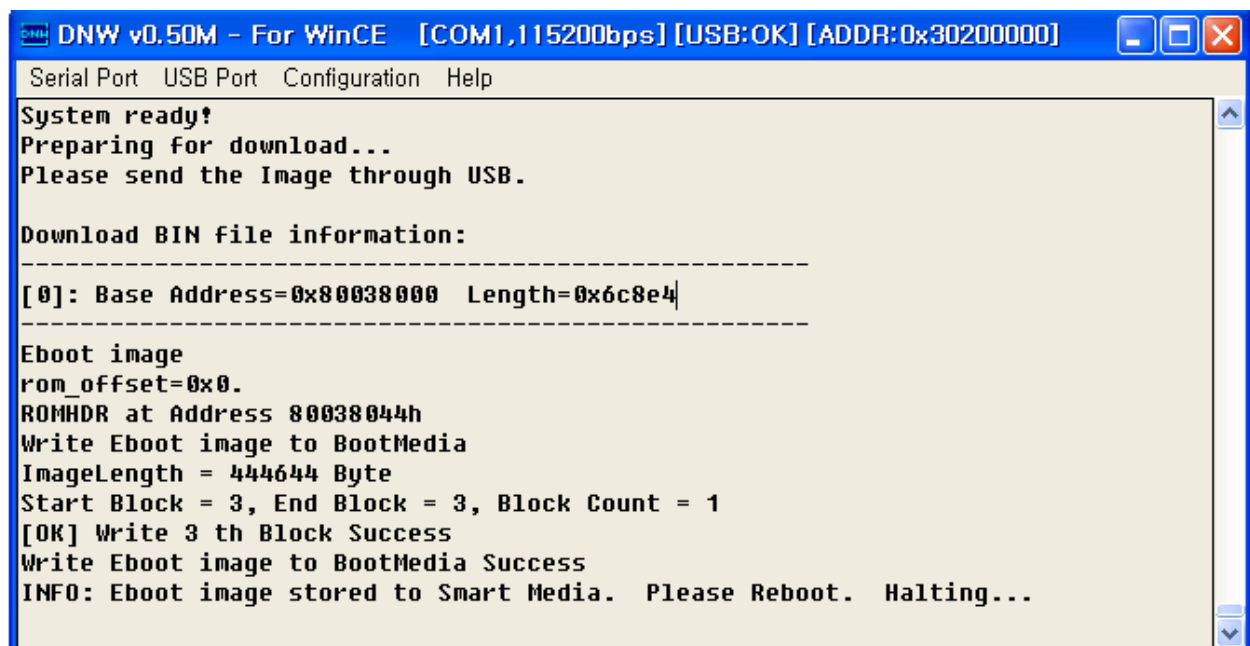


Figure 5-29 Messages via UART Port after eboot.bin Download

Reset the board and repeat step 6 to 8. Configure the Ethernet Boot loader as follows by entering the respective options:

- Enter [6] to make Program disk Image into Nand Flash: **ENABLED**
- Enter [5] to make Startup image: **LAUNCH EXISTING**
- Enter [W] to Write Configuration Right Now
- Enter [U] to Download image now(USB)

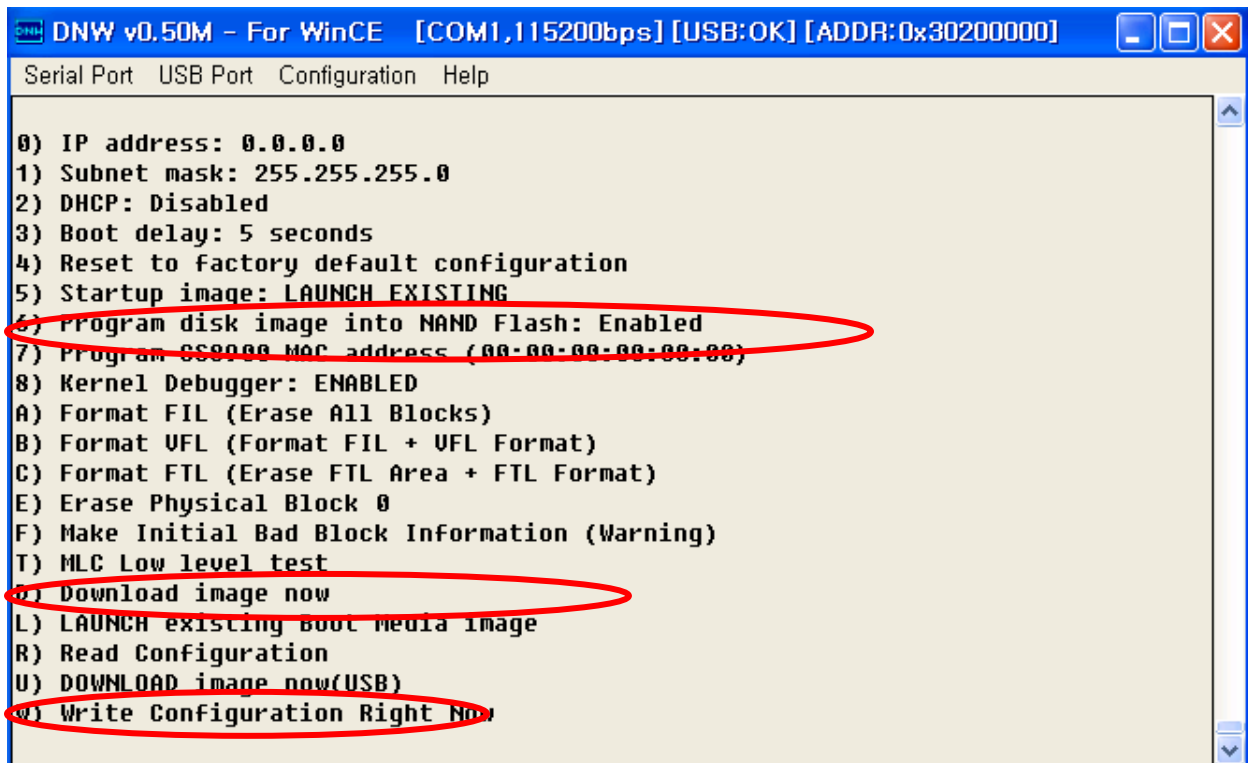


Figure 5-30 USB Boot Loader Configurations

18. On the USB Port menu click UBOOT and the following window appears on your screen. Select NK.bin from X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

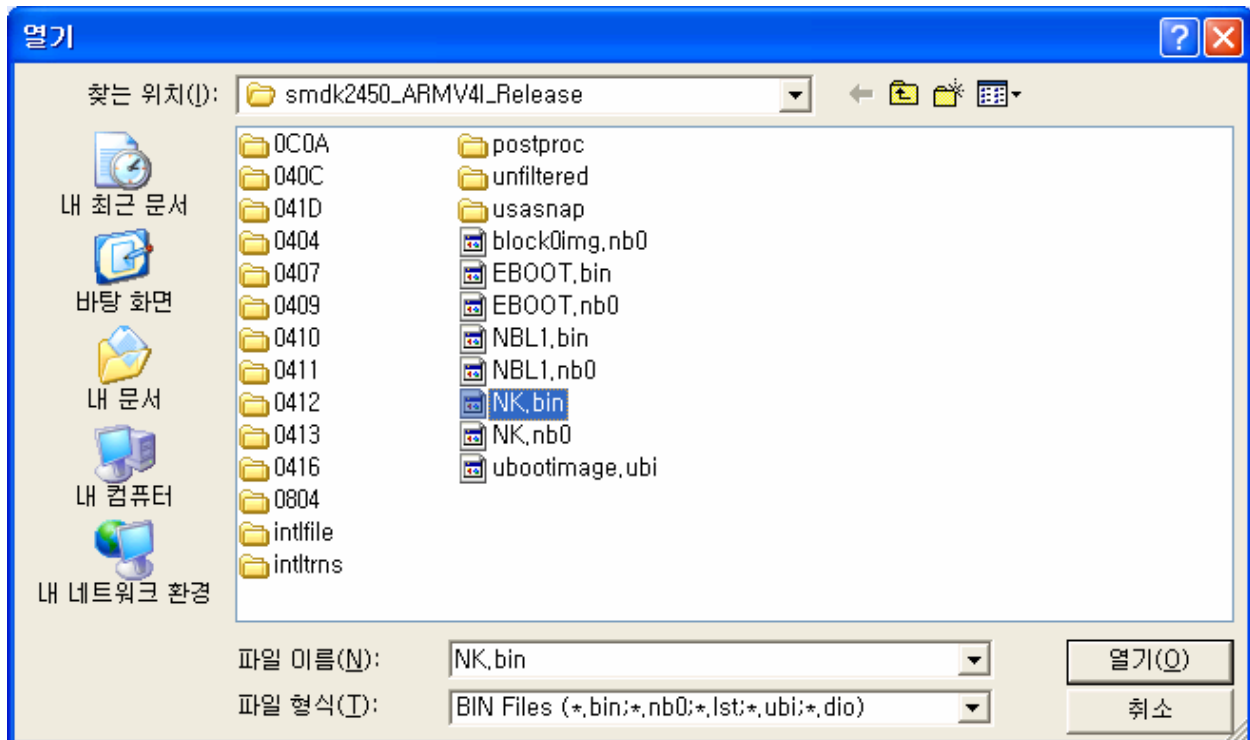


Figure 5-31 Selecting NK.bin for Download

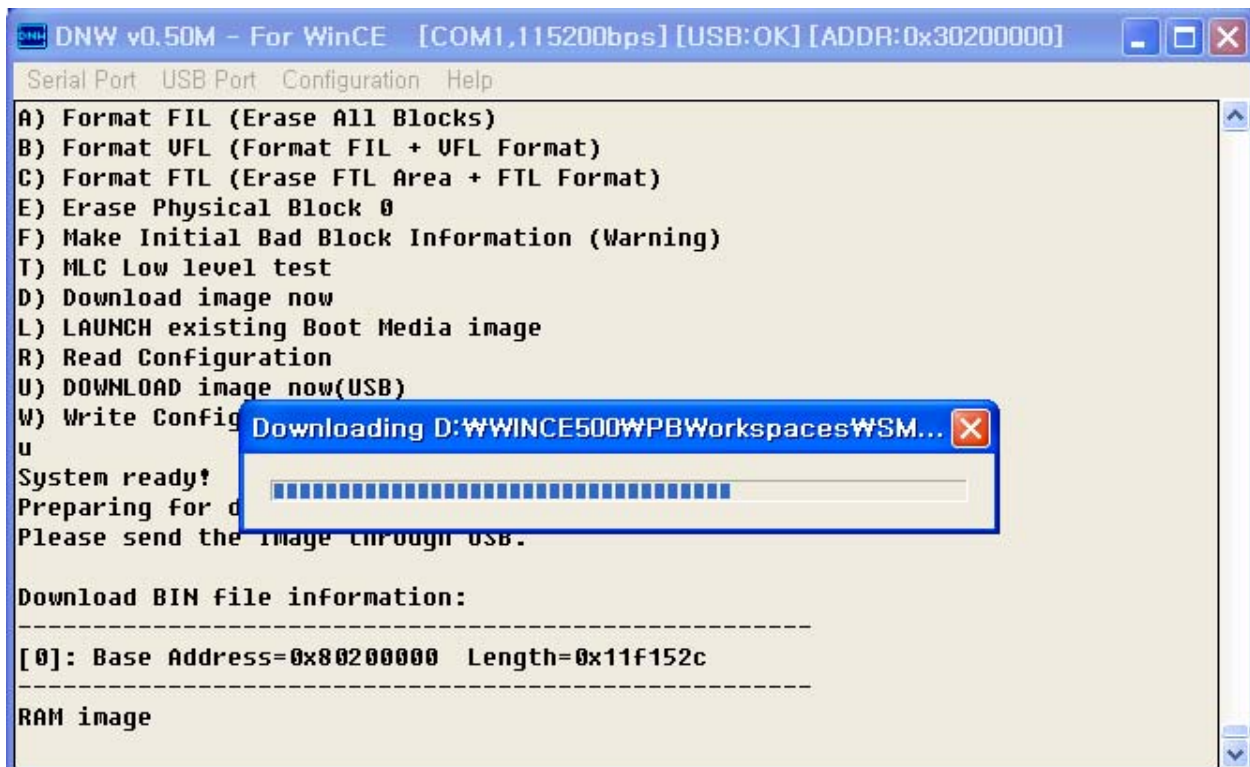
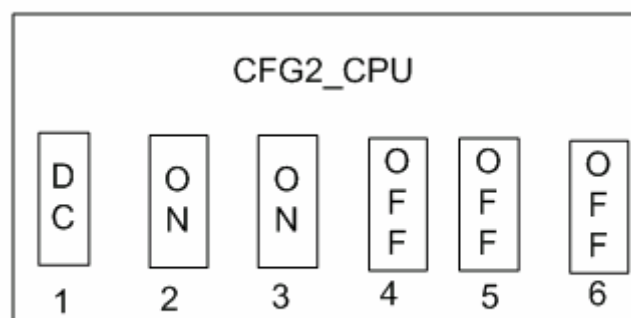


Figure 5-32 Messages via UART Port during NK.bin Download

19. You can see the following messages on the DNW window during NK.bin download. After NK.bin download is over, Windows CE 5.0 boots on the target Board. Power OFF the board and Set CFG jumpers on the 2450 evaluation board as below.



*DC Means "Don't Care"

Figure 5-33 Switch setting for Nand Advanced NAND(page 2KB, Addr 5) card booting

Power ON the board and you can see Windows CE 5.0 boots on the target Board.

5.3 Building and Running Single.bin OS Image - With KITL

In this chapter, you can understand how to build, download and run the OS image with KITL.

1. To enable KITL, on the **Platform** menu in the platform builder window, click **Settings...** as shown in figure 5-34.

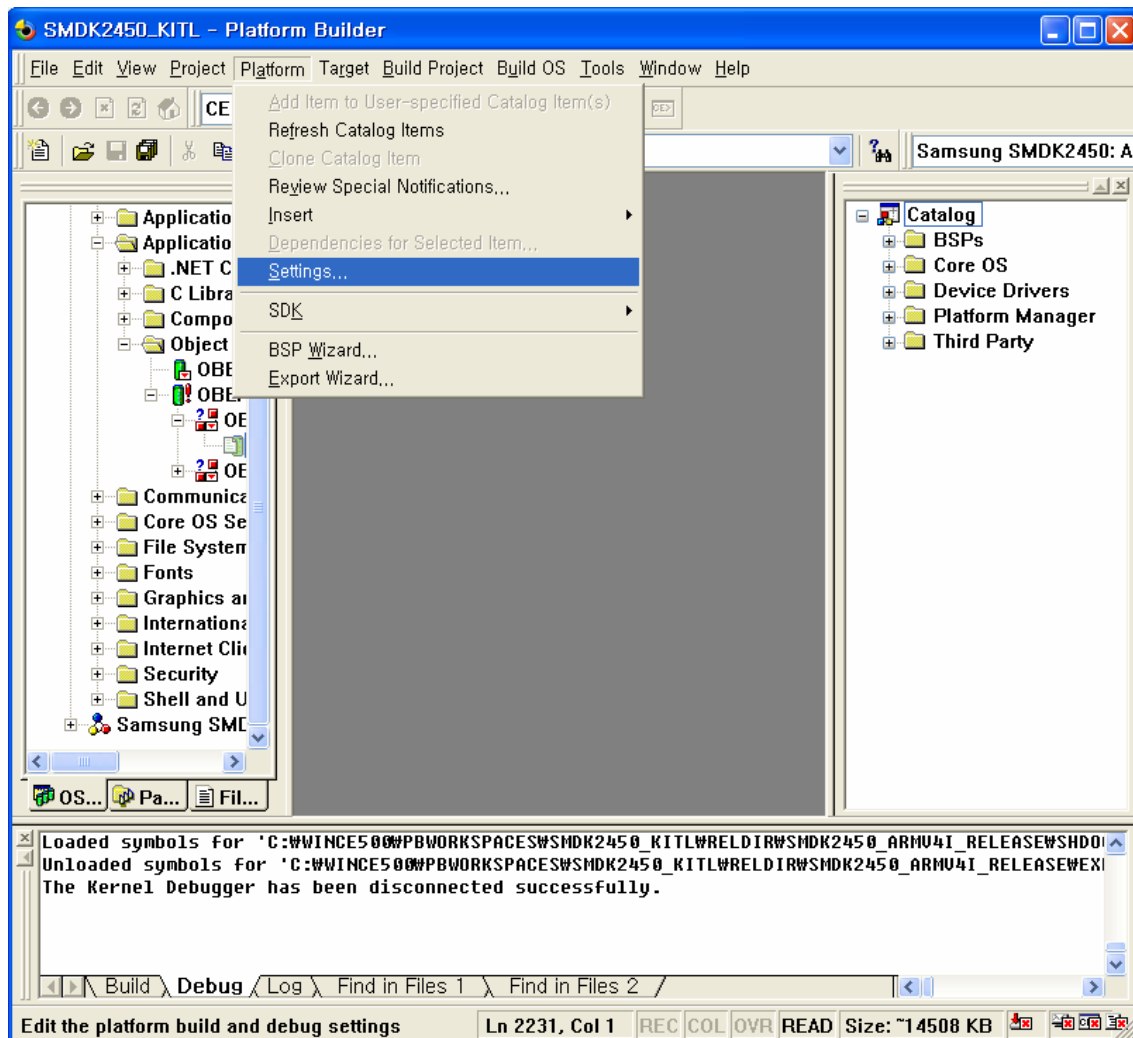


Figure 5-34 Platform Settings 1

2. The Platform Settings window appears on your screen. Select **nk.bin** on File name for run-time image.

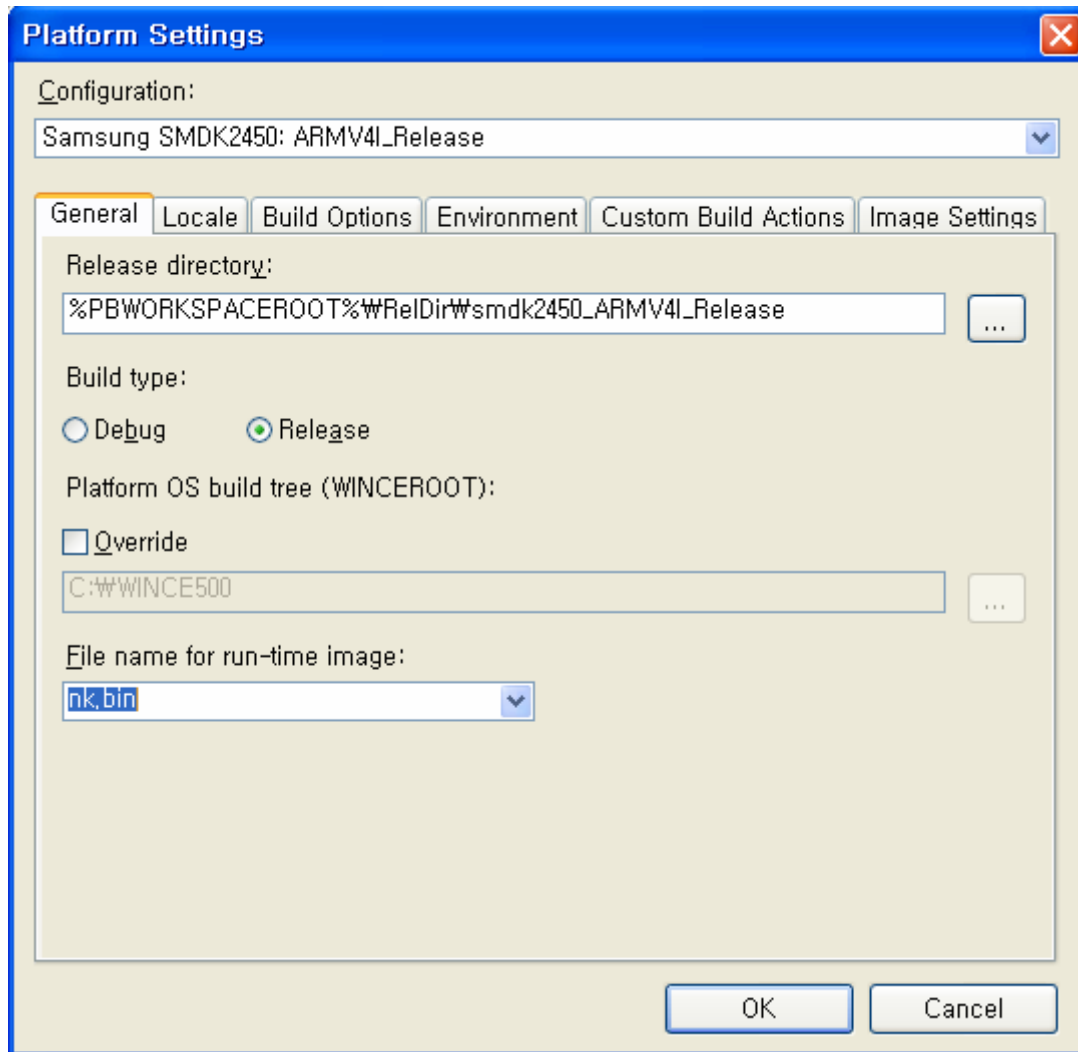


Figure 5-35 Platform Settings 2

3. The Platform Settings window appears on your screen. Check square boxes **Enable CE Target Control Support (SYSGEN_SHELL=1)** and **Enable KITL (no IMGNOKITL=1)** and **Enable Kernel Debugger(no IMGNOBUFFER=1)** in the **Build Options** tab and then click **OK** button

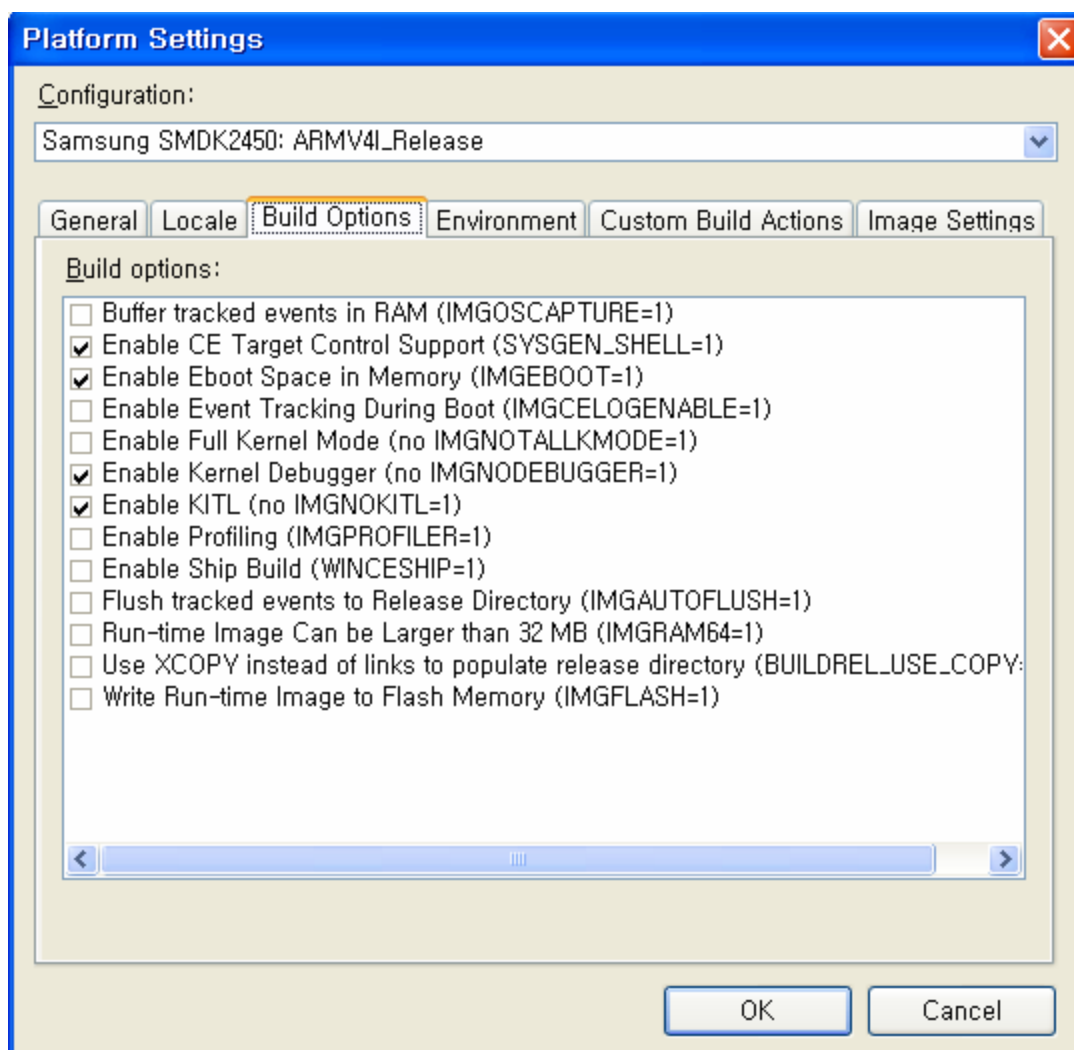


Figure 5-36 Platform Setting for KITL

5.4 USB Serial KITL

1. To enable WinCE image with USB Serial KITL, you must do the following:
 - X:\WINCE500\PLATFORM\SMDK2450\smdk2450.bat file must have the following settings.


```
set BSP_NOCS8900=
set BSP_NOSERIAL=
set BSP_NOUSBFN=1

set BSP_KITL=NONE
rem set BSP_KITL=USBSERIAL
```
2. On the **Build OS** menu in platform builder window, click **Build and Sysgen** as shown in figure 5-37 to build the WinCE image with USB Serial KITL.

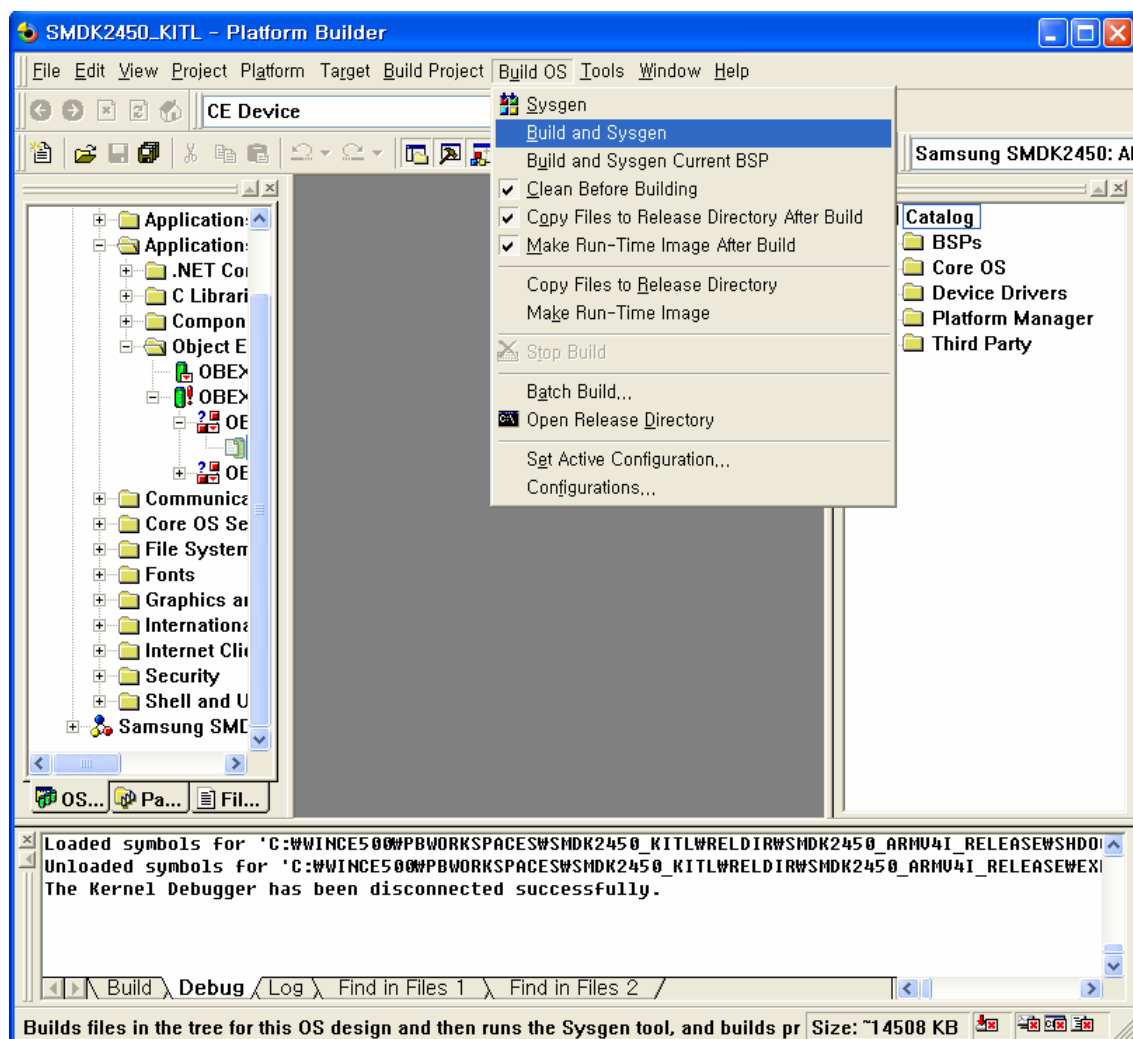


Figure 5-37 Build and Sysgen

Note: Building process may take some time depending on your system capability. So, please wait for the build process to be completed. It might take around 1 hour.

3. After completion of build process, NK.nb0 is generated in X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory.
4. On the Target menu in the Platform Builder window, click **Connectivity Options...** as shown below. Target Device Connectivity Options window appears on your screen. Select None from Download drop down menu box and USB from Transport drop down menu box as shown in figure 5-38.

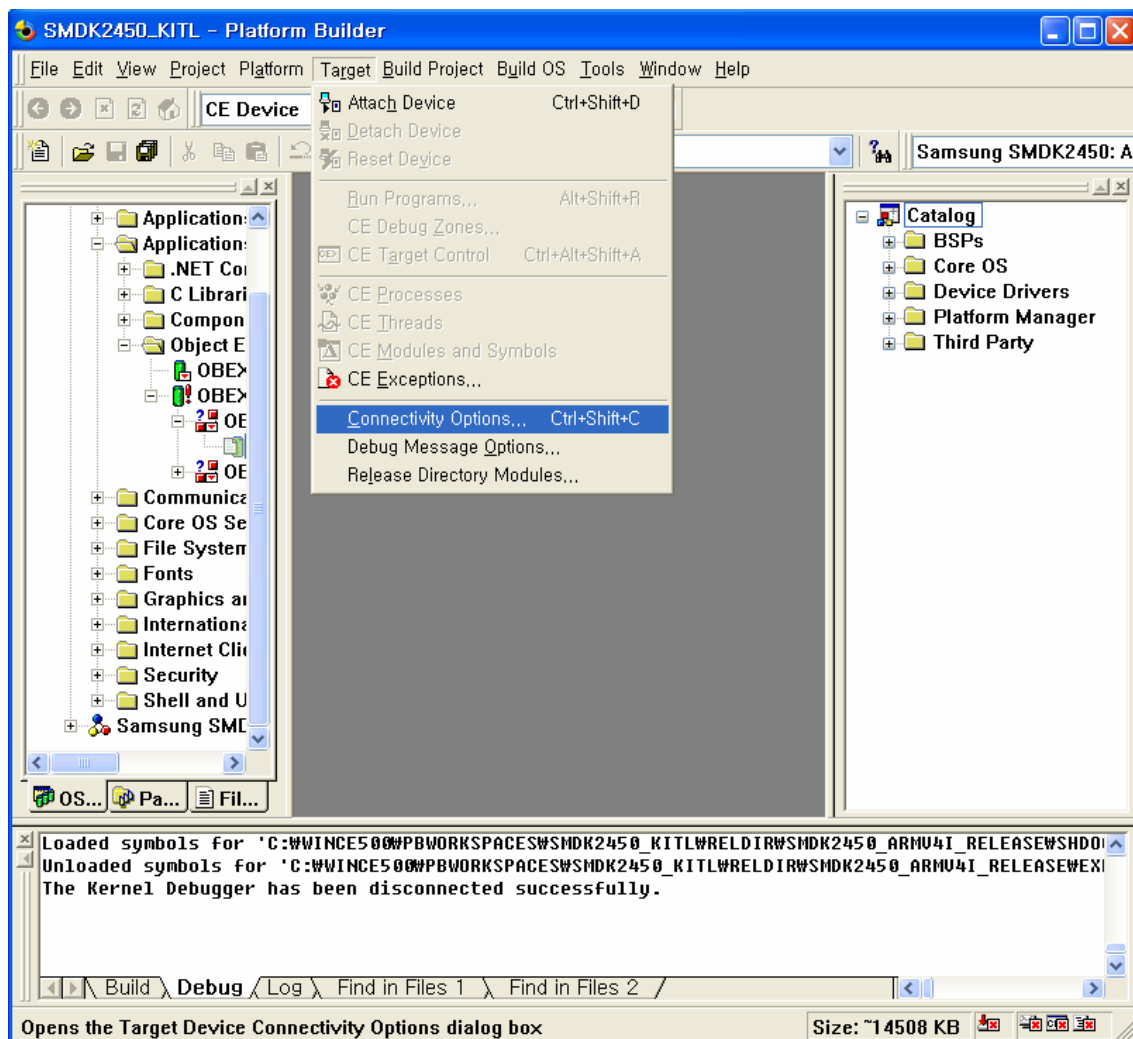


Figure 5-38 Selecting Connectivity Options

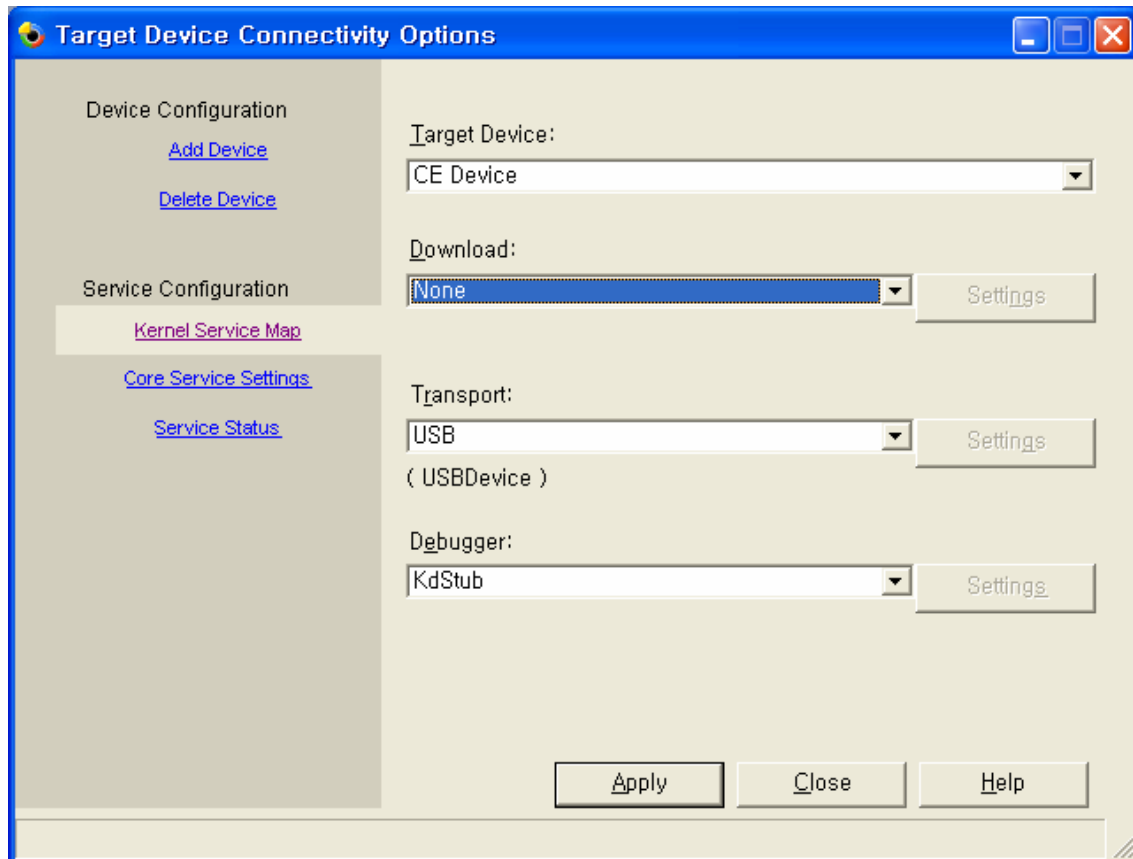
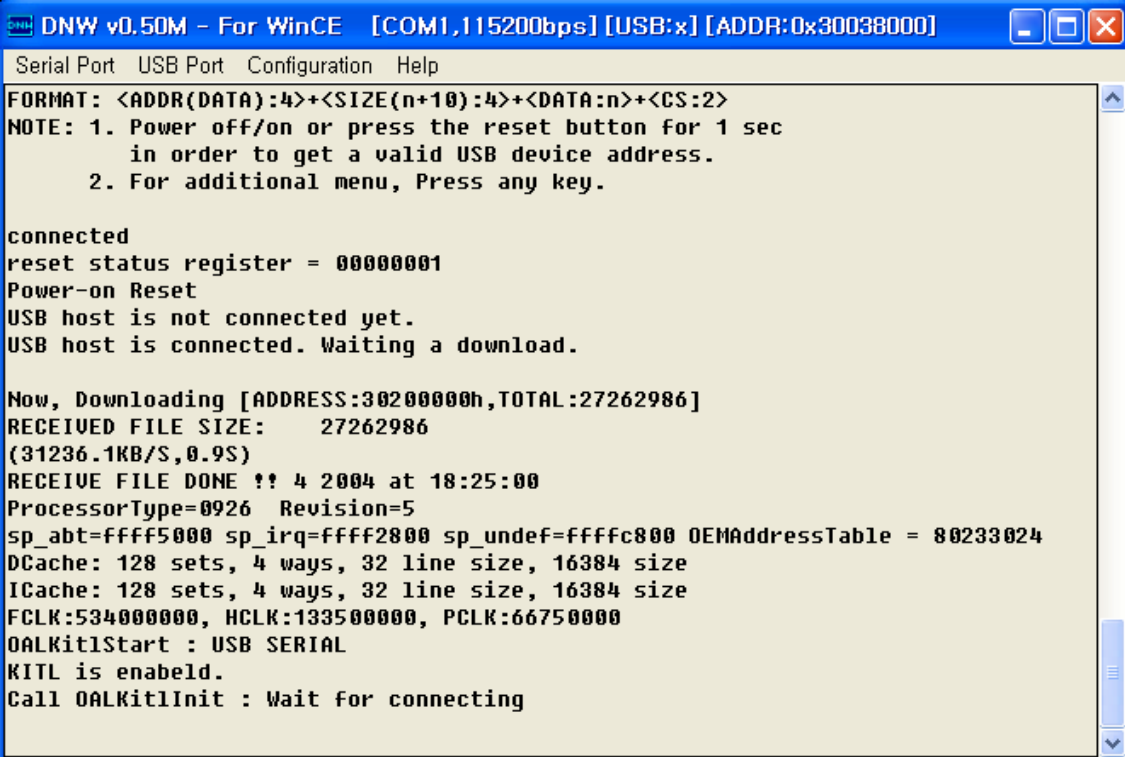


Figure 5-39 Target Device Connectivity Options Window

5. Click **Apply** button first and then click **Close** button.
6. **Disable USB connection** on PC ActiveSync Connection Manager.
7. Refer **Chapter 6** to download and run the **NK.nb0** image via USB.
8. You can see the following messages on the DNW window after **NK.nb0** download is over.



```

DNW v0.50M - For WinCE [COM1,115200bps] [USB:x] [ADDR:0x30038000]
Serial Port USB Port Configuration Help
FORMAT: <ADDR(DATA):4>+<SIZE(n+10):4>+<DATA:n>+<CS:2>
NOTE: 1. Power off/on or press the reset button for 1 sec
      in order to get a valid USB device address.
      2. For additional menu, Press any key.

connected
reset status register = 00000001
Power-on Reset
USB host is not connected yet.
USB host is connected. Waiting a download.

Now, Downloading [ADDRESS:30200000h,TOTAL:27262986]
RECEIVED FILE SIZE: 27262986
(31236.1KB/S,0.9S)
RECEIVE FILE DONE !! 4 2004 at 18:25:00
ProcessorType=0926 Revision=5
sp_abt=ffff5000 sp_irq=ffff2800 sp_undef=ffffc800 OEMAddressTable = 80233024
DCache: 128 sets, 4 ways, 32 line size, 16384 size
ICache: 128 sets, 4 ways, 32 line size, 16384 size
FCLK:534000000, HCLK:133500000, PCLK:66750000
OALKit1Start : USB SERIAL
KITL is enabeld.
Call OALKit1Init : Wait for connecting
  
```

Figure 5-40 Messages via UART Port after NK.nb0 Download

9. On the Target menu in Platform Builder window, click Attach Device as shown in figure 5-41.

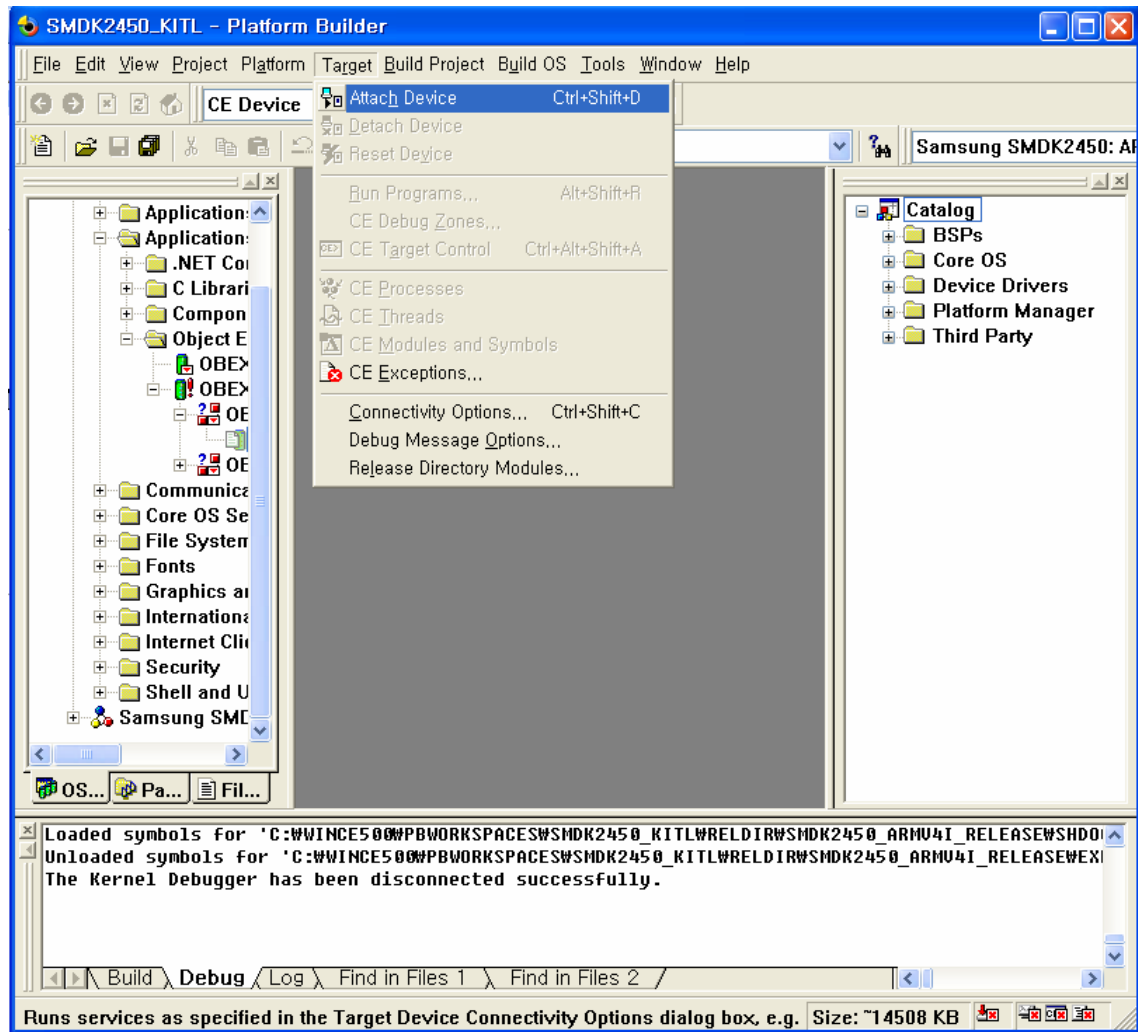


Figure 5-41 Attach Device

10. USB Serial KITL gets connected. Windows CE 5.0 boots on the target board and platform builder window appears as shown below in figure 5-42.

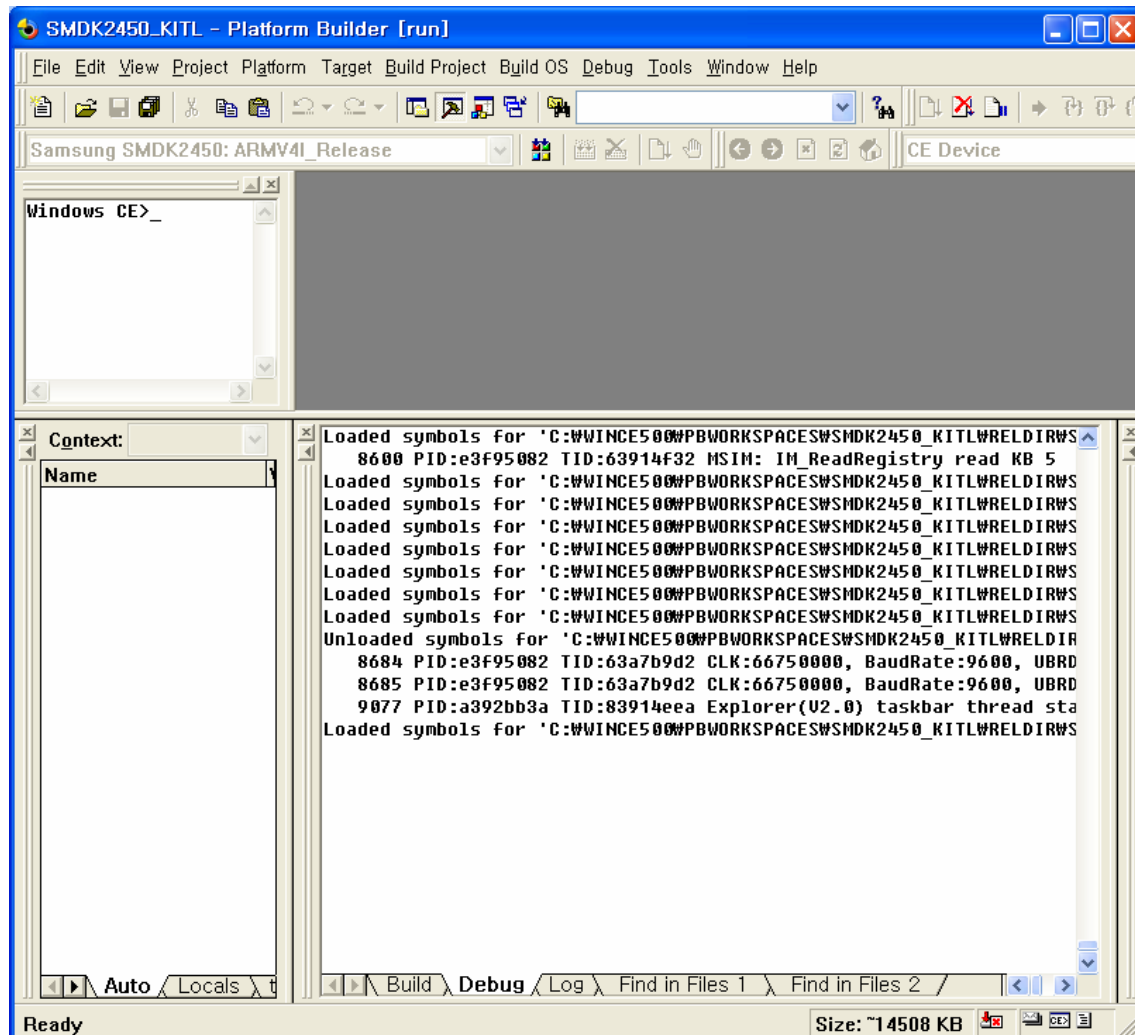


Figure 5-42 Platform Builder Window after USB Serial KITL connected

6 Multiple XIP Image

6.1 Running chain.lst Image

In case of MultipleXIP, you cannot generate the Nk.nb0 image. So you cannot download the Nk.nb0 image directly.

6.2 Fusing Windows CE Image on SMC via USB (using UBOOT)

In this chapter, you can understand how to fuse the block0img.nb0, eboot.bin and OS image to the SOP NAND via USB download.

1. Before you download the WinCE image through the USB, you must have USB monitor image in your AMD Flash.
2. Set the Jumpers for clock source.

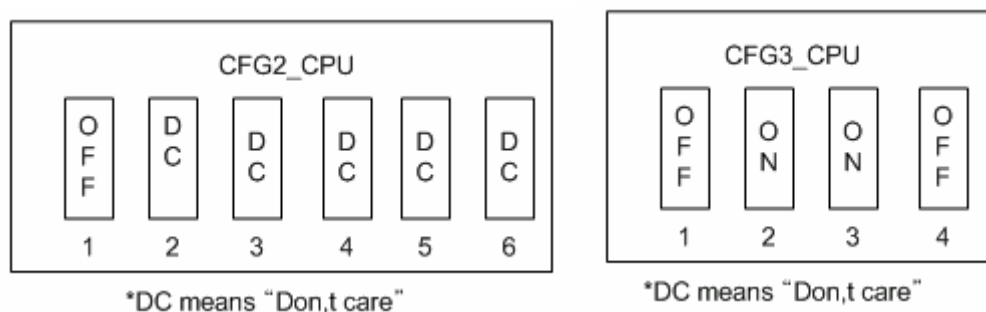


Figure 6-1 Jumper Setting for crystal

3. Set the Jumpers for memory type

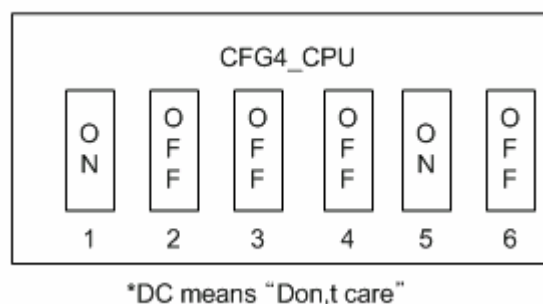


Figure 6-2 Jumper Setting for SDR Memory

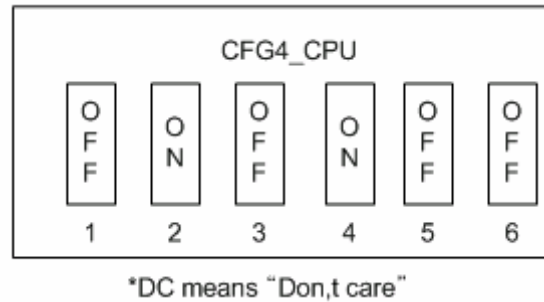


Figure 6-3 Jumper Setting for DDR Memory

* NOTE : After set memory type jumper, check memory config which is defined is correct in platform\smdk2450\src\inc\s3c2450.inc file

- Set the Jumpers on SMDK2450 board as shown below for AMD flash boot

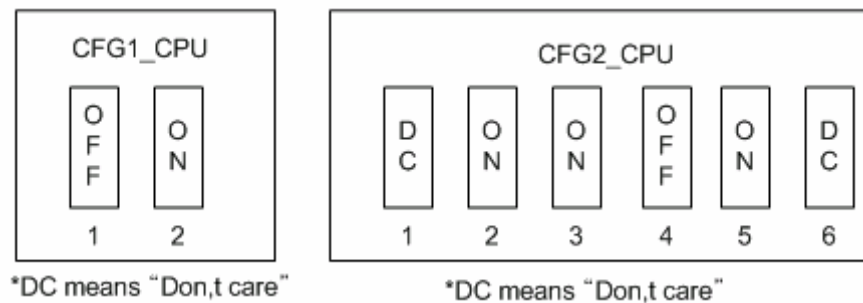


Figure 6-4 Switch Setting on CPU board for AMD flash boot

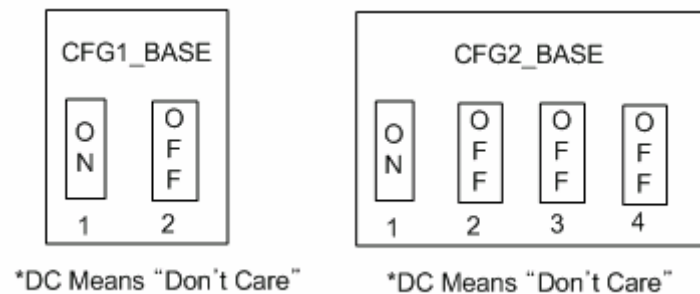


Figure 6-5 Switch Setting on Base board for NandAccess

- Please install the USB Driver and DNW application on your host PC.

6. Run **dnw.exe** on the host PC. The following window appears on your screen.

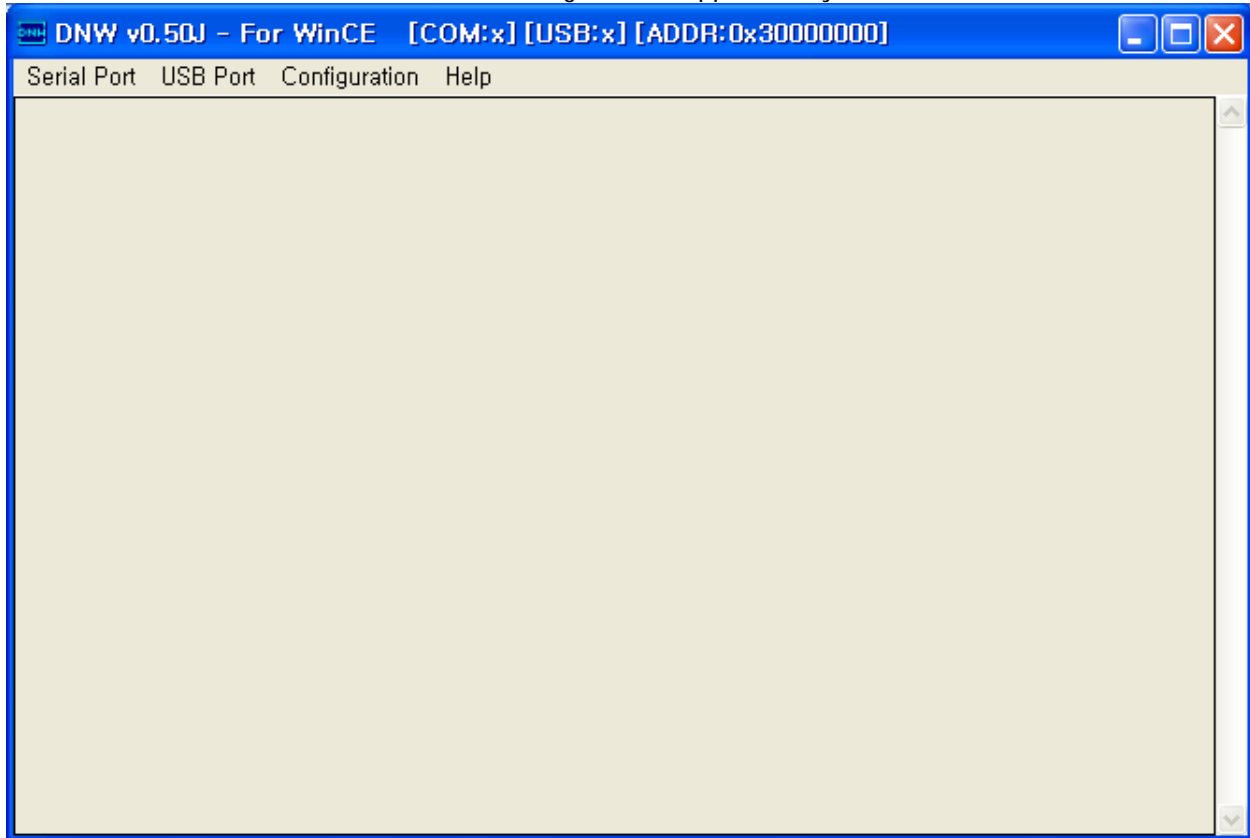


Figure 6-6 DNW Window

7. On the **Configuration** menu, click **Options** to set the UART/USB options. The following window appears on your screen. Select Baud Rate and COM Port as shown in figure 6-7, enter the download address as **0x30038000** and then click **OK** button.

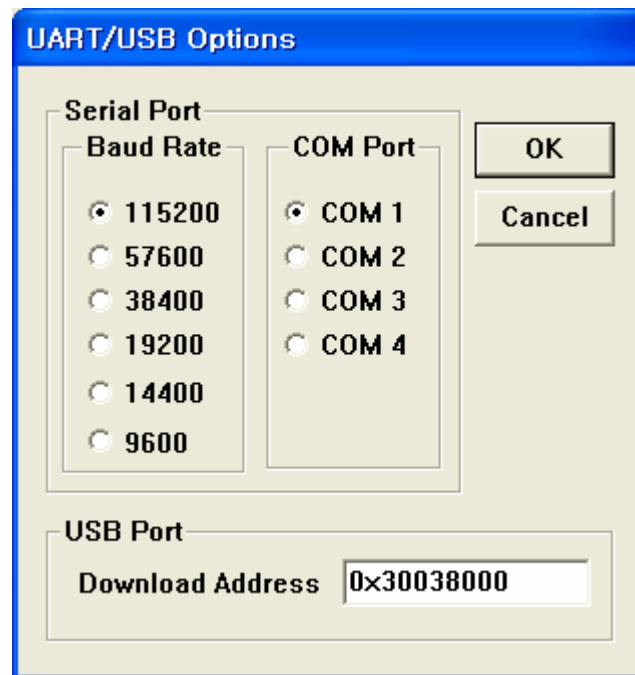


Figure 6-7 UART/USB Options

8. On the Serial Port menu, click Connect. Switch ON the reference board. The DNW window appears as shown in figure 6-8.

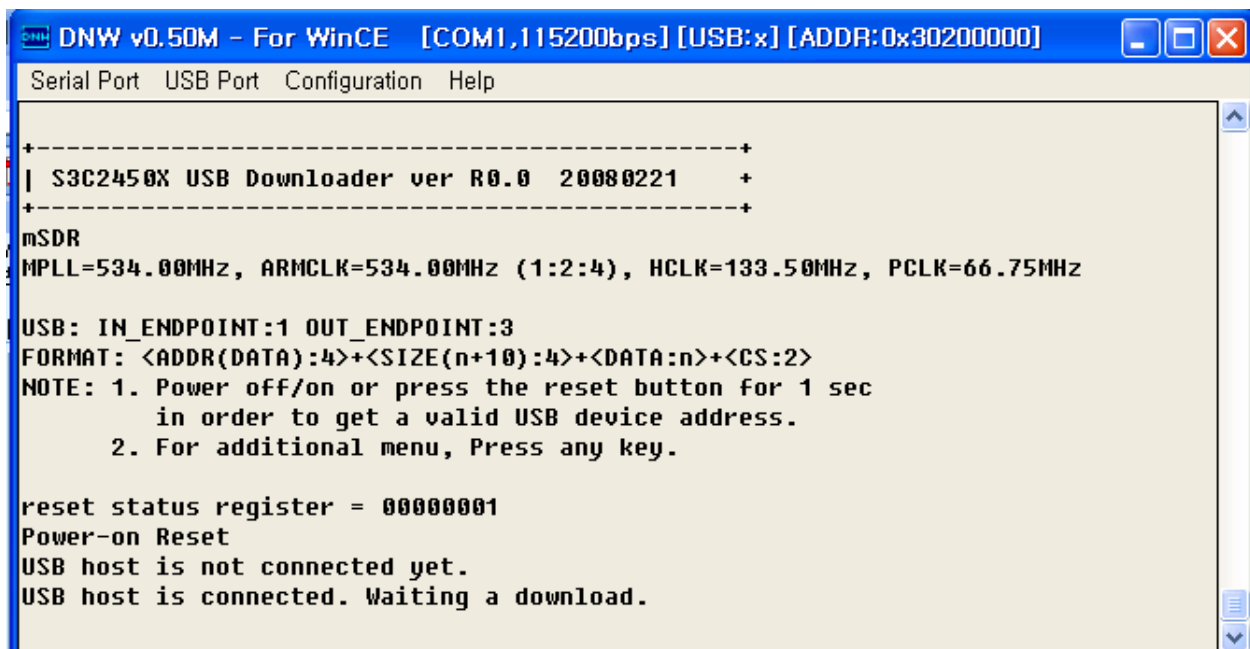


Figure 6-8 DNW Window after Board Power ON

9. On the USB Port menu, click Transmit and the following window appears on your screen. Select EBOOT.nb0 file from X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

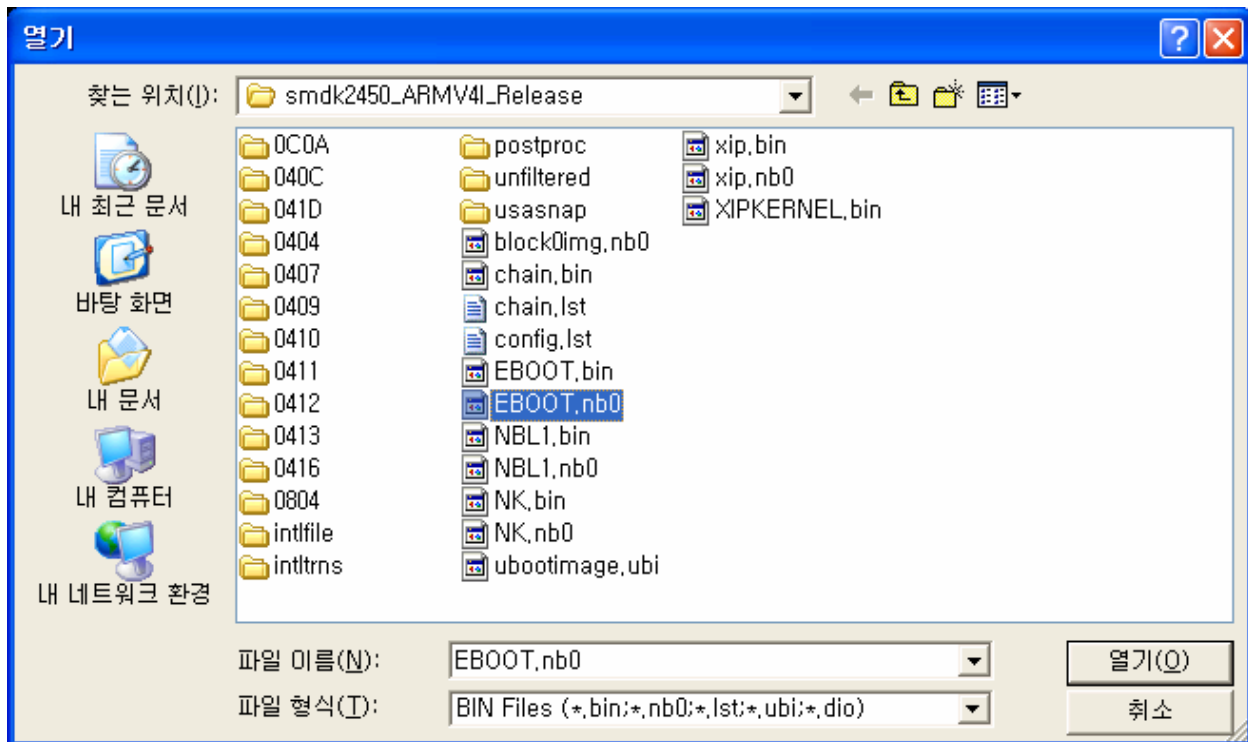


Figure 6-9 Selecting EBOOT.nb0 for Download

10. As soon as EBOOT.nb0 download is over, the following messages appear in the DNW window.

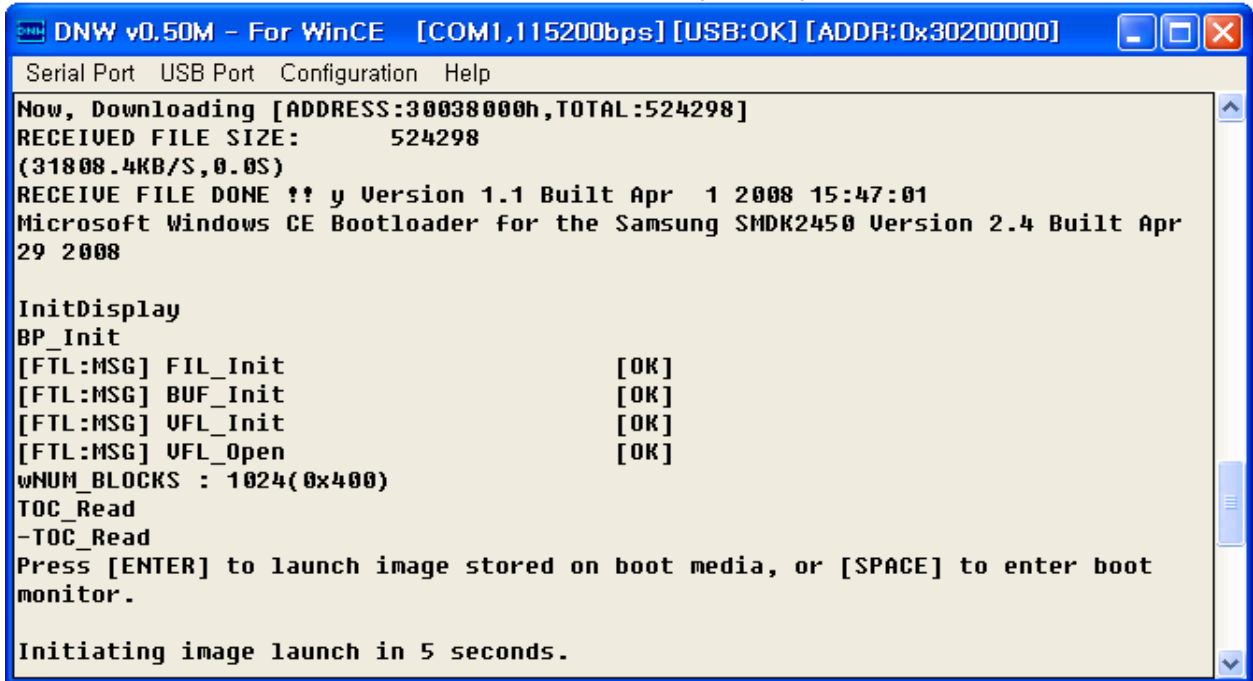


Figure 6-10 After EBOOT.nb0 Download

11. Please hit the **SPACE BAR** key to view the current Boot Loader Configuration. Configure the Ethernet Boot loader as follows by entering the respective options:

- Enter [6] to make Program disk Image into Nand Flash: **ENABLED**
- Enter [W] to Write Configuration Right Now
- Enter [A] to Format FIL (Erase All Blocks)

```

DNW v0.50M - For WinCE [COM1,115200bps] [USB:OK] [ADDR:0x30200000]
Serial Port USB Port Configuration Help
1) Subnet mask: 255.255.255.0
2) DHCP: Disabled
3) Boot delay: 5 seconds
4) Reset to factory default configuration
5) Startup image: LAUNCH EXISTING
6) Program disk image into NAND Flash: Enabled
7) Program CS8900 MAC address (00.00.00:00:00:00)
8) Kernel Debugger: ENABLED
A) Format FIL (Erase All Blocks)
B) Format UFL (Format FIL + UFL Format)
C) Format FTL (Erase FTL Area + FTL Format)
E) Erase Physical Block 0
F) Make Initial Bad Block Information (Warning)
T) MLC Low level test
D) Download image now
L) LAUNCH existing Boot Media image
R) Read Configuration
U) DOWNLOAD image now(USB)
W) Write Configuration Right Now
a
++Format FIL (Erase All Blocks)
[WMR ] ++WMR_Format_FIL()
[WMR:INF] WMR_Format_FIL() : Initial Bad @ 1st plane of Block 778
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 878
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 885
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 906
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 917
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 949
[WMR:INF] WMR_Format_FIL() : All Block in the Bank 0 Erased
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 488
[WMR:INF] WMR_Format_FIL() : All Block in the Bank 1 Erased
[WMR:INF] WMR_Format_FIL() : All Block Erased including Block 0 !!!
[WMR ] --WMR_Format_FIL()
[INF] You can not use UFL before Format UFL
--Format FIL (Erase All Blocks)

Ethernet Boot Loader Configuration:

0) IP address: 0.0.0.0
1) Subnet mask: 255.255.255.0
  
```

Figure 6-11 Boot Loader Configurations

12. Reboot SMDK board. Retry to download Eboot.nb0 image. You can see following Message.

```

DNW v0.50M - For WinCE [COM1,115200bps] [USB:OK] [ADDR:0x30200000]
Serial Port USB Port Configuration Help
USB host is not connected yet.
USB host is connected. Waiting a download.

Now, Downloading [ADDRESS:30038000h,TOTAL:524298]
RECEIVED FILE SIZE: 524298
(31580.4KB/S,0.0S)
RECEIVE FILE DONE !! BP_Init
[FTL:MSG] FIL_Init [OK]
[FTL:MSG] BUF_Init [OK]
[FTL:MSG] VFL_Init [OK]
[FTL:MSG] Not Formated ?
[FTL:MSG] VFL_Format [OK]
[FTL:MSG] Write Signature [OK]
[FTL:MSG] VFL_Open [OK]
wNUM_BLOCKS : 1024(0x400)
TOC_Read
TOC_Read ERROR: INVALID_TOC Signature: 0xFFFFFFFF
TOC_Init: dwEntry:1, dwImageType: 0x2, dwImageStart: 0x0, dwImageLength: 0x0,
dwLaunchAddr: 0x0
+BootConfigInit
-BootConfigInit
TOC {
dwSignature: 0x434F544E
BootCfg {
ConfigFlags: 0x2020
BootDelay: 0x5
ImageIndex: 1
IP: 0.0.0.0
MAC Address: 00:00:00:00:00:00
Port: 0.0.0.0
SubnetMask: 255.255.255.0
}
ID[0] {
dwVersion: 0x20004
dwSignature: 0x45424F54
String: 'eboot.nb0'
dwImageType: 0x2
dwTtlSectors: 0x400
dwLoadAddress: 0x80038000
dwJumpAddress: 0x80038000
dwStoreOffset: 0x0
sgList[0].dwSector: 0x1800
sgList[0].dwLength: 0x400
}
ID[1] {
dwVersion: 0x1
dwSignature: 0x43465348
String: ''
dwImageType: 0x2
dwTtlSectors: 0x0
dwLoadAddress: 0x0
dwJumpAddress: 0x0
dwStoreOffset: 0x0
}
chainInfo.dwLoadAddress: 0X00000000
chainInfo.dwFlashAddress: 0X00000000
chainInfo.dwLength: 0X00000000
}
Press [ENTER] to download image stored on boot media, or [SPACE] to enter boot

```

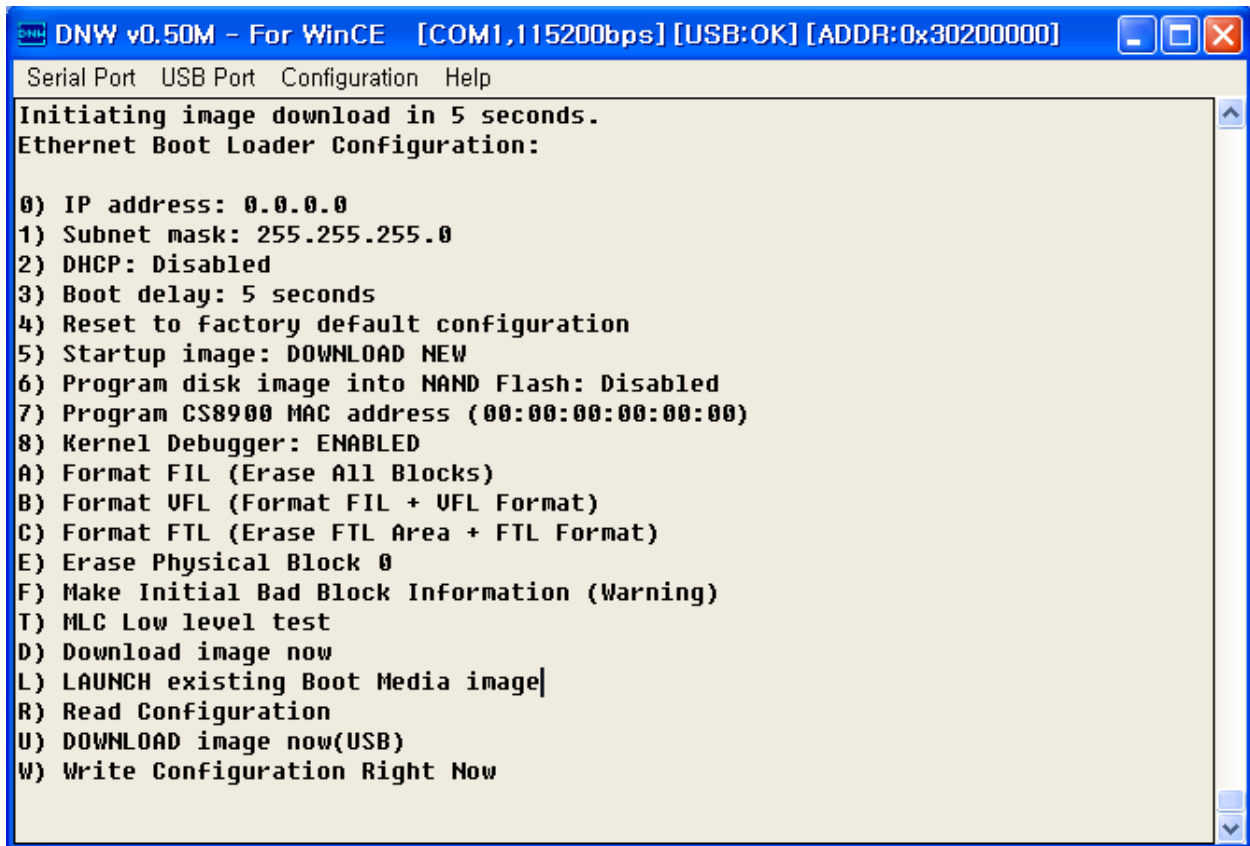


Figure 6-12 Boot Loader Status after format

13. Please hit the SPACE BAR key to view the current Boot Loader Configuration. Configure the Ethernet Boot loader as follows by entering the respective options:

- Enter [6] to make Program disk Image into Nand Flash: **ENABLED**
- Enter [5] to make Startup image: LAUNCH EXISTING
- Enter [W] to Write Configuration Right Now
- Enter [U] to Download image now(USB)

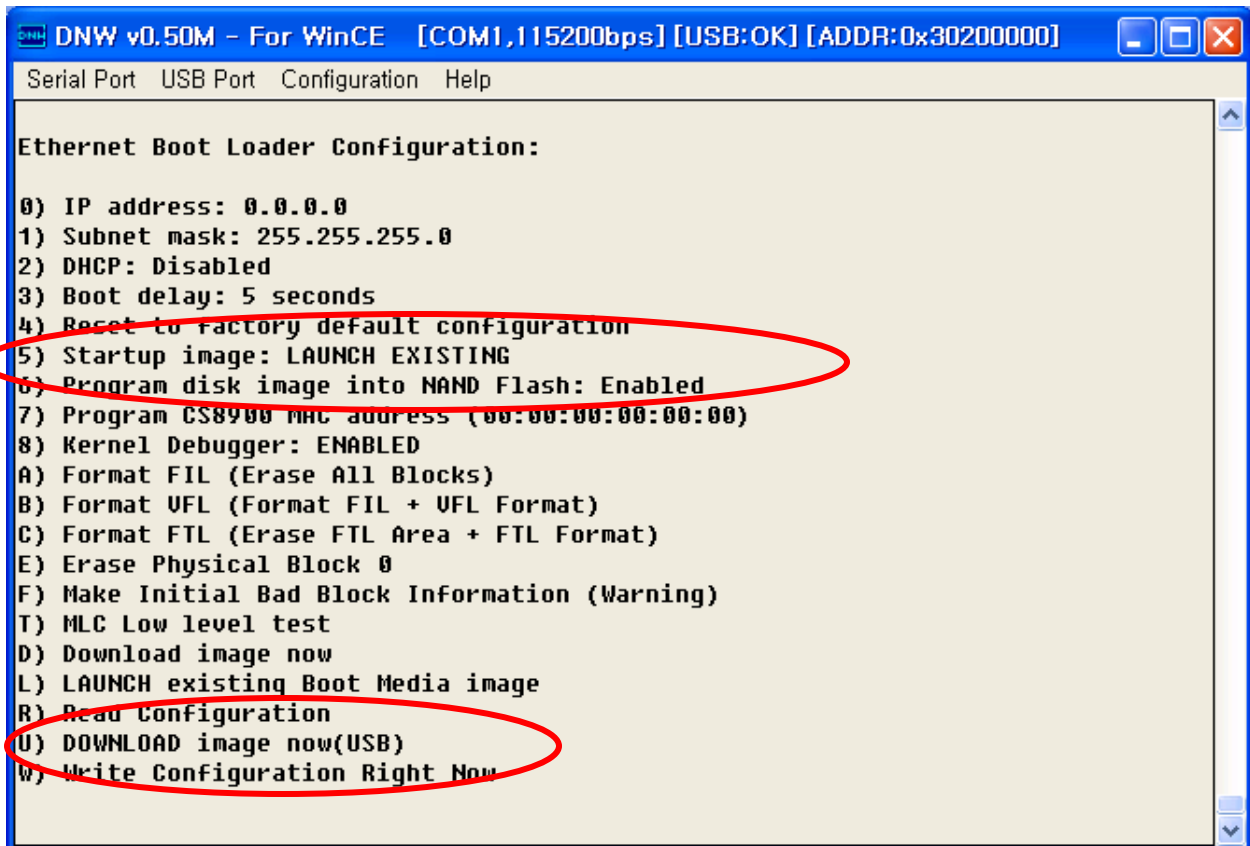


Figure 6-13 Boot Loader configurations

14. On the USB Port menu click UBOOT and the following window appears on your screen. Select block0img.nb0 from
X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

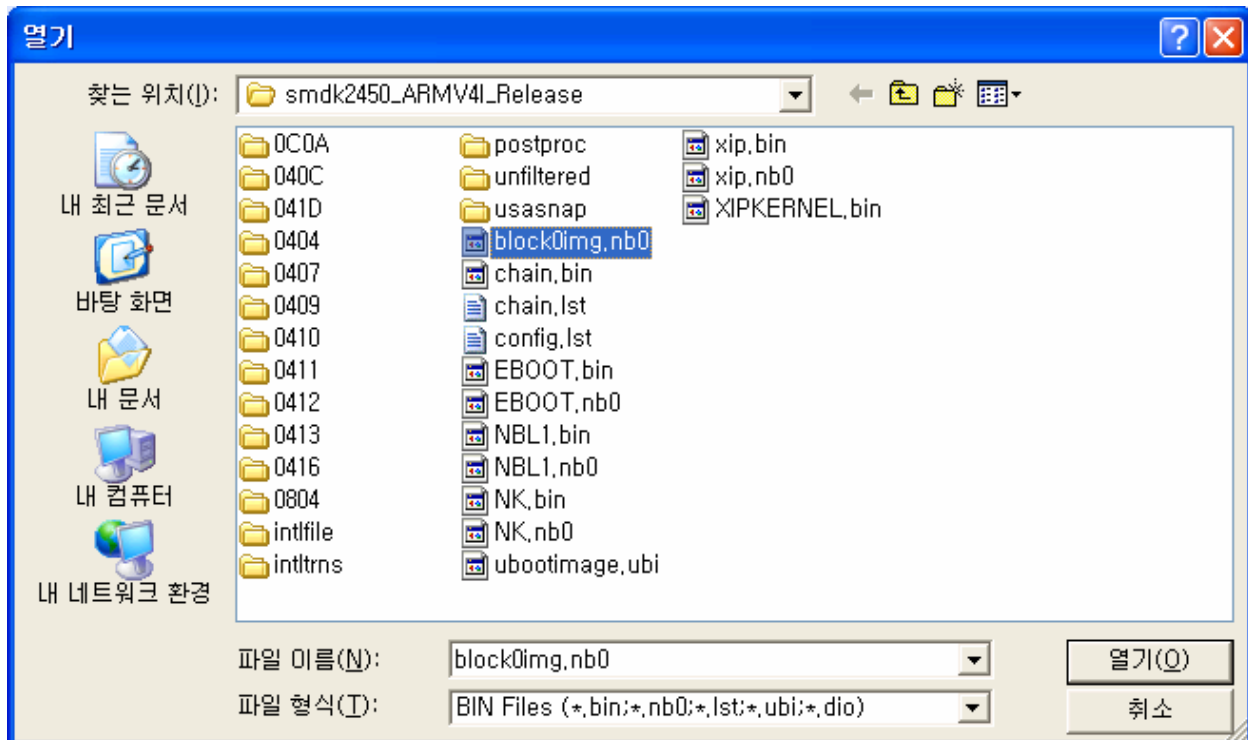


Figure 6-14 Selecting block0img.nb0 for Download

15. You can see the following messages on the DNW window after block0img.nb0 download is over.

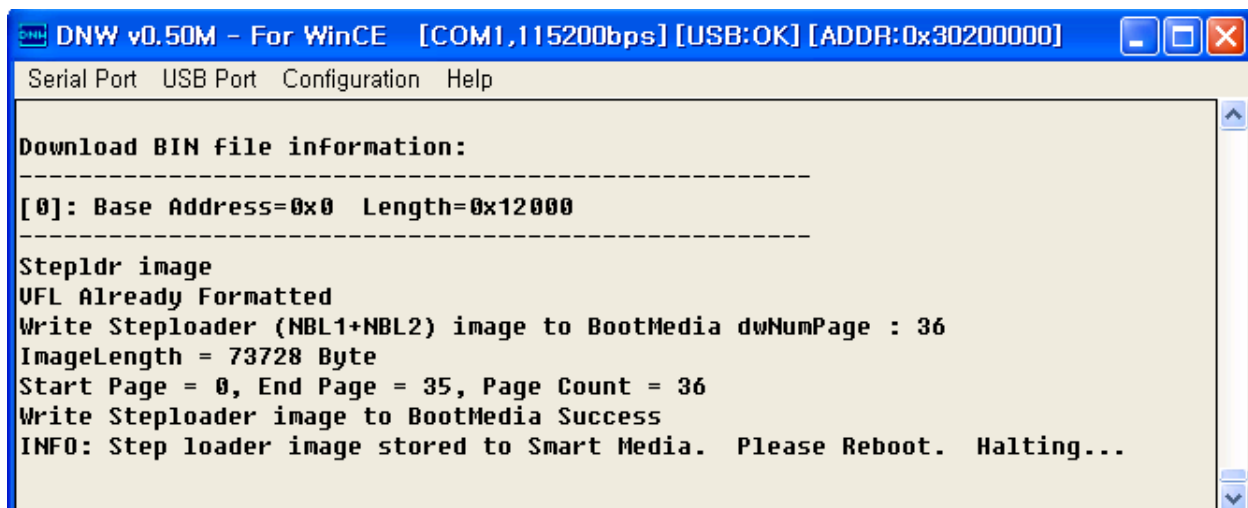


Figure 6-15 Messages via UART Port after block0img.nb0 Download

Reset the board and repeat step 6 to 8. Configure the USB Boot loader as follows by entering the respective options:

- Enter [U] to Download image now(USB)

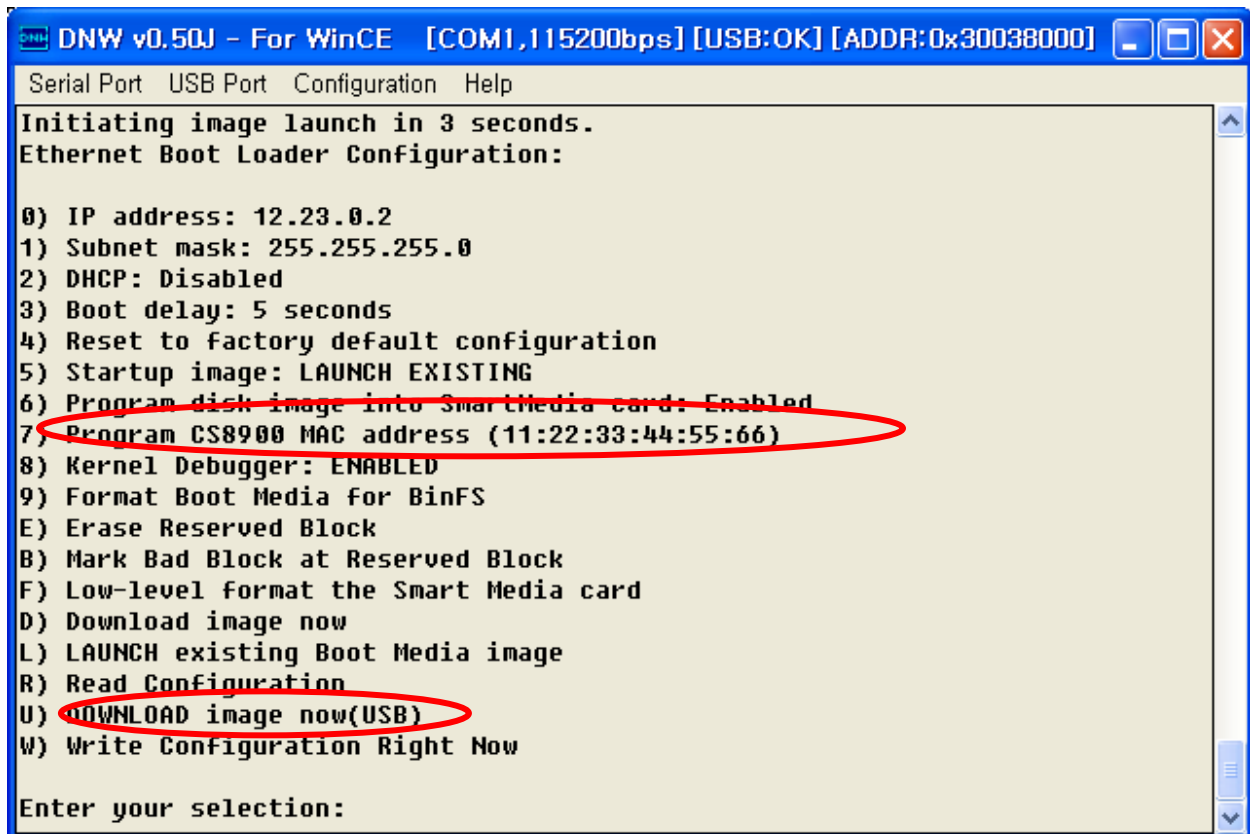


Figure 6-16 USB Boot Loader Configurations

16. On the USB Port menu click UBOOT and the following window appears on your screen. Select Eboot.bin from X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

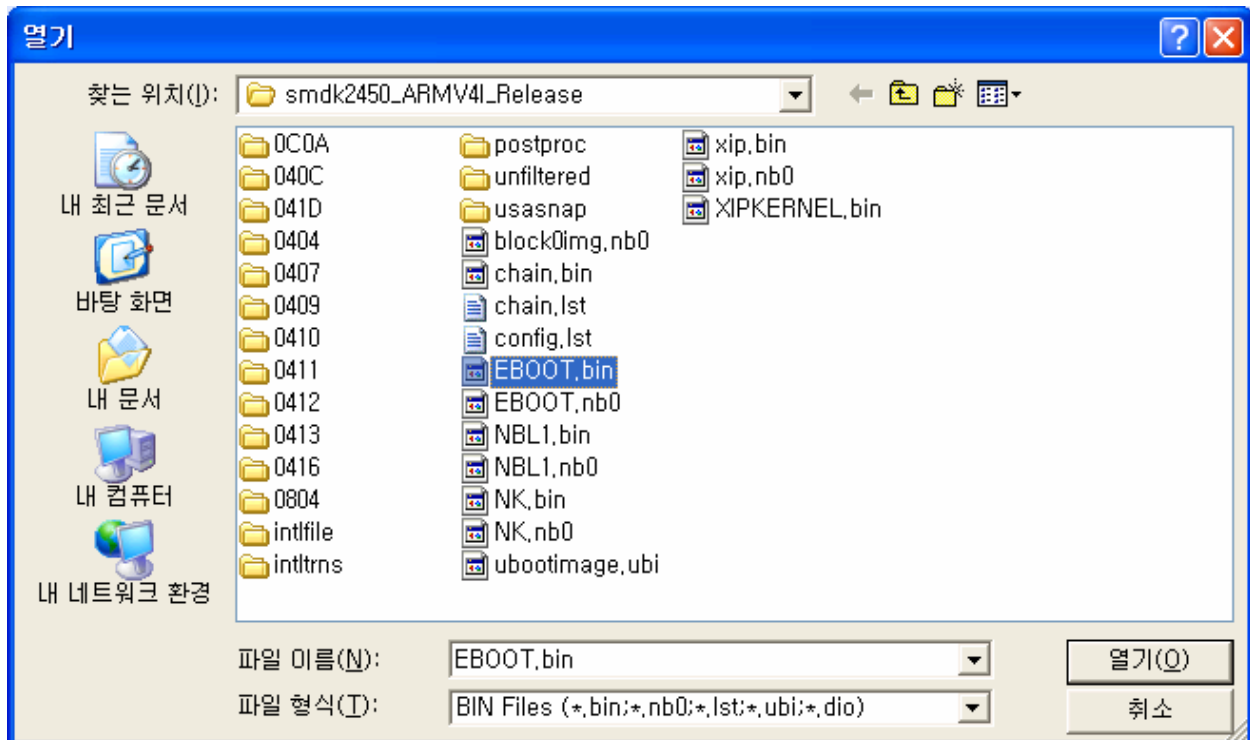


Figure 6-17 Selecting EBOOT.bin for Download

17. You can see the following messages on the DNW window after Eboot.bin download is over.

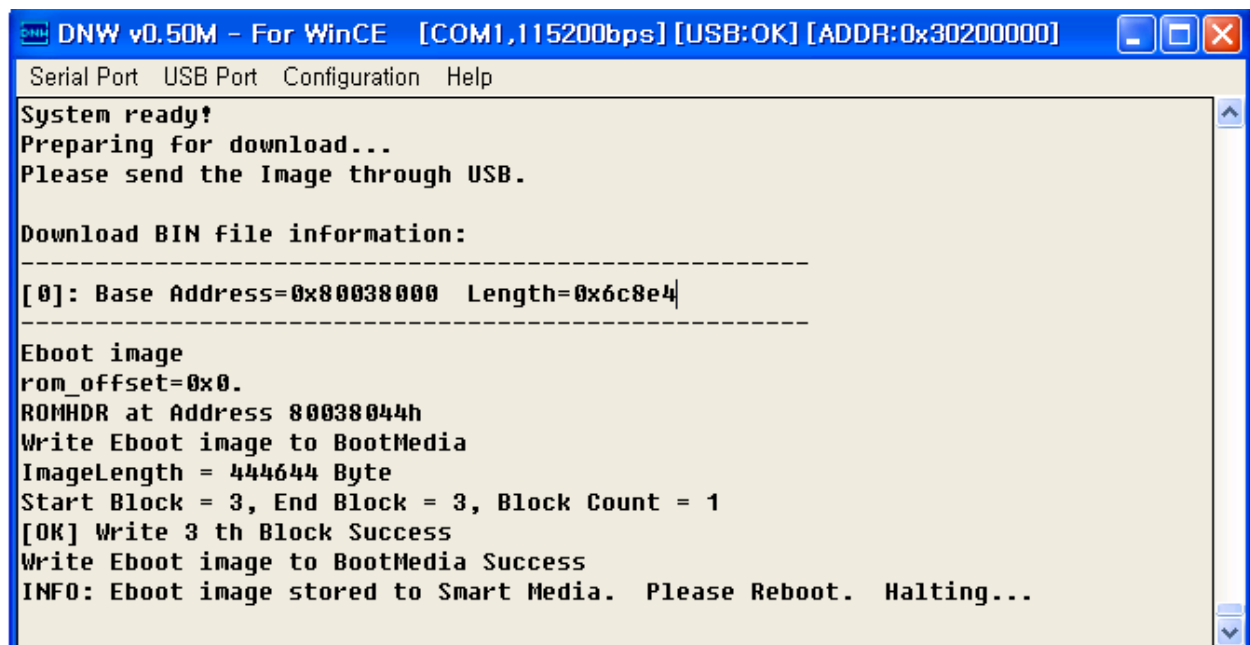


Figure 6-18 Messages via UART Port after eboot.bin Download

18. Reset the board and repeat step 6 to 8. Configure the Ethernet Boot loader as follows by entering the respective options:

- Enter [6] to make Program disk Image into Nand Flash: **ENABLED**
- Enter [5] to make Startup image: **LAUNCH EXISTING**
- Enter [W] to Write Configuration Right Now
- Enter [U] to Download image now(USB)

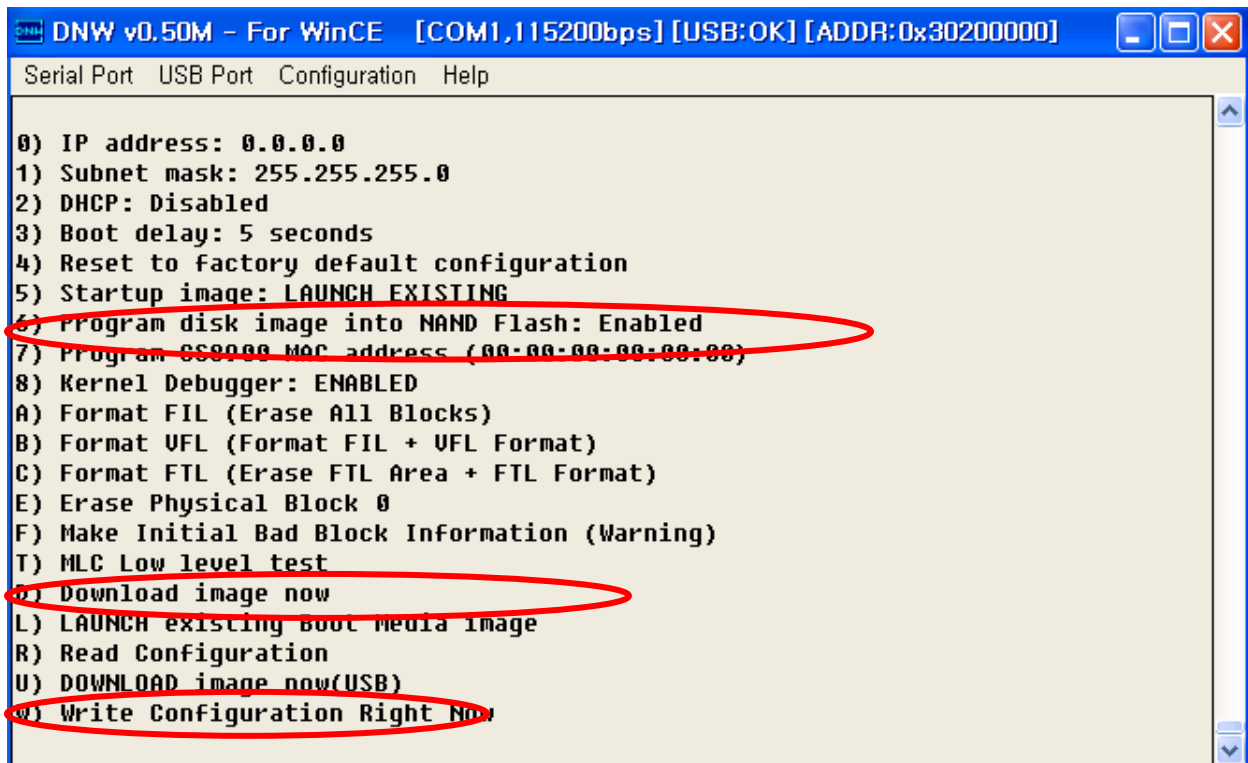


Figure 6-19 USB Boot Loader Configurations

19. On the USB Port menu click UBOOT(WINCE500) and the following window appears on your screen. Select chain.lst from X:\WINCE500\PBWorkspaces\[platform name]\ReIDir\smdk2450_ARMV4I_Release directory and then click Open button.

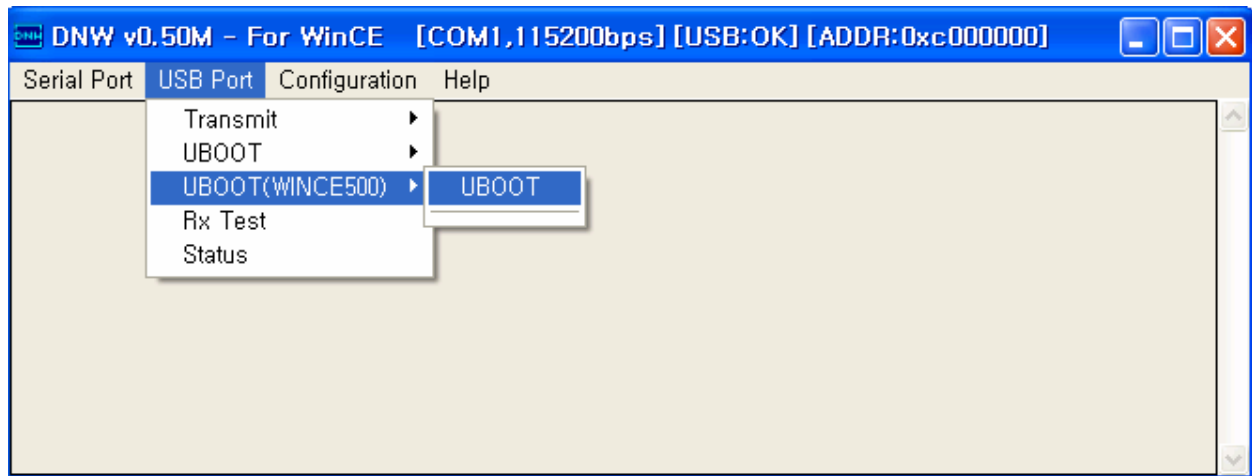


Figure 6-20 Selecting UBOOT(WINCE500)

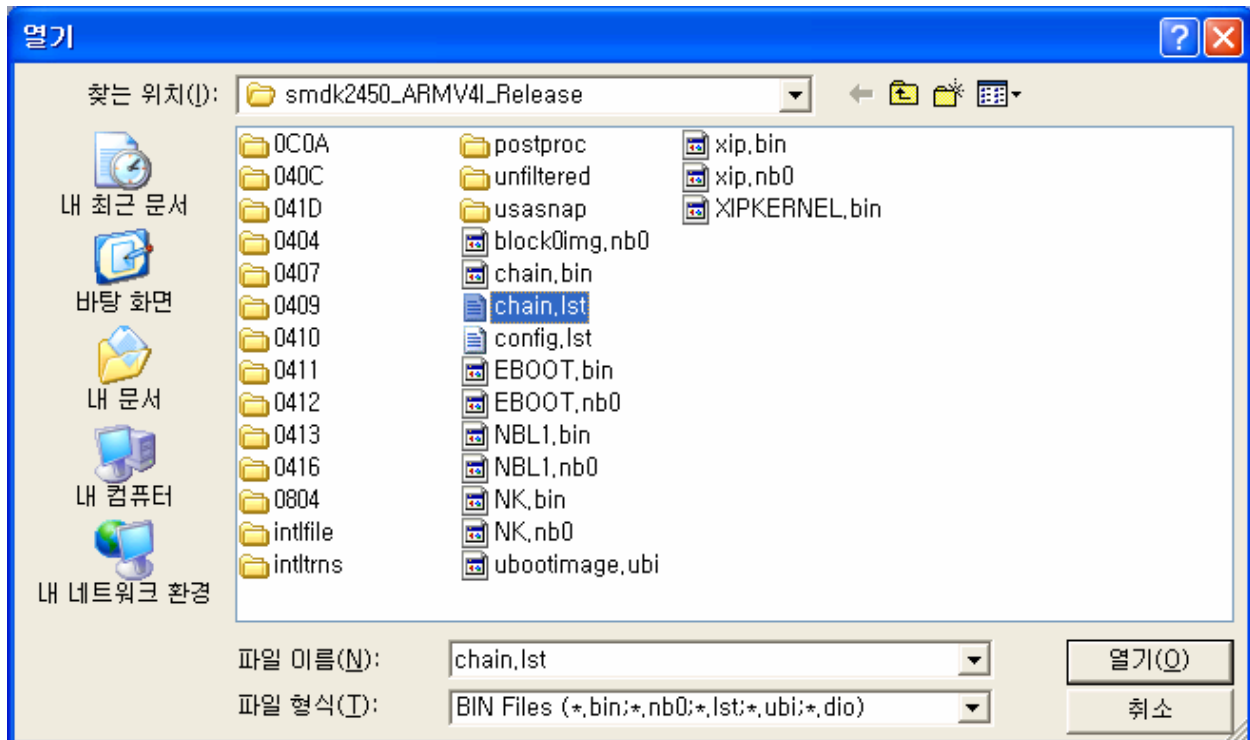


Figure 6-21 Selecting Chain.lst for Download

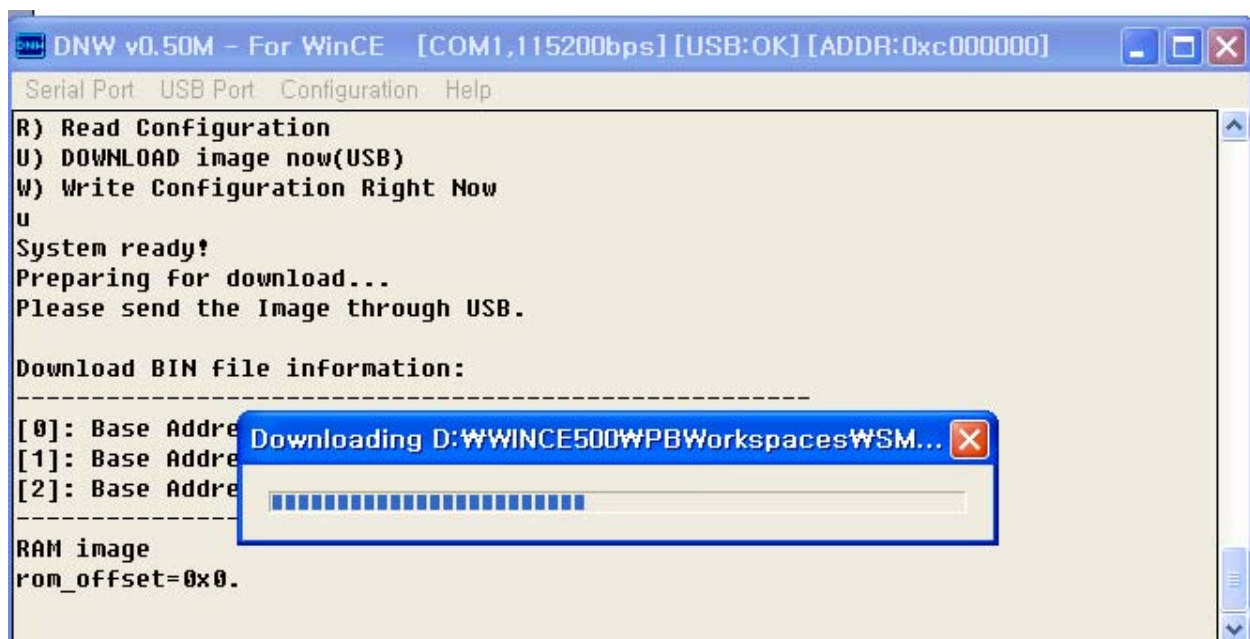
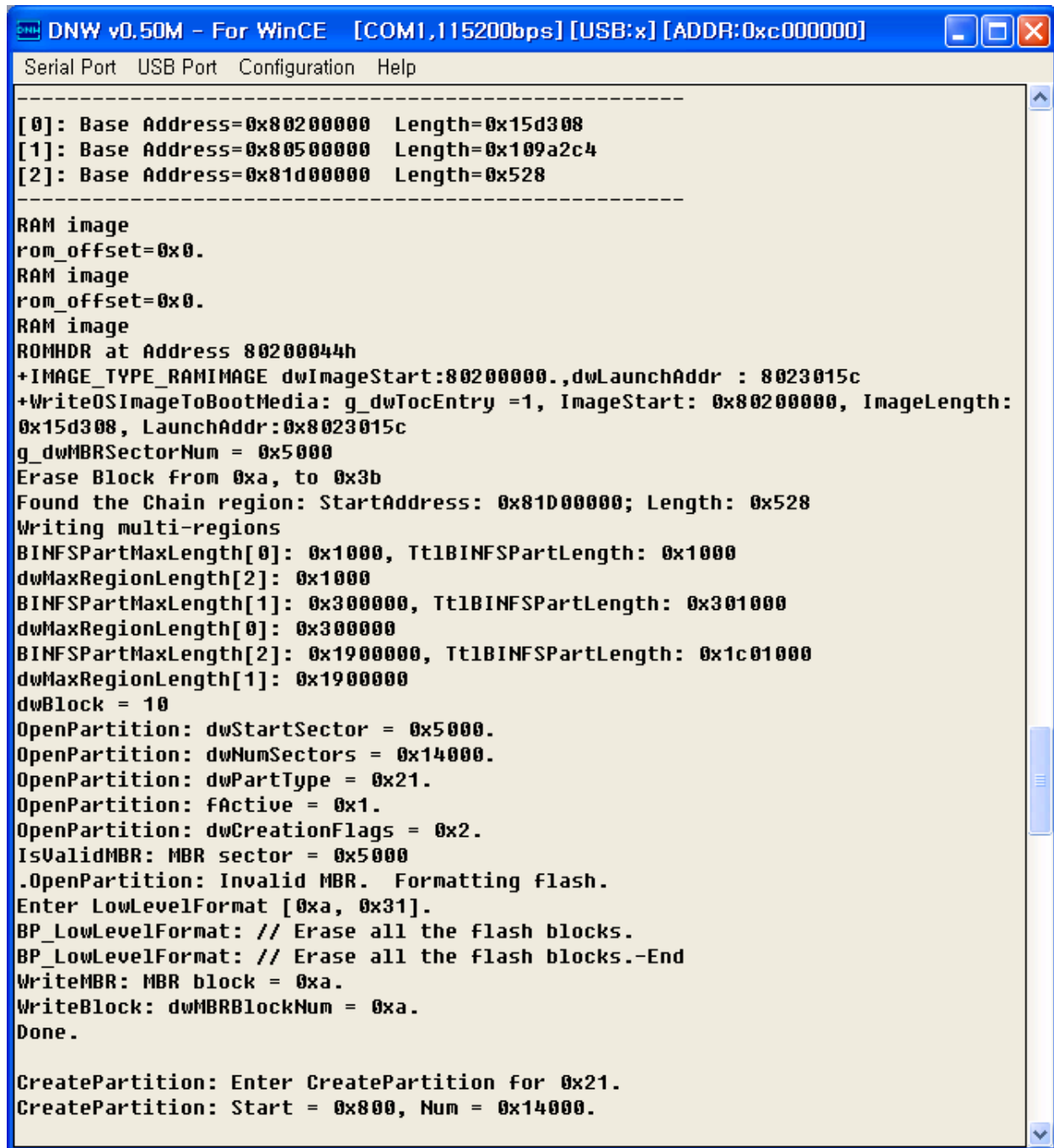


Figure 6-22 Messages via UART Port during Chain.lst Download



The screenshot shows a window titled "DNW v0.50M - For WinCE" with a menu bar containing "Serial Port", "USB Port", "Configuration", and "Help". The main text area displays the following messages:

```

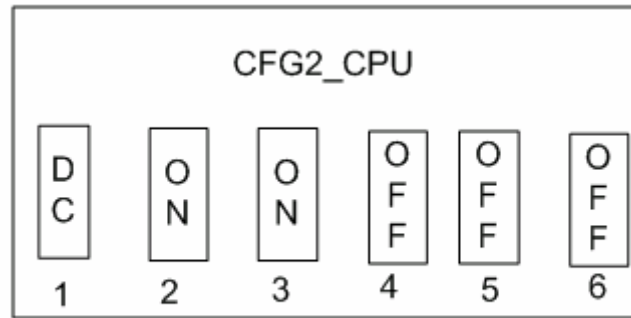
-----
[0]: Base Address=0x80200000 Length=0x15d308
[1]: Base Address=0x80500000 Length=0x109a2c4
[2]: Base Address=0x81d00000 Length=0x528
-----

RAM image
rom_offset=0x0.
RAM image
rom_offset=0x0.
RAM image
ROMHDR at Address 80200044h
+IMAGE_TYPE_RAMIMAGE dwImageStart:80200000.,dwLaunchAddr : 8023015c
+WriteOSImageToBootMedia: g_dwTocEntry =1, ImageStart: 0x80200000, ImageLength:
0x15d308, LaunchAddr:0x8023015c
g_dwMBRSectorNum = 0x5000
Erase Block from 0xa, to 0x3b
Found the Chain region: StartAddress: 0x81D00000; Length: 0x528
Writing multi-regions
BINFSPartMaxLength[0]: 0x1000, Tt1BINFSPartLength: 0x1000
dwMaxRegionLength[2]: 0x1000
BINFSPartMaxLength[1]: 0x300000, Tt1BINFSPartLength: 0x301000
dwMaxRegionLength[0]: 0x300000
BINFSPartMaxLength[2]: 0x1900000, Tt1BINFSPartLength: 0x1c01000
dwMaxRegionLength[1]: 0x1900000
dwBlock = 10
OpenPartition: dwStartSector = 0x5000.
OpenPartition: dwNumSectors = 0x14000.
OpenPartition: dwPartType = 0x21.
OpenPartition: fActive = 0x1.
OpenPartition: dwCreationFlags = 0x2.
IsValidMBR: MBR sector = 0x5000
.OpenPartition: Invalid MBR. Formatting flash.
Enter LowLevelFormat [0xa, 0x31].
BP_LowLevelFormat: // Erase all the flash blocks.
BP_LowLevelFormat: // Erase all the flash blocks.-End
WriteMBR: MBR block = 0xa.
WriteBlock: dwMBRBlockNum = 0xa.
Done.

CreatePartition: Enter CreatePartition for 0x21.
CreatePartition: Start = 0x800, Num = 0x14000.
  
```

Figure 6-23 Messages via UART Port after fusing chain.lst

20. You can see the following messages on the DNW window during Chain.bin download. After Chain.bin download is over, Windows CE 5.0 boots on the target Board. Power OFF the board and Set CFG jumpers on the 2450 evaluation board as below.



*DC Means "Don't Care"

Figure 6-24 Switch setting for Nand Advanced NAND(page 2KB, Addr 5) card booting

21. Power ON the board and you can see Windows CE 5.0 boots on the target Board.

6.3 Building and Running MutilpleXIP OS Image - With KITL

In this chapter, you can understand how to build, download and run the OS image with KITL.

1. To enable KITL, on the **Platform** menu in the platform builder window, click **Settings...** as shown in figure 6-25.

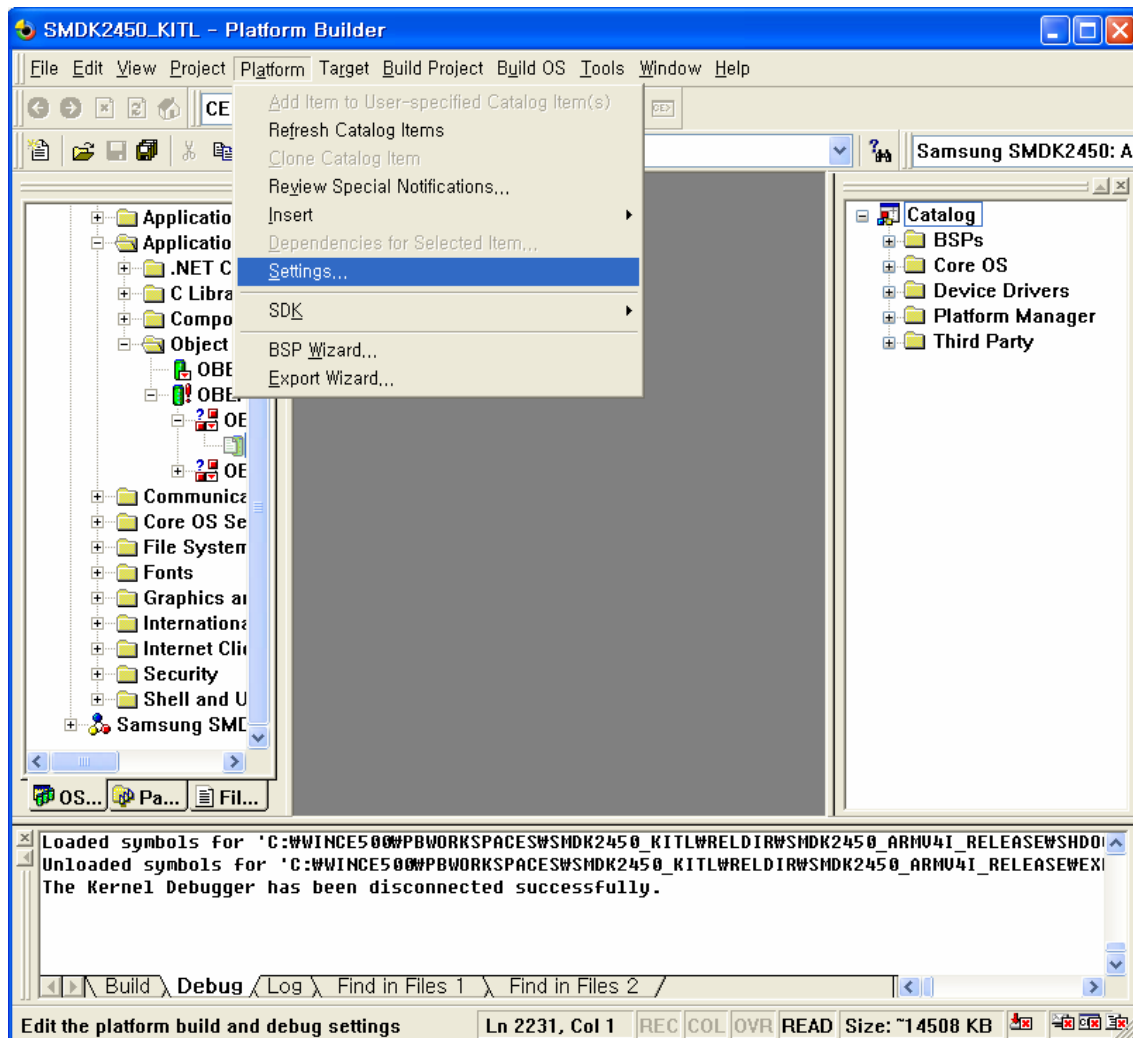


Figure 6-25 Platform Settings 1

2. The Platform Settings window appears on your screen. Select **chain.lst** on File name for run-time image.

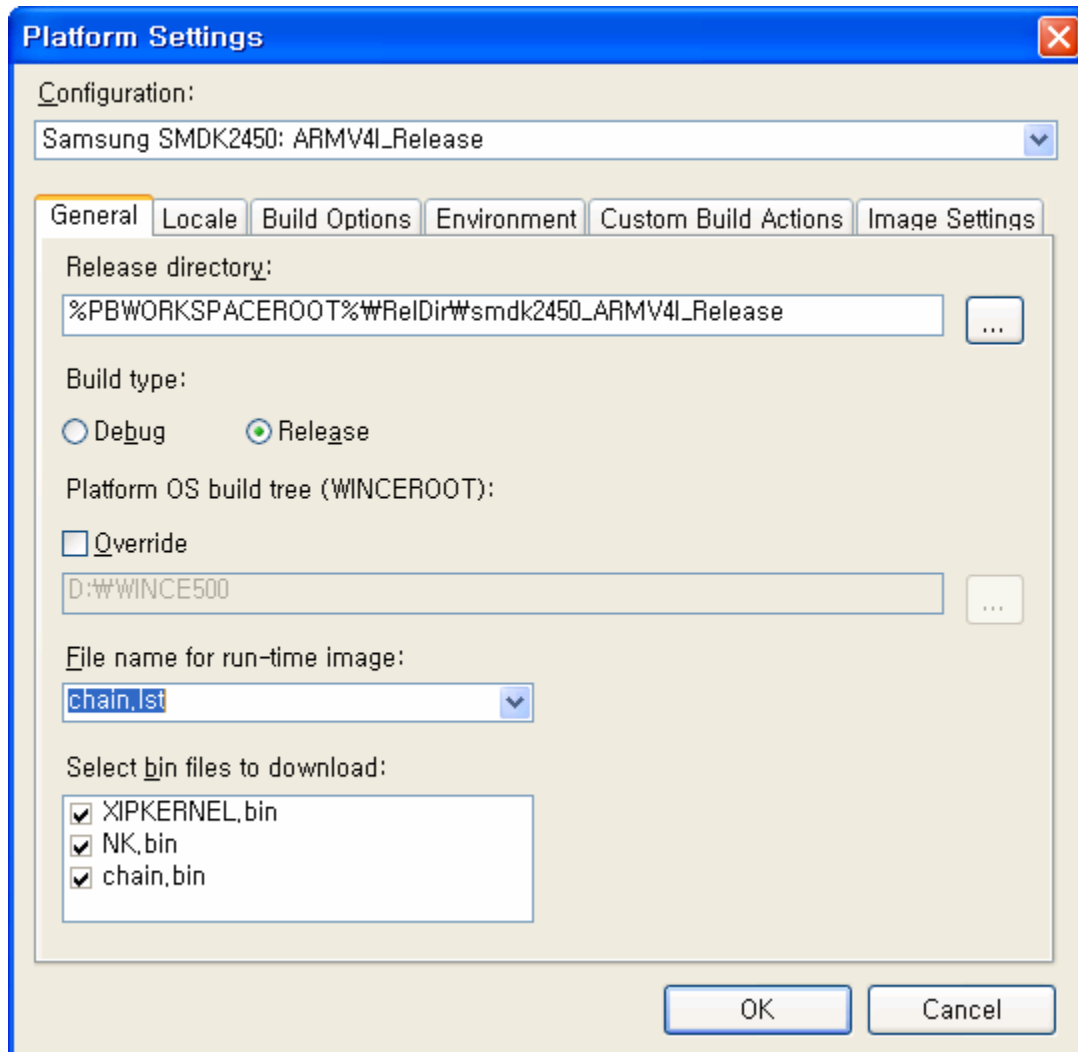


Figure 6-26 Platform Settings 2

3. The Platform Settings window appears on your screen. Check square boxes **Enable CE Target Control Support (SYSGEN_SHELL=1)** and **Enable KITL (no IMGNOKITL=1)** and **Enable Kernel Debugger(no IMGNODEBUFFER=1)** in the Build Options tab and then click OK button

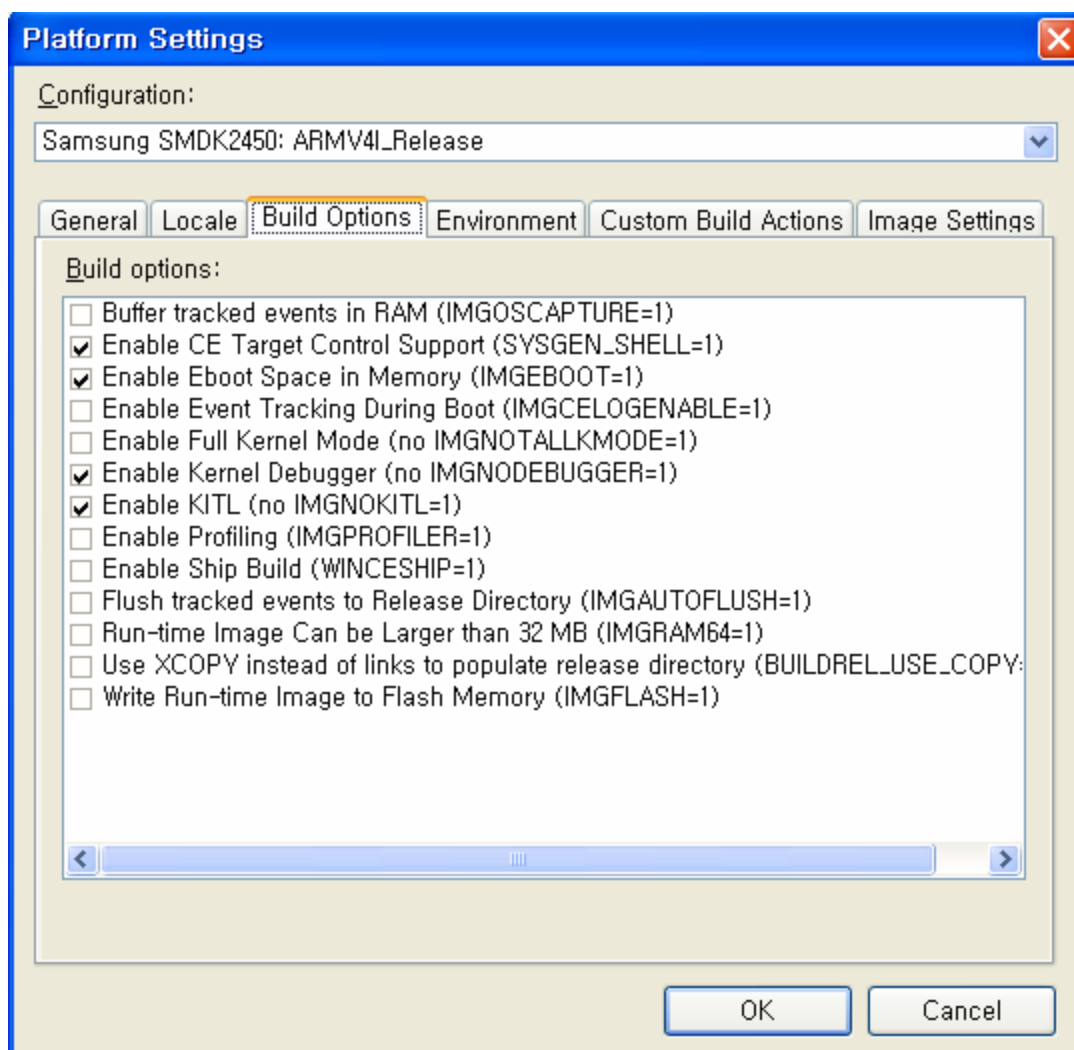


Figure 6-27 Platform Setting for KITL

6.4 USB Serial KITL

1. To enable WinCE image with USB Serial KITL, you must do the following:
 - X:\WINCE500\PLATFORM\SMDK2450\smdk2450.bat file must have the following settings.


```
set BSP_NOCS8900=
set BSP_NOSERIAL=
set BSP_NOUSBFN=1

set BSP_KITL=NONE
rem set BSP_KITL=USBSERIAL
```
2. On the Build OS menu in platform builder window, click **Build and Sysgen** as shown in figure 6-28 to build the WinCE image with USB Serial KITL.

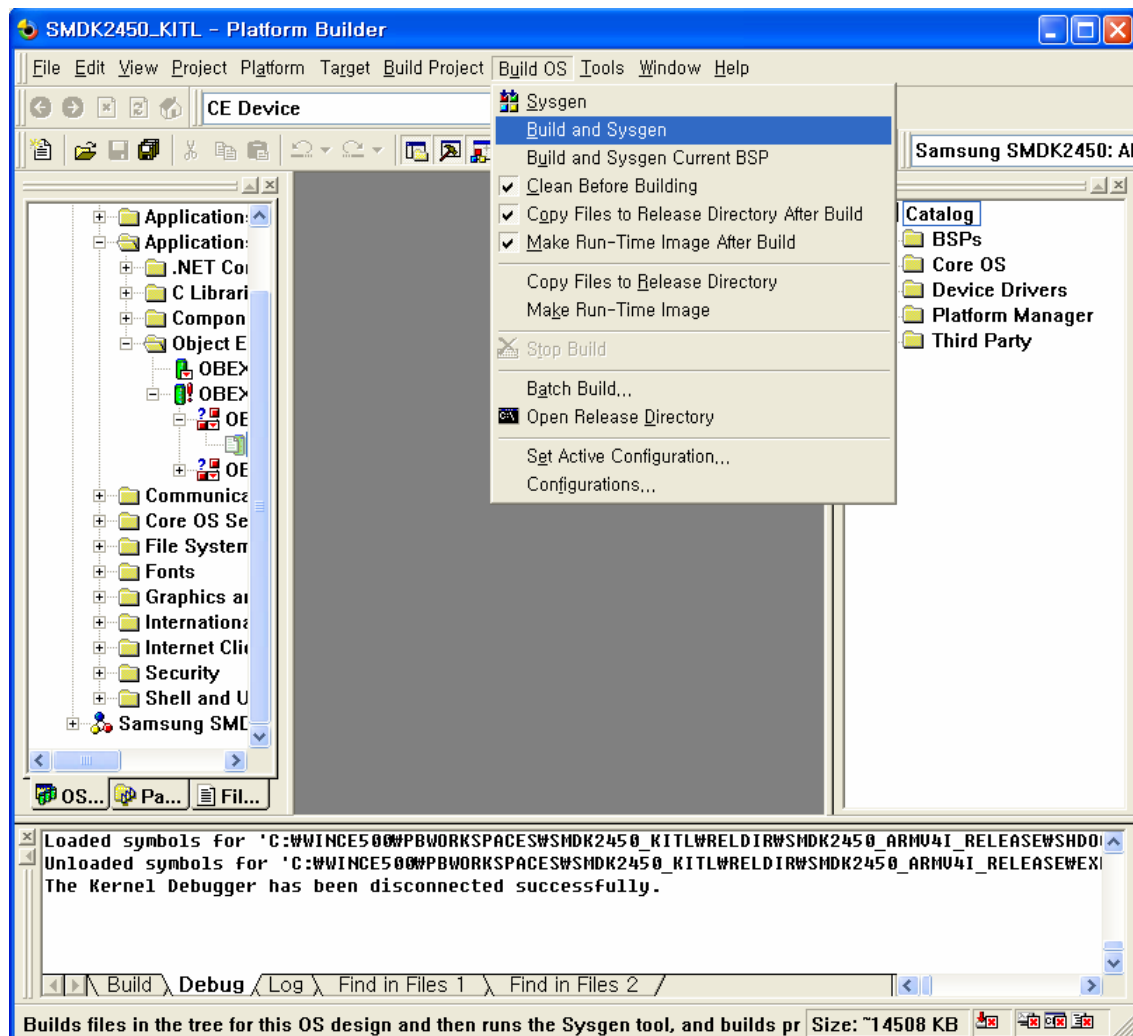


Figure 6-28 Build and Sysgen

Note: Building process may take some time depending on your system capability. So, please wait for the build process to be completed. It might take around 1 hour.

3. Change the ce.bib file in release directory

Change the region definition from NK to XIPKERNEL like as below.

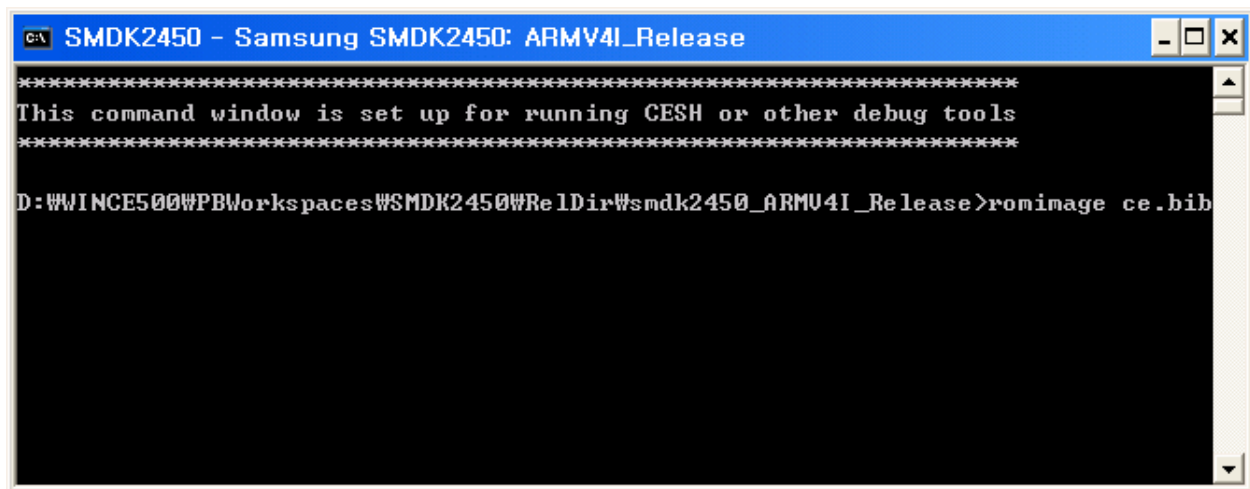
The "[ReleaseDirectory]" string can be different depends on your build environment.

```
nk.exe [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\kernkitl.exe XIPKERNEL SH
kd.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\kd.dll XIPKERNEL SH
hd.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\hd.dll XIPKERNEL SH
osaxst0.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\osaxst0.dll XIPKERNEL SH
osaxst1.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\osaxst1.dll XIPKERNEL SH

coredll.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\coredll.dll XIPKERNEL SH
fileysys.exe [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\fileysys.exe XIPKERNEL SH
binfs.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\binfs.dll XIPKERNEL SH
fsdmgr.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\fsdmgr.dll XIPKERNEL SH
mspart.dll [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\mspart.dll XIPKERNEL SH
default.fdf [ReleaseDirectory]\RelDir\smdk2450_ARMV4I_Release\default.fdf XIPKERNEL SH
```

4. Open the command window using platform builder menu [Build OS]->[Open Release Directory]

Enter the "romimage ce.bib" command



Then below files will be generated.

- Chain.bin
- Nk.bin
- Xipkernel.bin
- Chain.lst

5. On the Target menu in the Platform Builder window, click Connectivity Options... as shown below. Target Device Connectivity Options window appears on your screen. Select None from Download drop down menu box and USB from Transport drop down menu box as shown in figure 6-29.

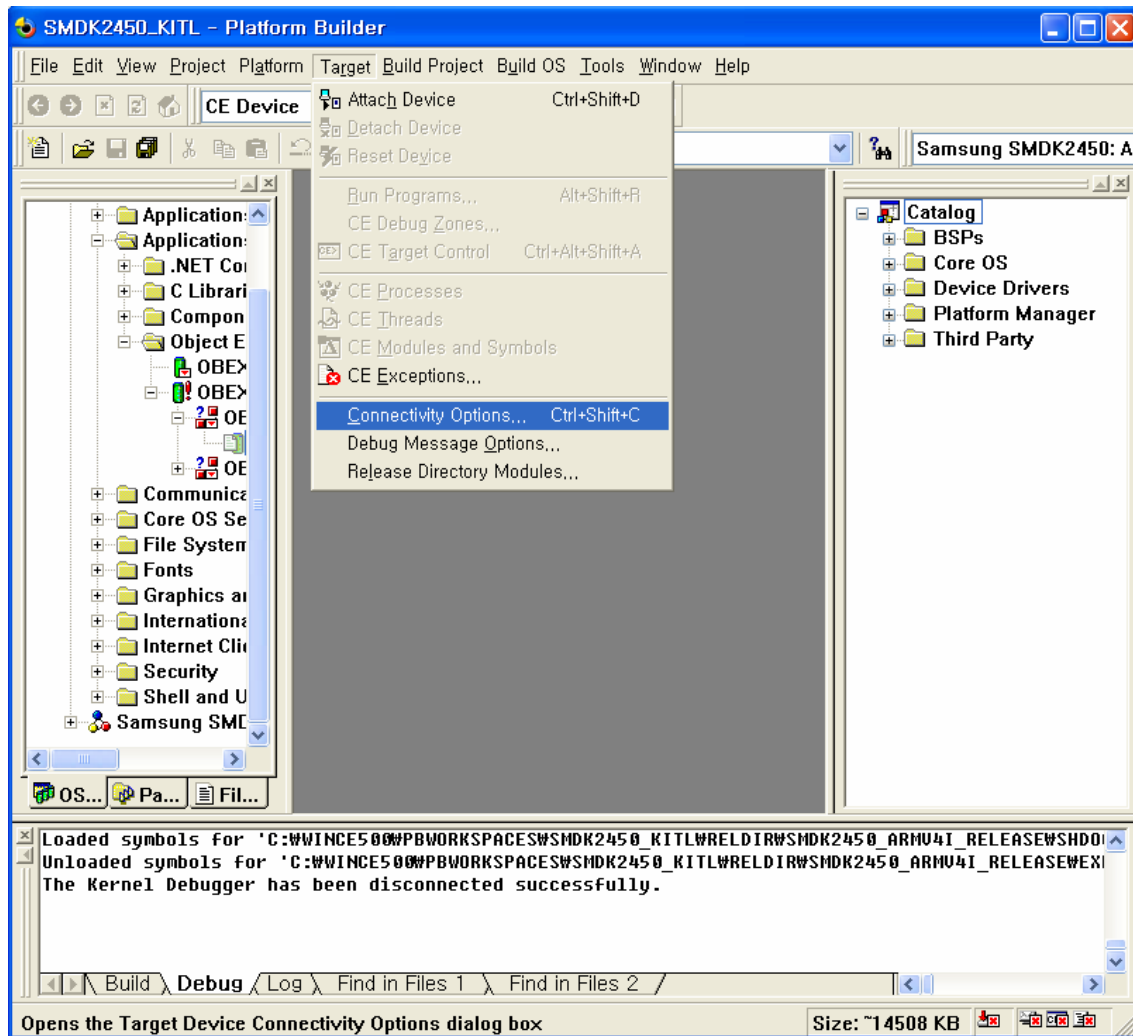


Figure 6-29 Selecting Connectivity Options

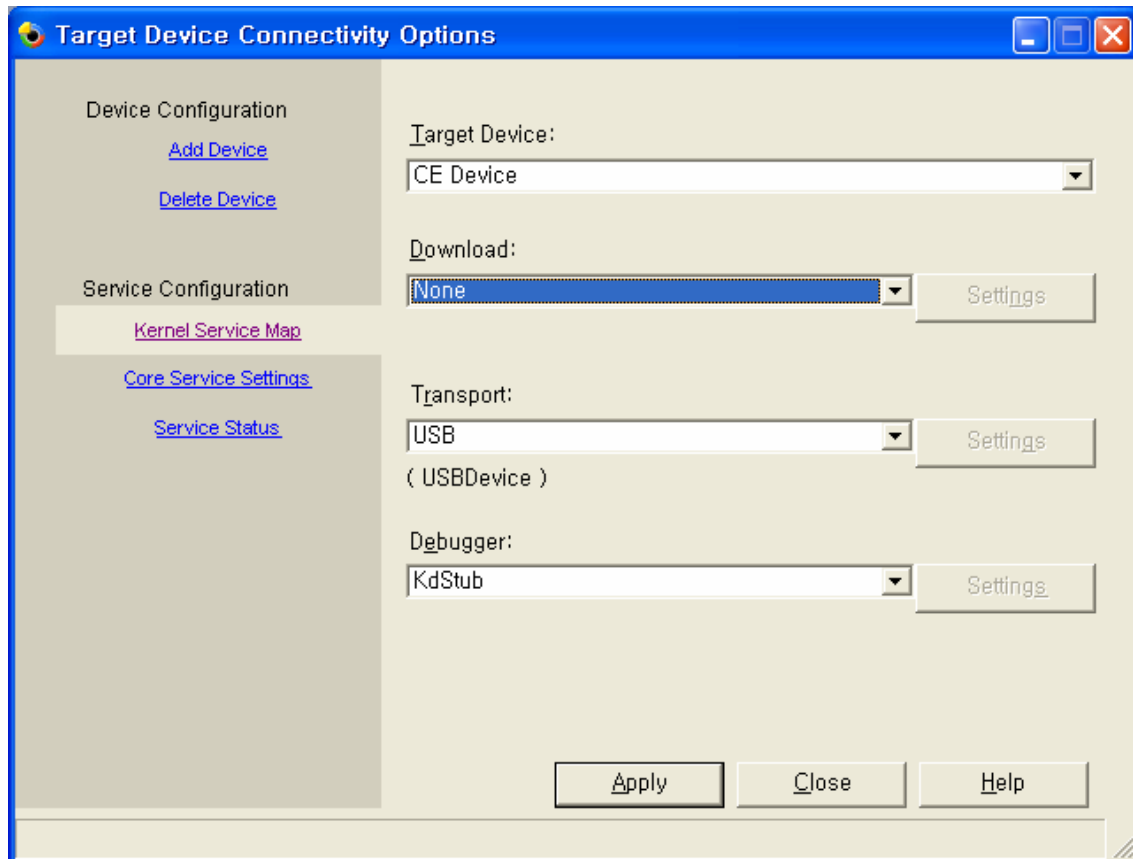


Figure 6-30 Target Device Connectivity Options Window

6. Click **Apply** button first and then click **Close** button.
7. **Disable USB connection** on PC ActiveSync Connection Manager.
8. Fuse the **chain.lst**.
9. You can see the following messages on the DNW window after Power on.

```

DNW v0.50M - For WinCE [COM1,115200bps] [USB:x] [ADDR:0x30038000]
Serial Port  USB Port  Configuration  Help
FORMAT: <ADDR(DATA):4>+<SIZE(n+10):4>+<DATA:n>+<CS:2>
NOTE: 1. Power off/on or press the reset button for 1 sec
      in order to get a valid USB device address.
      2. For additional menu, Press any key.

connected
reset status register = 00000001
Power-on Reset
USB host is not connected yet.
USB host is connected. Waiting a download.

Now, Downloading [ADDRESS:30200000h,TOTAL:27262986]
RECEIVED FILE SIZE: 27262986
(31236.1KB/S,0.9S)
RECEIVE FILE DONE !! 4 2004 at 18:25:00
ProcessorType=0926 Revision=5
sp_abt=ffff5000 sp_irq=ffff2800 sp_undef=ffffc800 OEMAddressTable = 80233024
DCache: 128 sets, 4 ways, 32 line size, 16384 size
ICache: 128 sets, 4 ways, 32 line size, 16384 size
FCLK:534000000, HCLK:133500000, PCLK:66750000
OALKit1Start : USB SERIAL
KITL is enabeld.
Call OALKit1Init : Wait for connecting
  
```

Figure 6-31 Messages via UART Port after NK.nb0 Download

10. On the Target menu in Platform Builder window, click Attach Device as shown in figure 6-32.

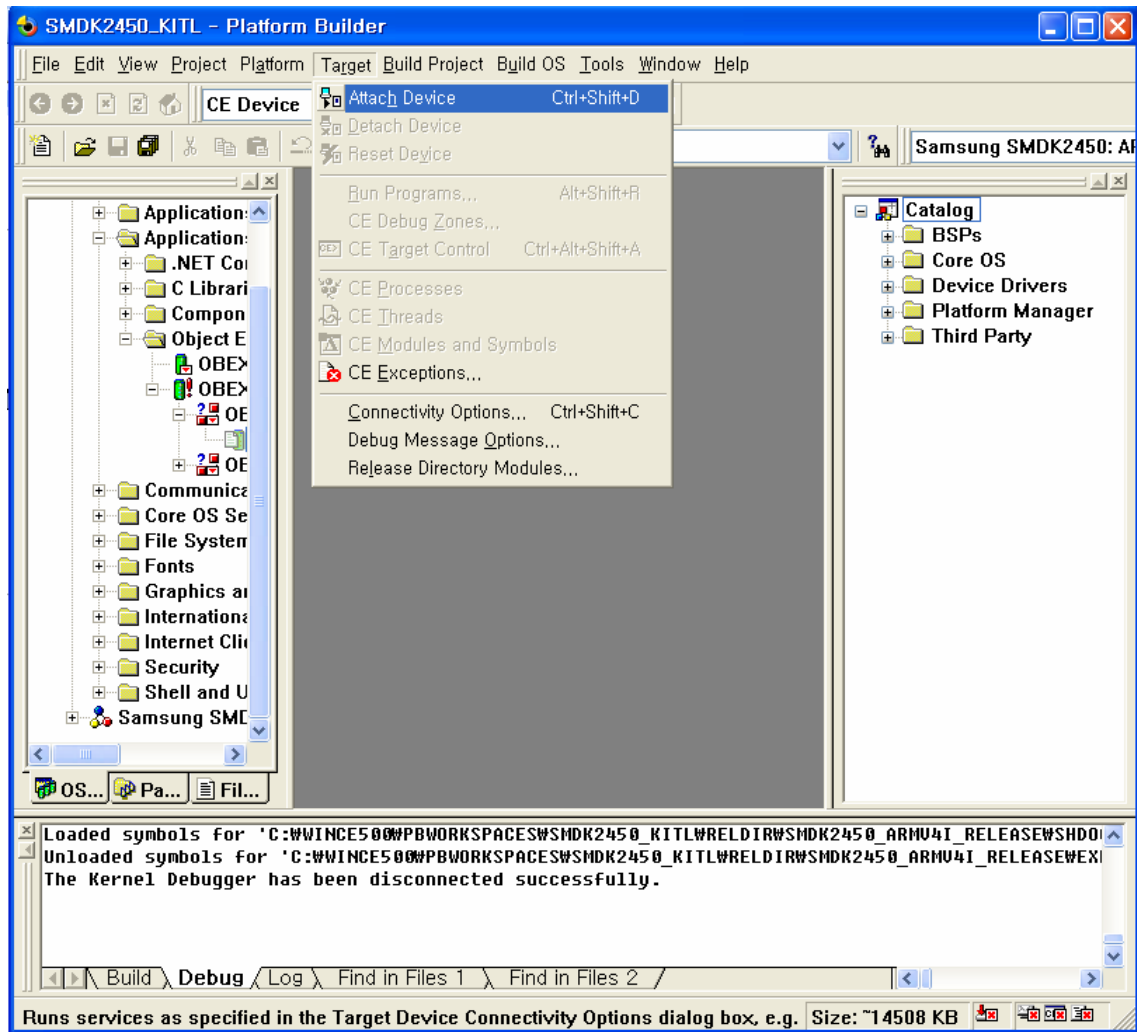


Figure 6-32 Attach Device

11. USB Serial KITL gets connected. Windows CE 5.0 boots on the target board and platform builder window appears as shown below in figure 6-33.

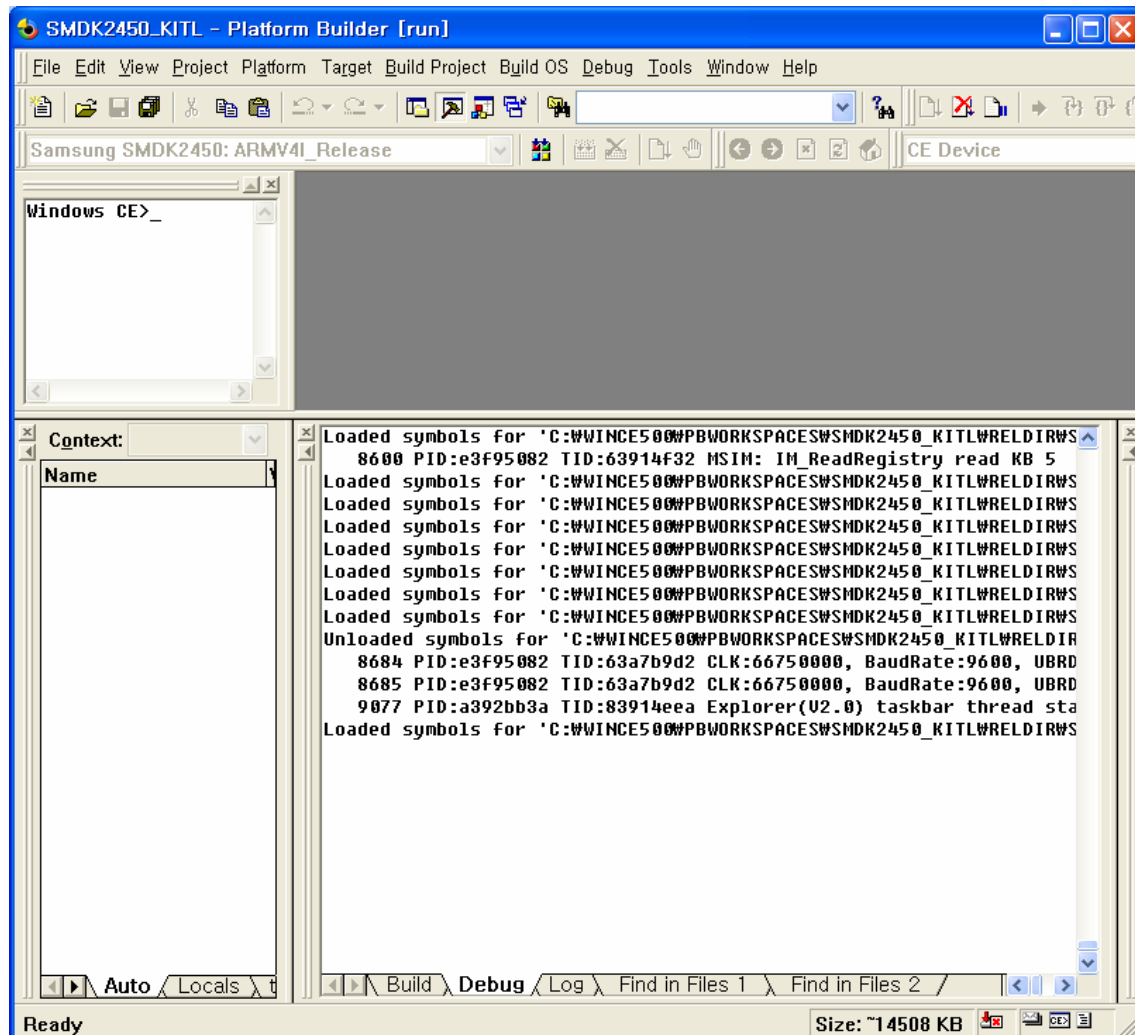


Figure 6-33 Platform Builder Window after USB Serial KITL connected