



# **Installation Manual for SMDK6410 (Windows Embedded CE 6.0) PocketMory(MLC)**

**S3C6410**

**Sept 24, 2009**

**REV 0.4**

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## S3C6410 RISC Microprocessor Installation Manual

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Preliminary product information describe products that are in development, for which full characterization data and associated errata are not yet available. Specifications and information herein are subject to change without notice.

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# 1 Overview

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This Installation Manual guides you to install the Samsung SMDK6410 Windows Embedded CE 6.0 BSP.

The manual explains the following topics:

- Copying BSP and Setting up Platform Builder
- Creating a New OSDesign
- Building OS Image - Without KITL
- Running NK.nb0 Image
- Fusing WinCE Image on NAND Flash via USB
- Building and Running OS Image - With KITL
  - USB Serial KITL
  - Ethernet KITL

The detail information of each topic is explained in the following chapters. About connectivity to platform builder, please read "SMDK6410\_Platform\_builder\_Connectivity.doc" document. This help you how to download and connect your device with OS image to platform builder.

## 2 Copying BSP and Setting up Visual Studio 2005

In this chapter, you can understand how to copy the Samsung SMDK6410 Windows Embedded CE 6.0 BSP and setup the Platform Builder.

1. To start the BSP installation, Extract zip-archived file into \$(WINCEROOT)\PLATFORM. See the picture describes folder structure. In archives, PLATFORM folder has two sub folders. One is SMDK6410, and another one is COMMON/SRC/SOC/S3C6410\_SEC\_V1.

For example, copy extracted SMDK6410\_Wince60\_XX\_XX\PLATFORM BSP folder to X:\WINCE600\PLATFORM directory on your host PC. Make sure that catalog file and batch file in X:\WINCE600\PLATFORM\SMDK6410 directory has the same name as that of the BSP, i.e. SMDK6410.pbcxml and SMDK6410.bat.

**Note:** About PQOAL & SOC Folder Structure, Please refer to porting guide, If you don't know the difference between PQOAL and non-PQOAL structure, read first porting guide.

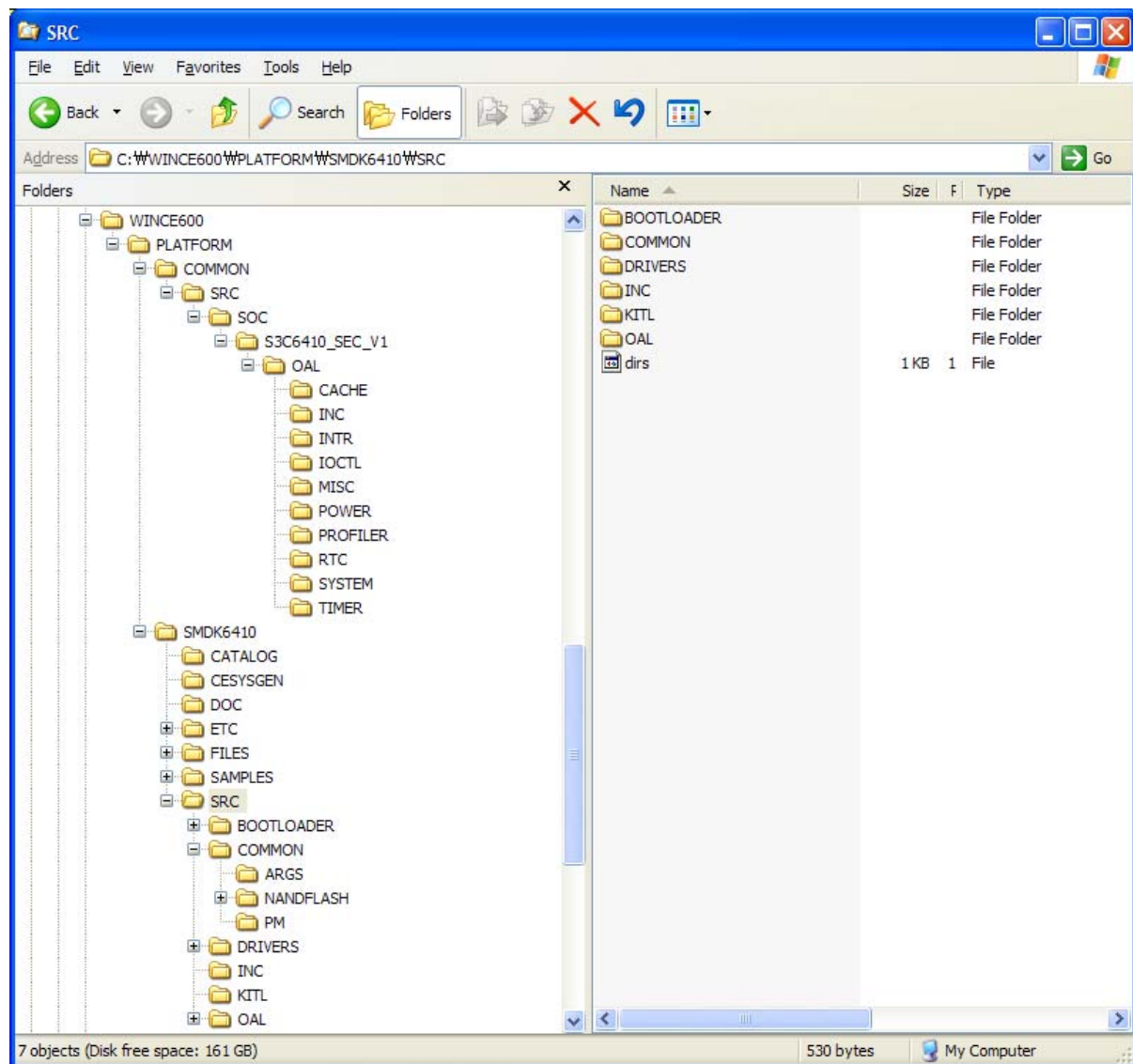


Figure 2-1 SMDK6410 BSP Files



2. To start SMDK6410 Windows Embedded CE 6.0 BSP Porting, on your host PC click **Start**, point to **All Programs**, point to **Microsoft Visual Studio 2005** and then click on **Microsoft Visual Studio 2005**. The following window appears on your screen.

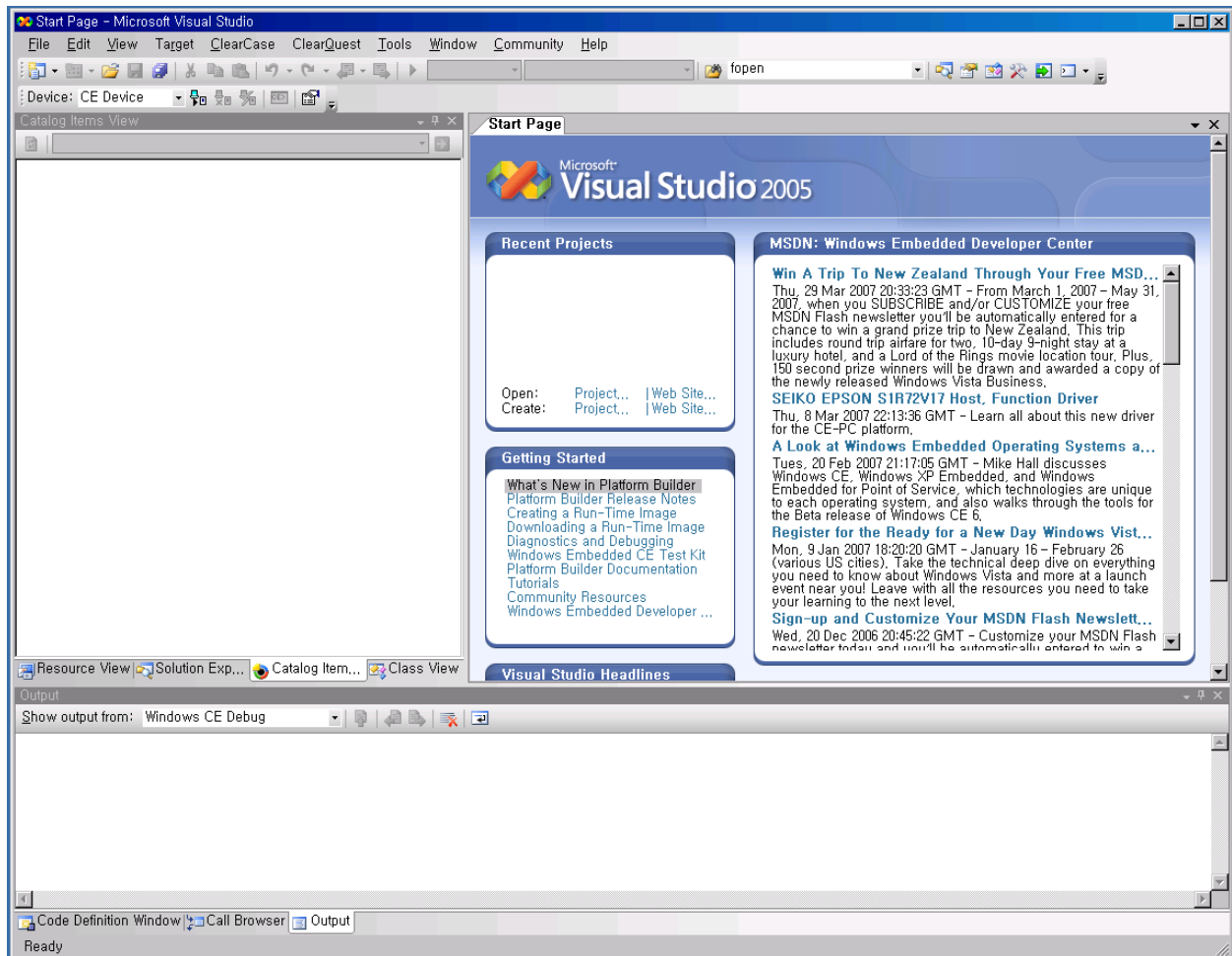


Figure 2-2 Visual Studio 2005 Window

### 3 Creating a New OS Design

In this chapter, you can understand how to create a new OS Design using the Visual Studio 2005.

1. On the **File** menu in the **Visual Studio 2005** window, click **New /Project** as shown in figure 3-1.

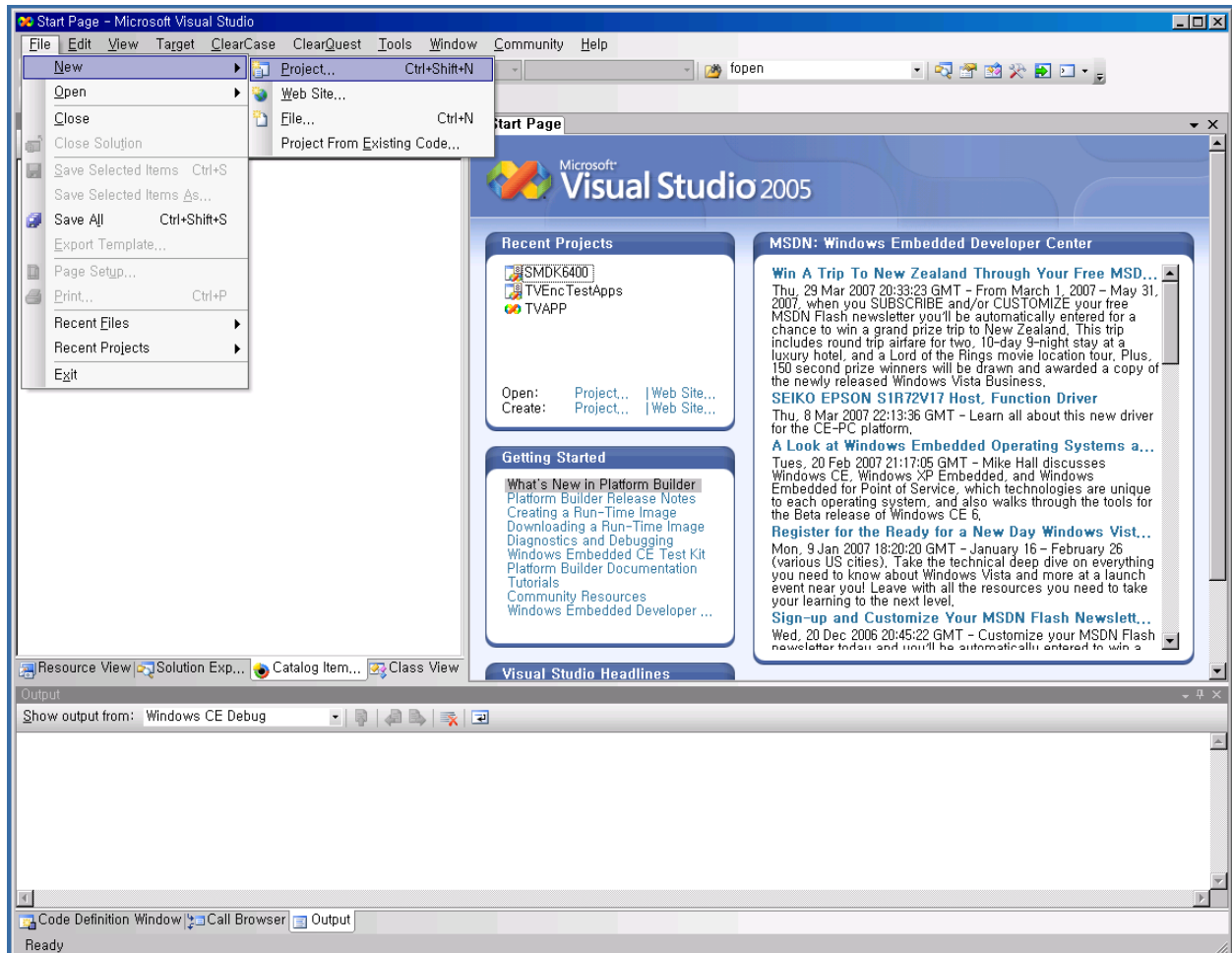


Figure 3-1 Creating New Project

2. The following window appears on your screen. Click OK button to continue.

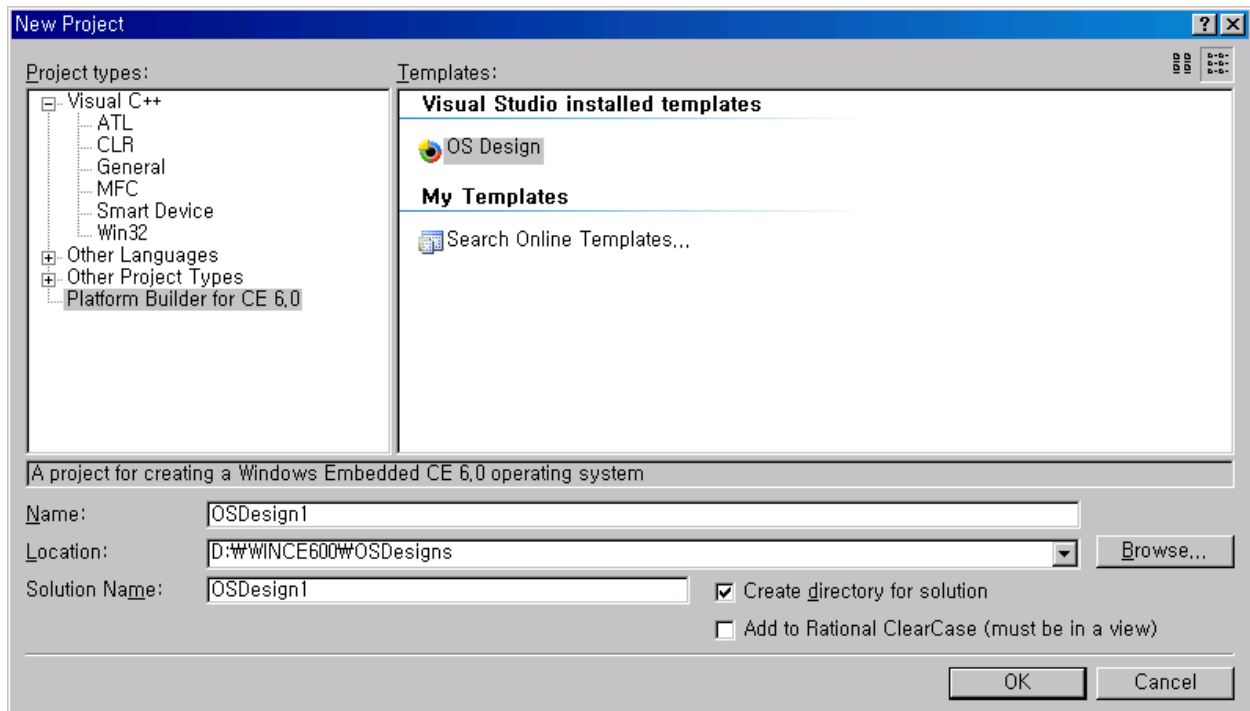


Figure 3-2 New Project for WinCE6.0

3. The Windows Embedded CE 6.0 OS Design Wizard appears on your screen as below figure. Click NEXT button to continue .

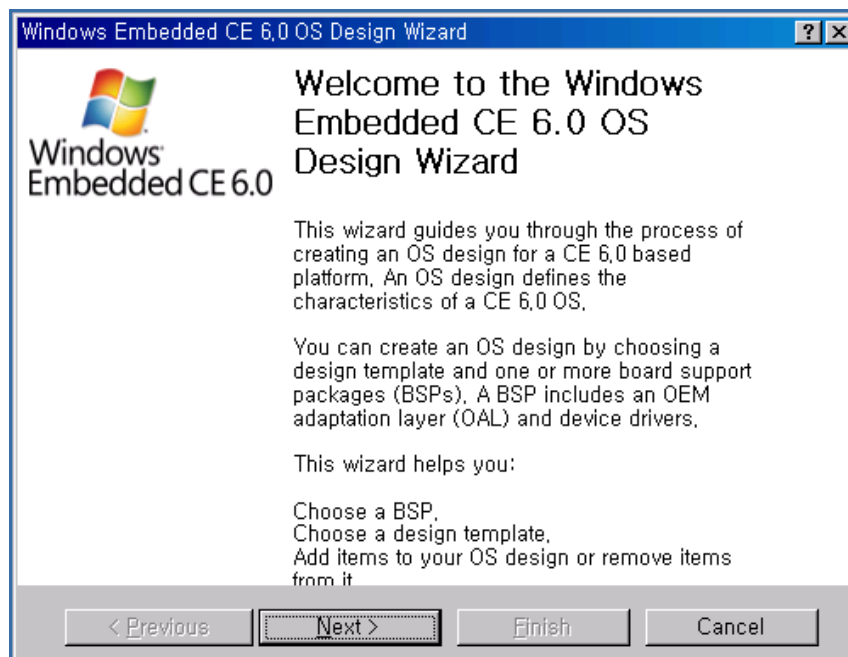


Figure 3-3 Windows Embedded CE 6.0 OS Design Wizard

4. The **Board Support Packages (BSPs)** window appears on your screen. Select **SMDK6410: ARMV4I** and then click **Next** button.

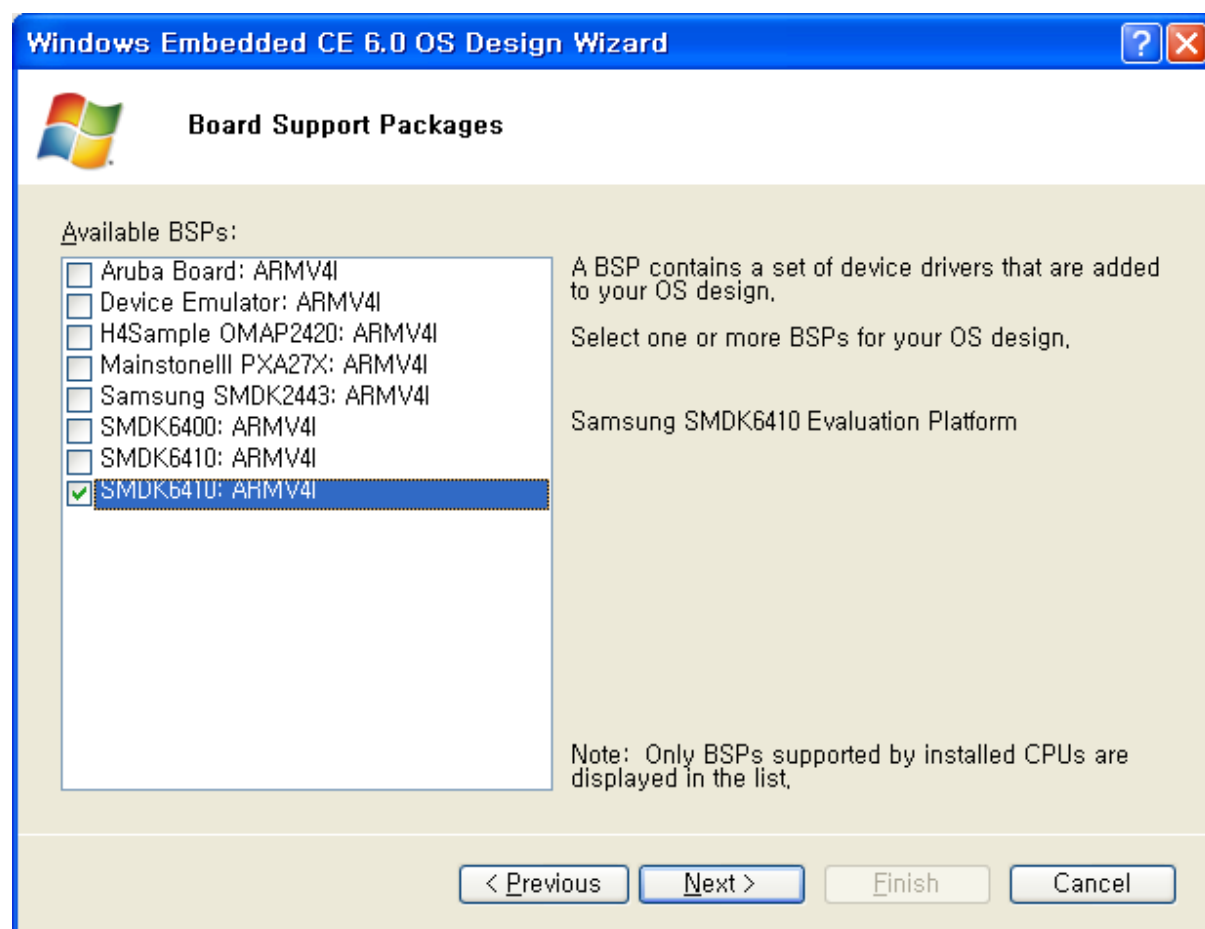


Figure 3-4 Windows Embedded CE 6.0 OS Design Wizard - Step 1

5. The Design Template Wizard window appears on your screen. Please select **PDA Device** from Available design templates list and then click **Next** button.

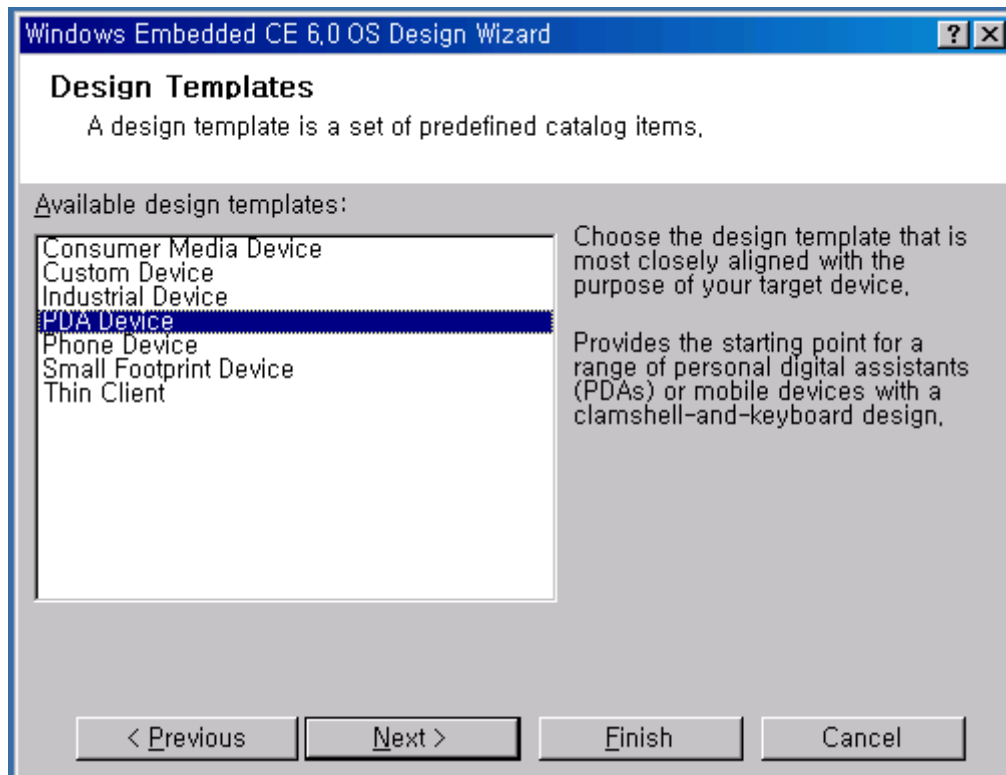


Figure 3-5 Windows Embedded CE 6.0 OS Design Wizard - Step 2

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

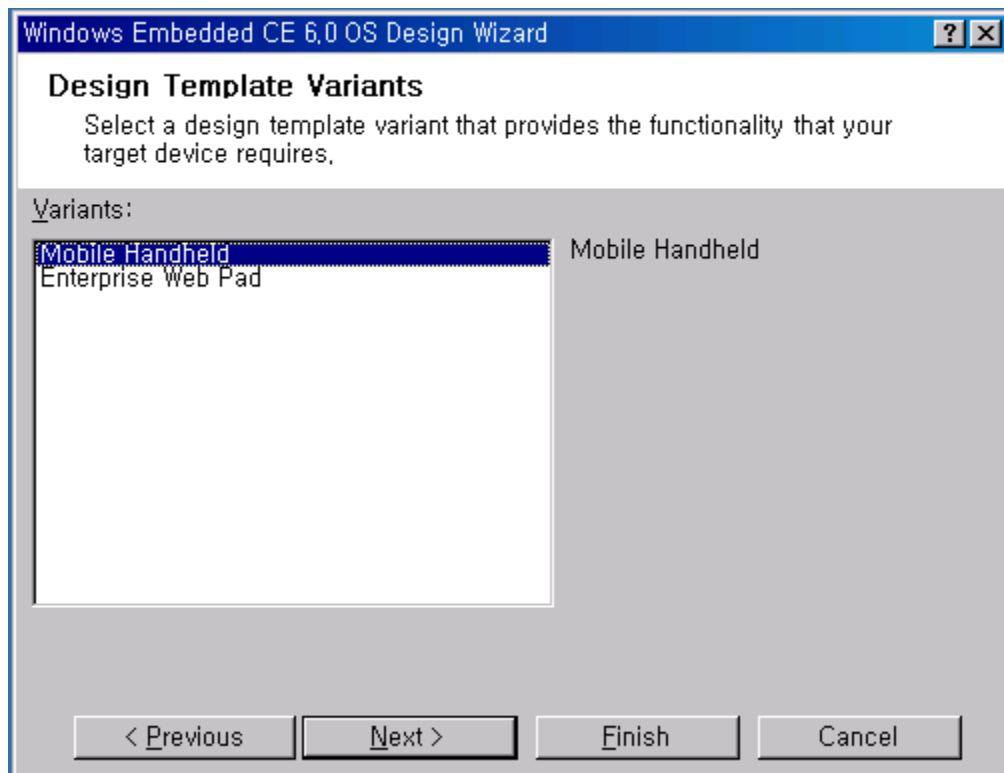


Figure 3-6 Windows Embedded CE 6.0 OS Design Wizard - Step 3

7. 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.

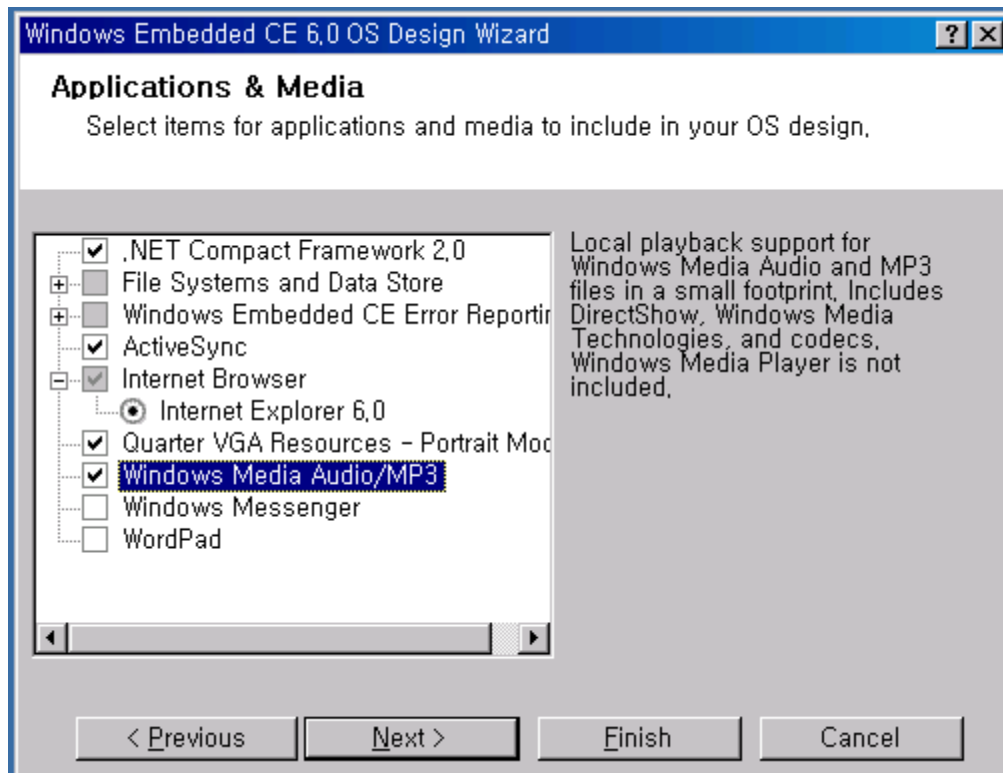


Figure 3-7 Windows Embedded CE 6.0 OS Design Wizard - Step 4

8. The Networking & Communications wizard window appears on your screen. Click Finish button.

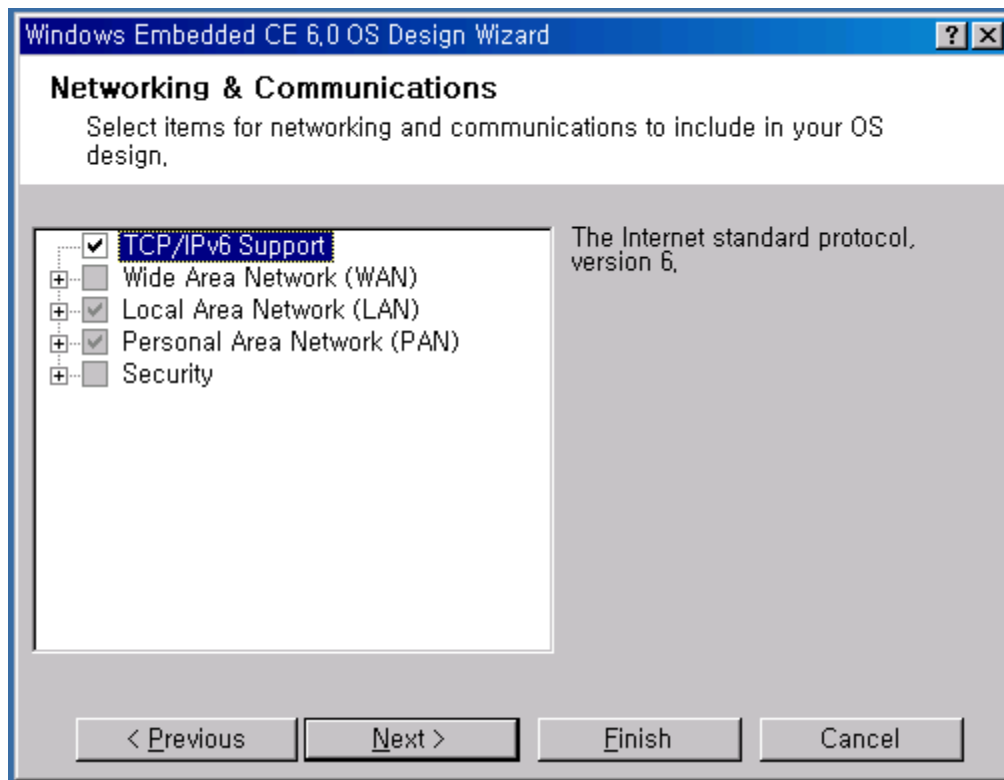


Figure 3-8 Windows Embedded CE 6.0 OS Design Wizard - Step 5



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



Figure 3-9 Windows Embedded CE 6.0 OS Design Wizard - Step 6

## 4 Building OS Image - Without KITL

1. In the Visual Studio 2005 window on your host PC, you can see the new OS Design along with its various sub-directories on the left hand side Catalog Items View as shown in figure 4-1. Here, you can choose items what you want to include in your OS design. The chosen items in this instruction are only for sample purpose.

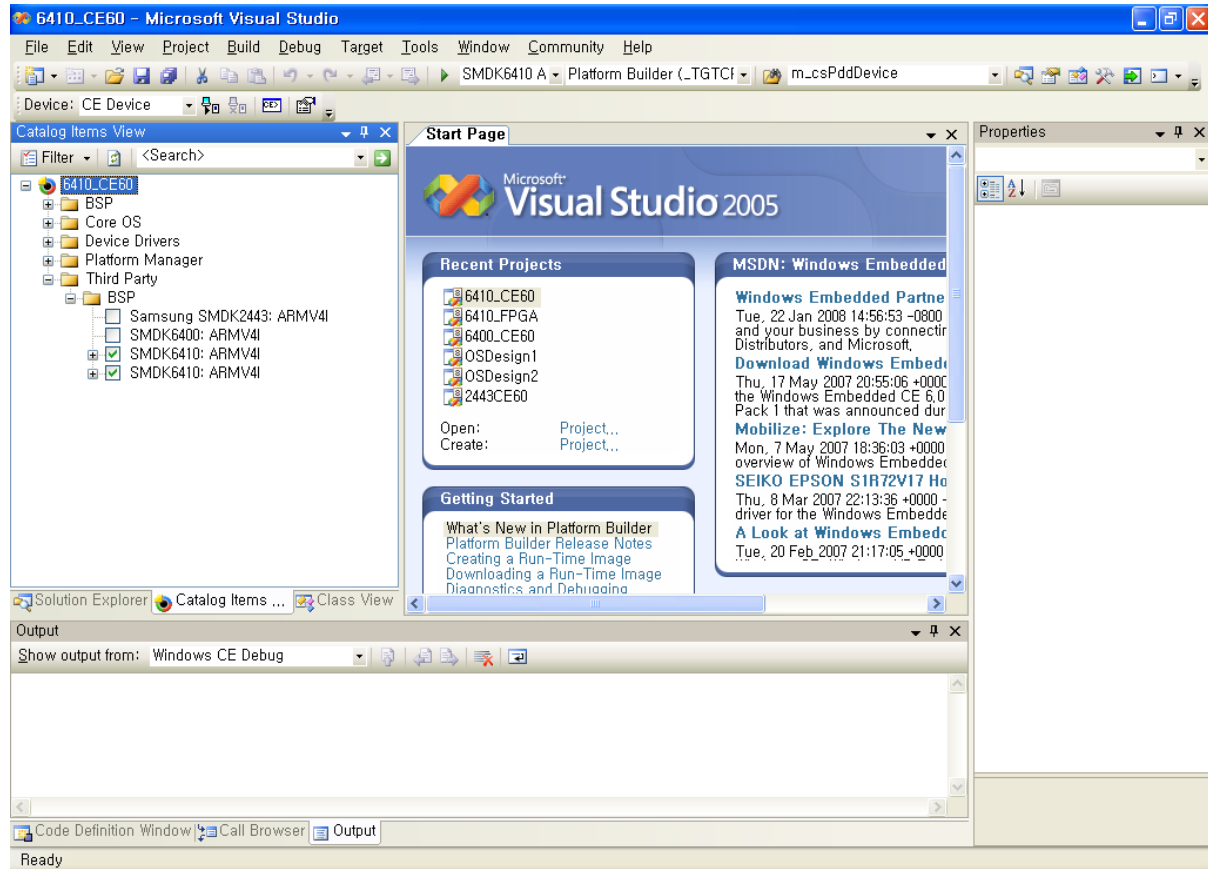


Figure 4-1 Catalog Items View

- You can change build mode (release or debug mode) as below figures. Select SMDK6410\_ARMV4I Release.

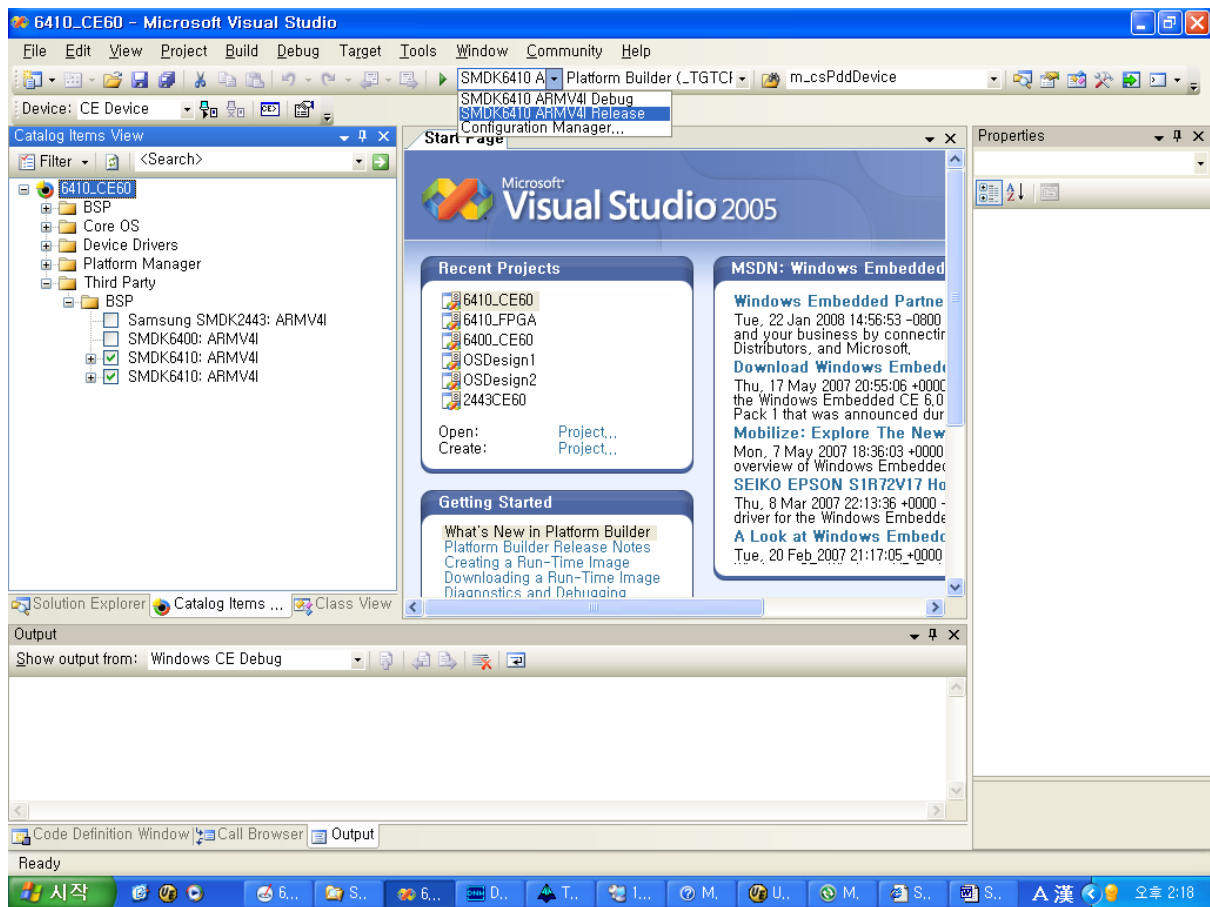


Figure 4-2 Build Mode in Visual Studio 2005

- Expand File Systems and Data Store node in the Core OS node in Catalog Items View, then select some items as shown in the figure below.

File System-RAM and ROM File System

Registry Storage-Hive-based Registry(recommended) or RAM-based Registry

Storage Manager-Binary Rom Image file System

Storage Manager-exFAT File System

Storage Manager-Storage Manager Control Panel Applet

Storage Manager-TFAT File System

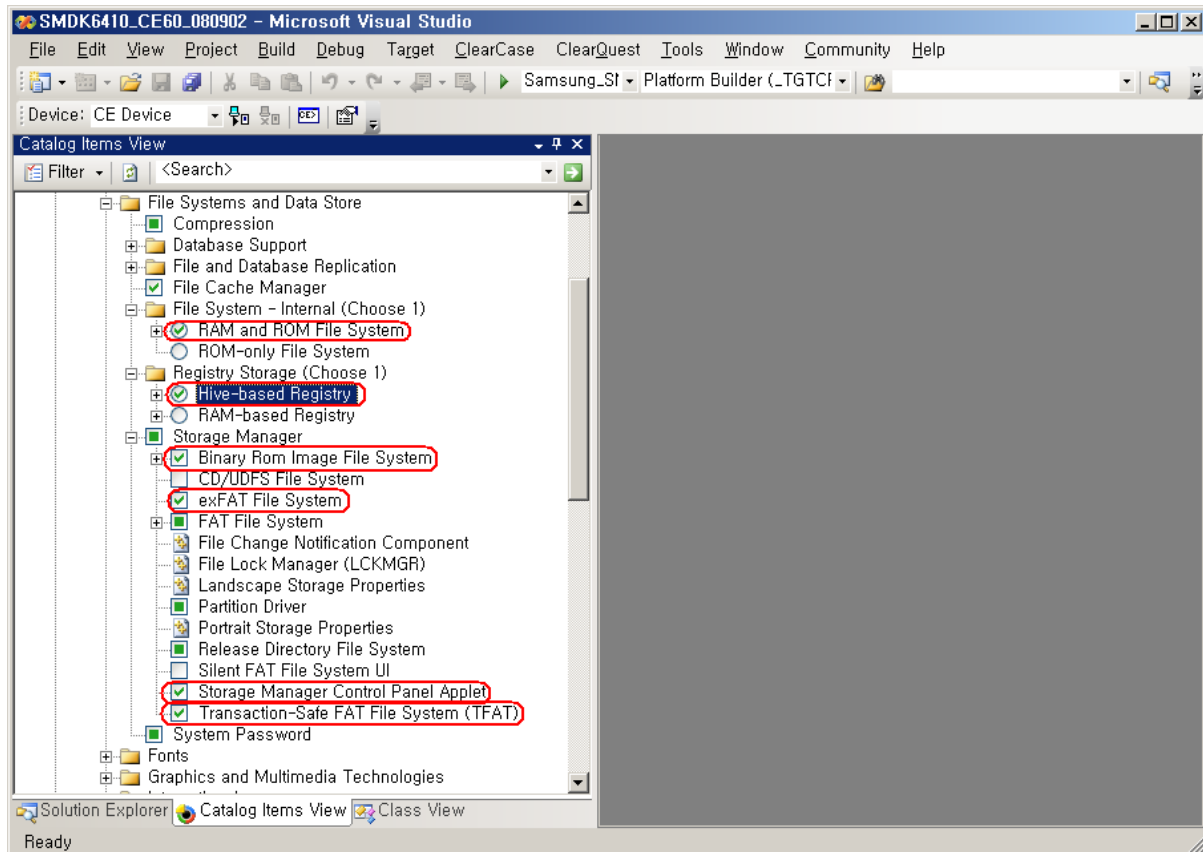


Figure 4-3 Adding File System and Data store Item to OS Design

- Expand Core OS node in Catalog Items View window, then expand Graphics and Multimedia Technologies. Select some items as shown in the figure below.

Graphics-Direct3D Mobile

Graphics → DirectDraw (Required for Display Driver)

Media → Video Codecs and Renderers → WMV/MPEG-4 Video Codec (Required for MFC)

Media → Windows Media Player → Windows Media Player (Recommended for MFC)

Media → DirectShow → DirectShow Video Capture (Required for Camera)

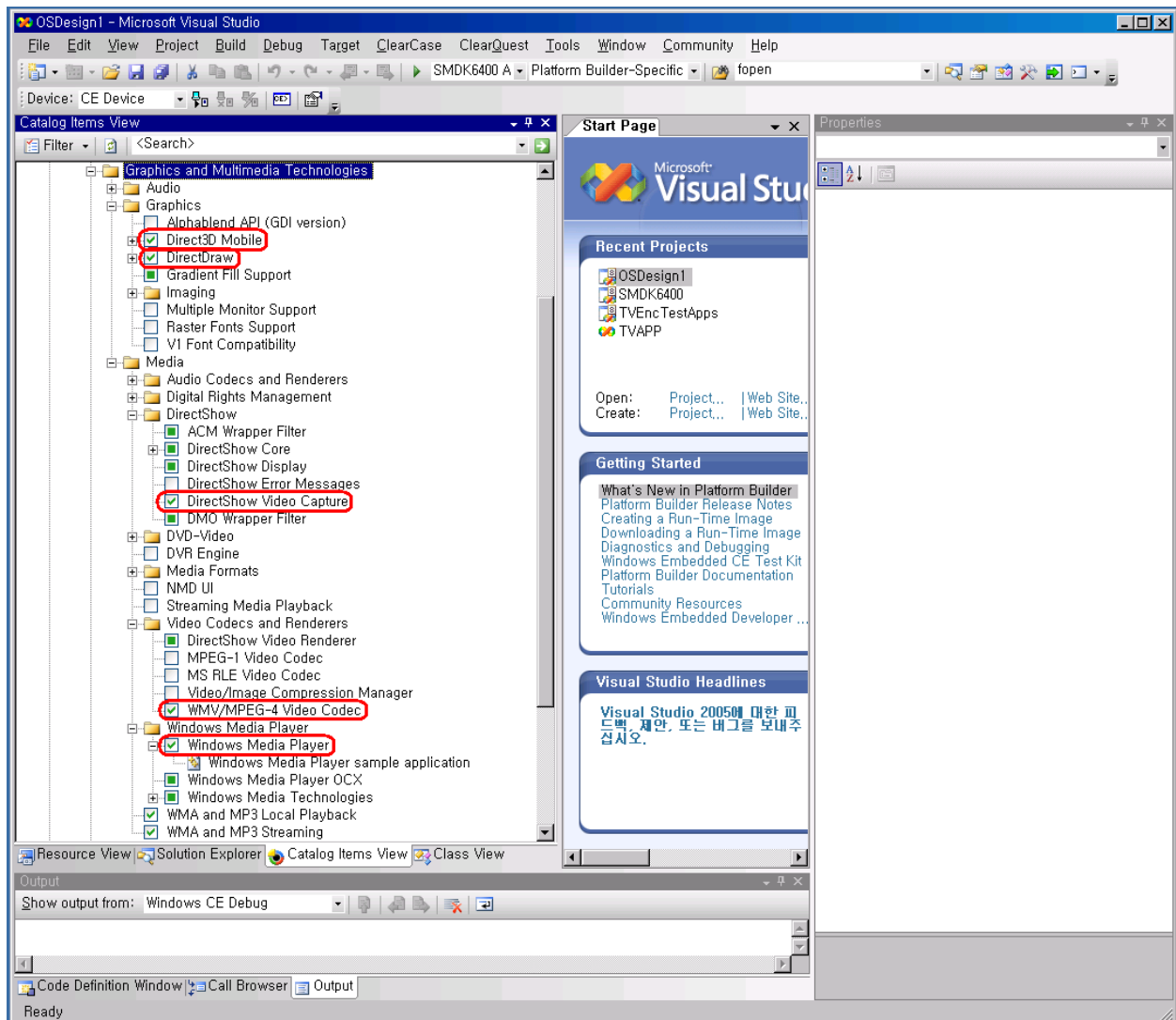


Figure 4-4 Adding Graphics and Multimedia Technologies Item to OS Design



6. Expand **Application - End User** node in **Catalog Items View** window. Select **CAB File Installer/Uninstaller** as shown in the figure below.

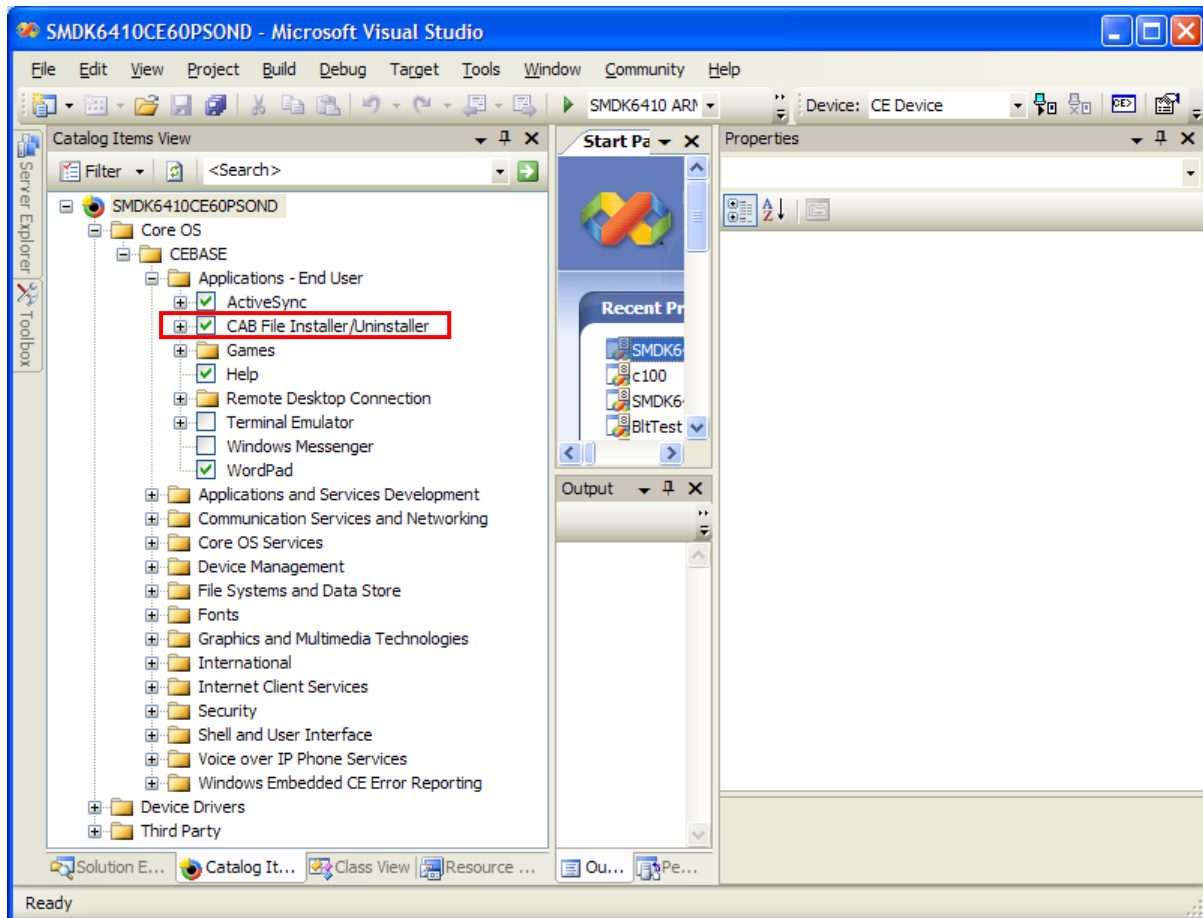


Figure 4-6 Adding CAB File Installer to OS Design

7. Expand Applications and Services Development node in Catalog Items View window, then expand OBEX Server.

Select OBEX File Brower and OBEX Inbox.

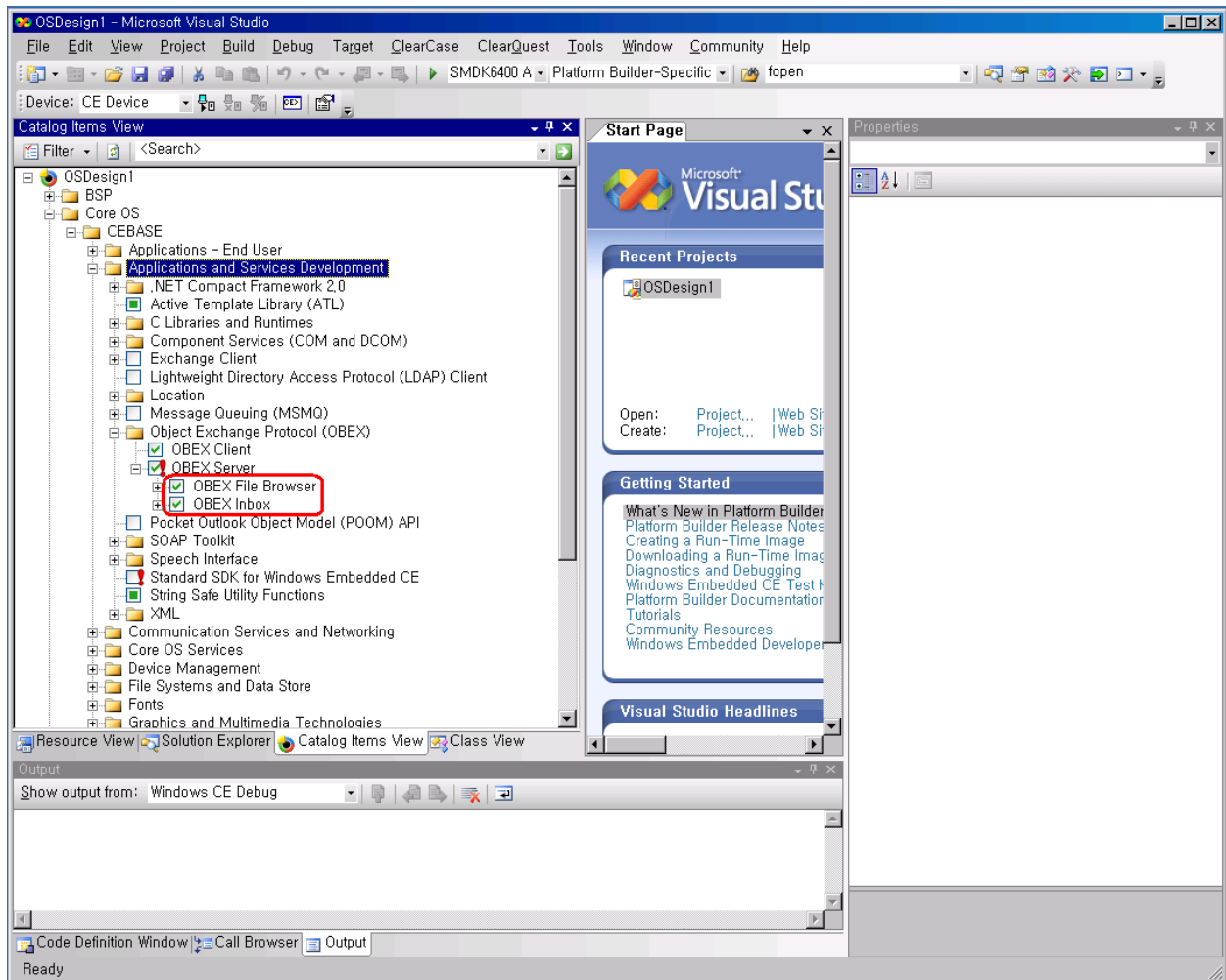


Figure 4-7 Adding Core OS Services Item to OS Design



8. Expand Device Drivers node in Catalog Items View window, then expand USB Function. Select Some Items as shown in the figure below.

USB Function Clients-Mass Storage

USB Function Clients-serial

Select SD Bus Driver in SD, SD Memory in SDIO and Windows Embedded CE Test Kit.

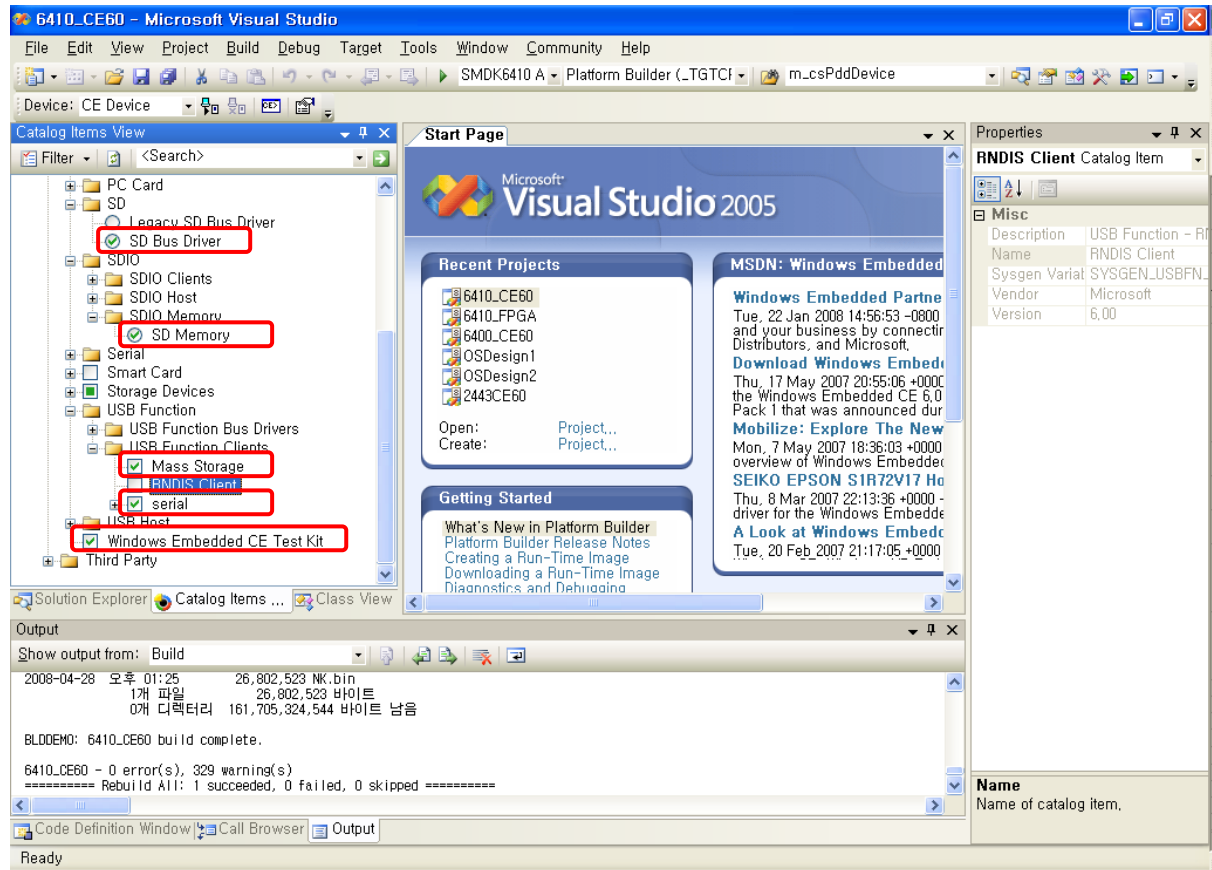


Figure 4-8 Adding Device Drivers Item to OS Design

- Expand Device Drivers node in Catalog Items View window, then expand Networking. Select Serial Infrared (SIR) as shown in the figure below.

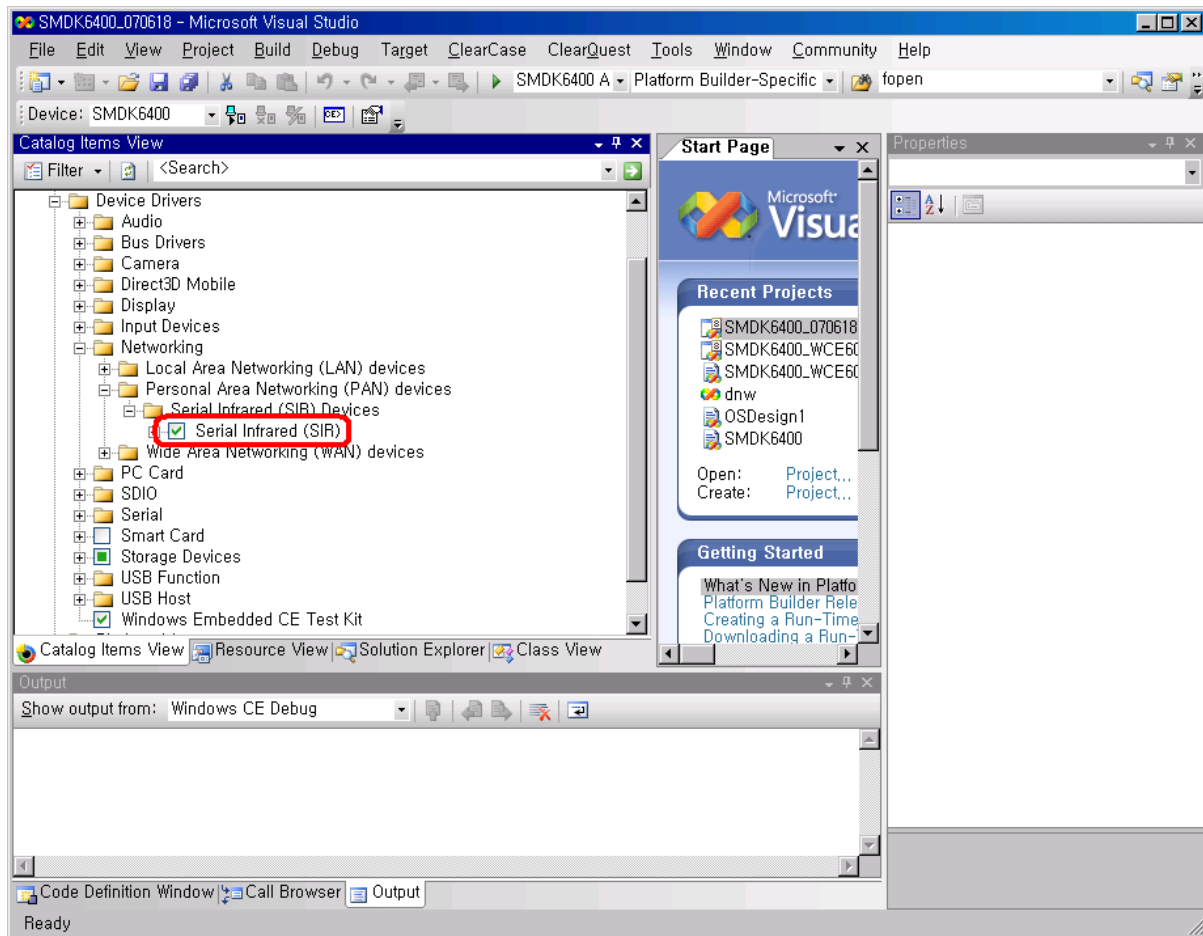


Figure 4-9 Adding Networking Item to OS Design

10. On the top of Visual Studio 2005, You can see the Project menu as below figure.

And then select Properties...

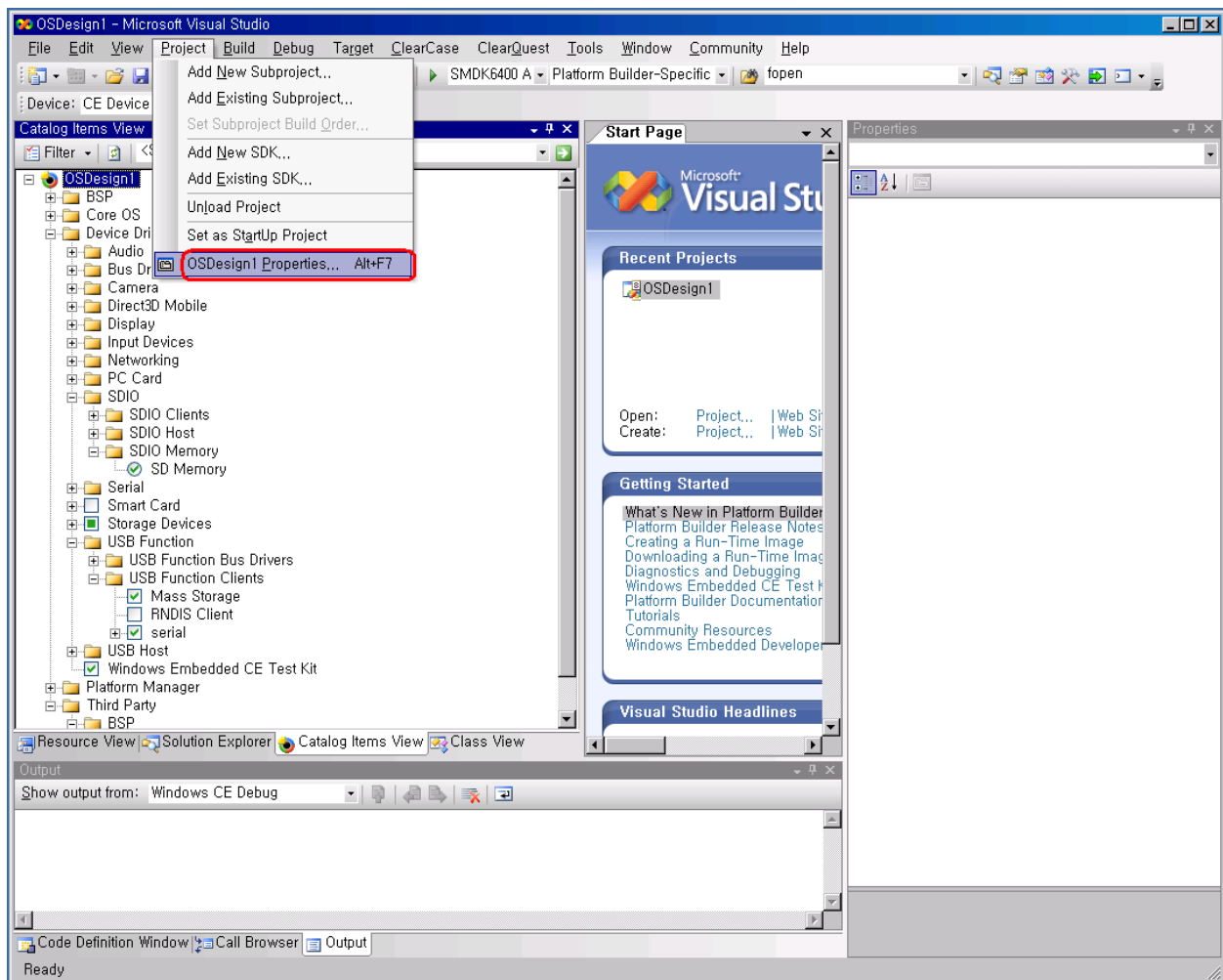


Figure 4-10 Properties of OS Design

11. The OS Design Properties Pages 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 below.

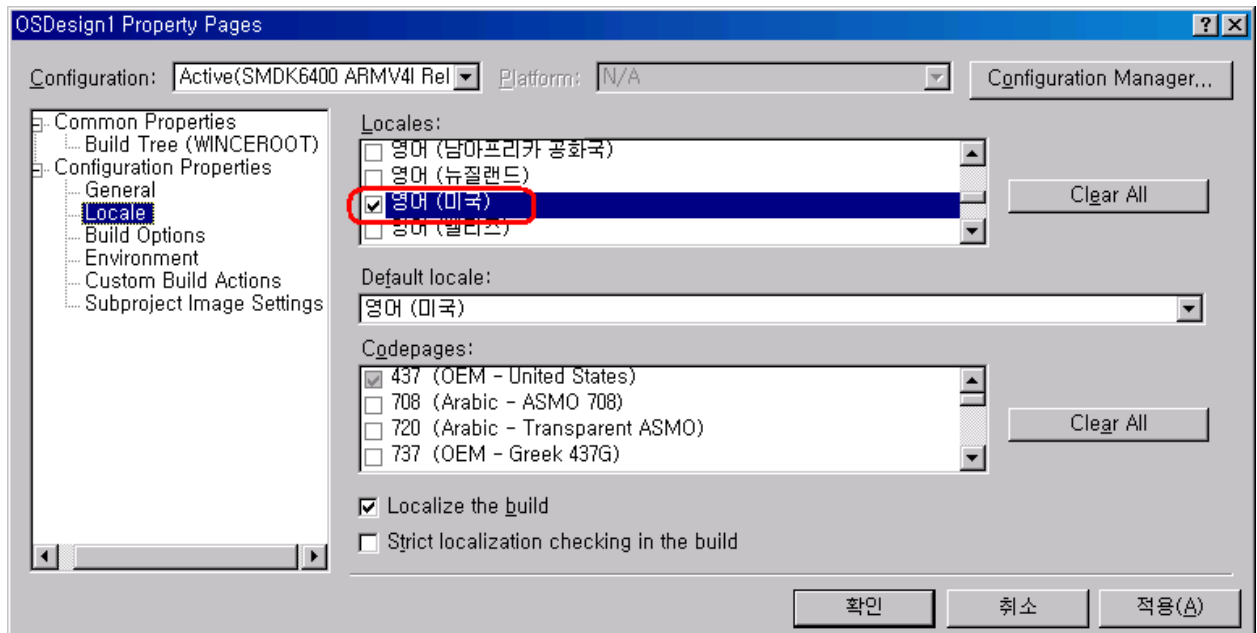


Figure 4-11 Selecting Language in the Property Pages Window

12. Now please uncheck the square boxes **Enable KITL (no IMGNOKITL=1)** in the **Build Options** Properties in OS Design Properties Pages window and then click OK button.

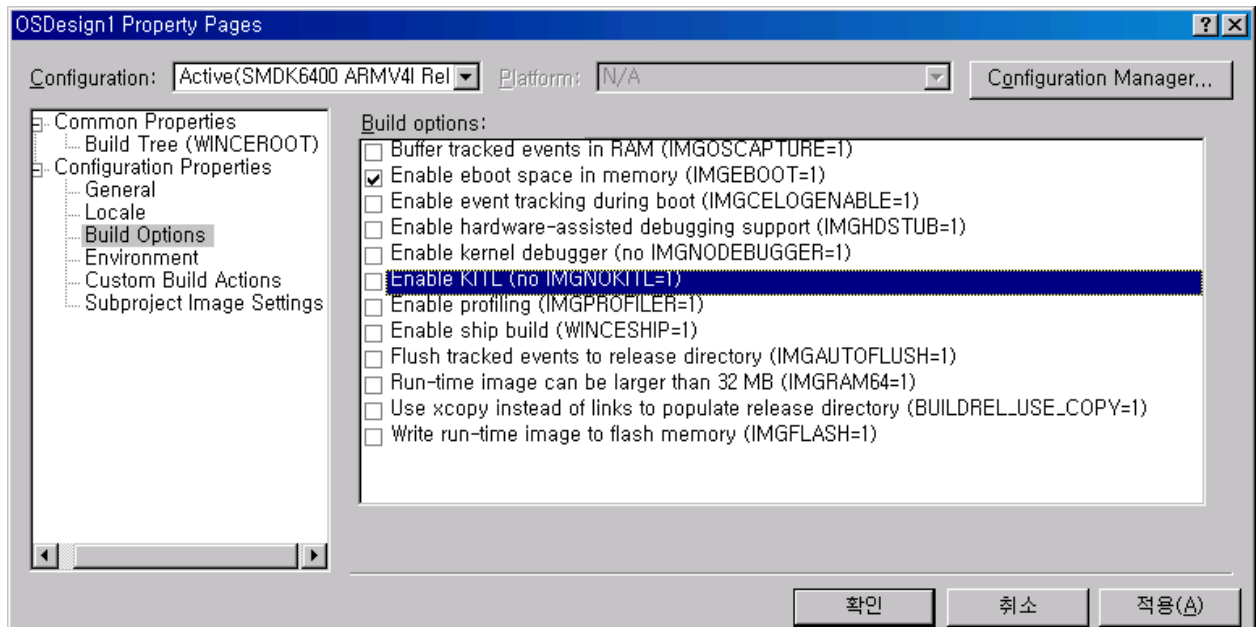


Figure 4-12 Removing KITL Setting in OS Design Properties Window

13. On the **Build** menu, click **Build OSDesign1** as shown in figure below to build the Eboot and OS image.

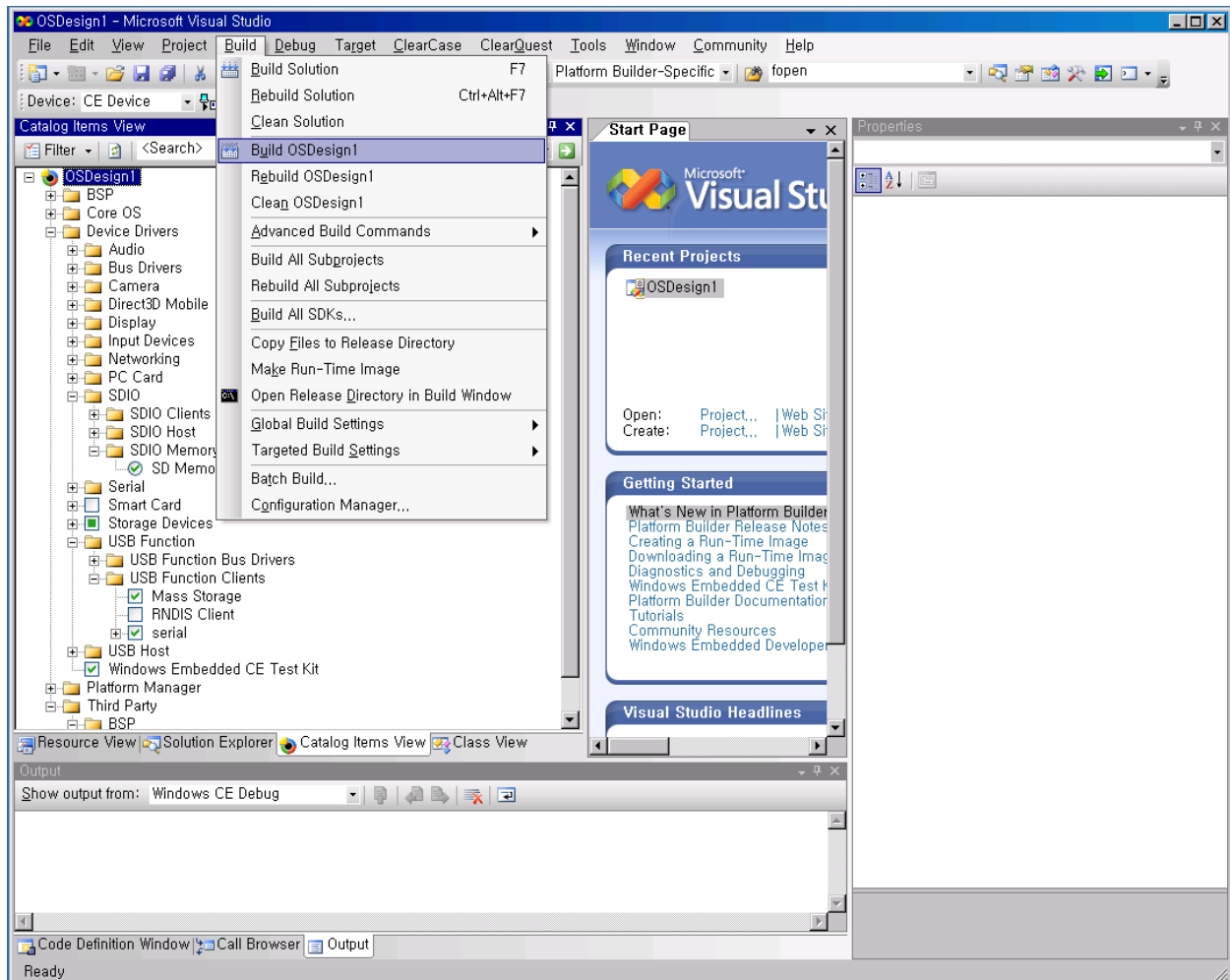


Figure 4-13 Build OS Design

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

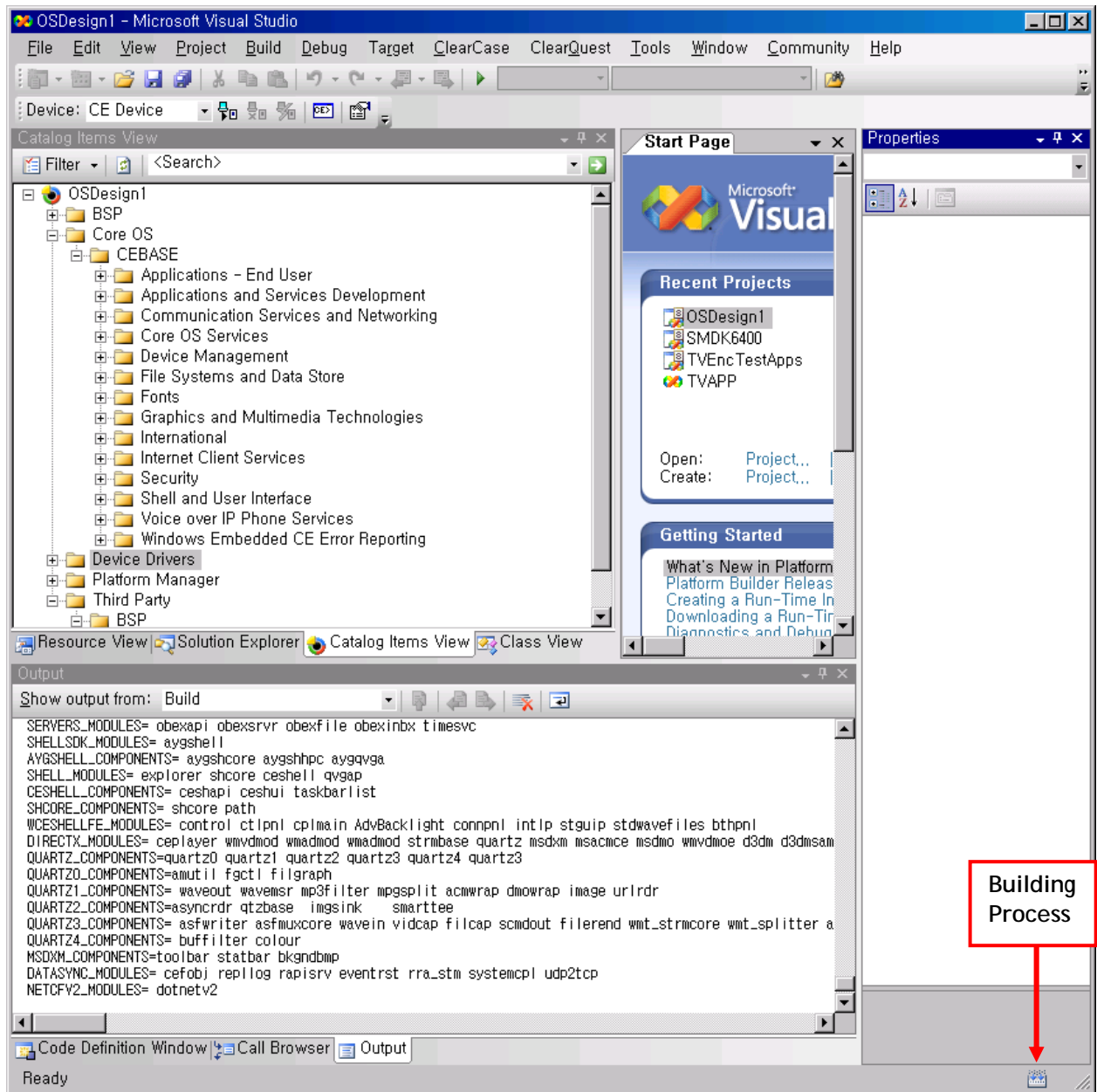


Figure 4-14 Building Process

**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.

15. After completion of build process, following messages appear as shown in figure 4-15. EBOOT.nb0, EBOOT.bin, block0imag.nb0, NK.bin and NK.nb0 are now available in X:\WINCE600\OSDesigns \[OS Design Name] \[OS Design Name]\RelDir\SMDK6410\_ARMV4I\_Release directory.

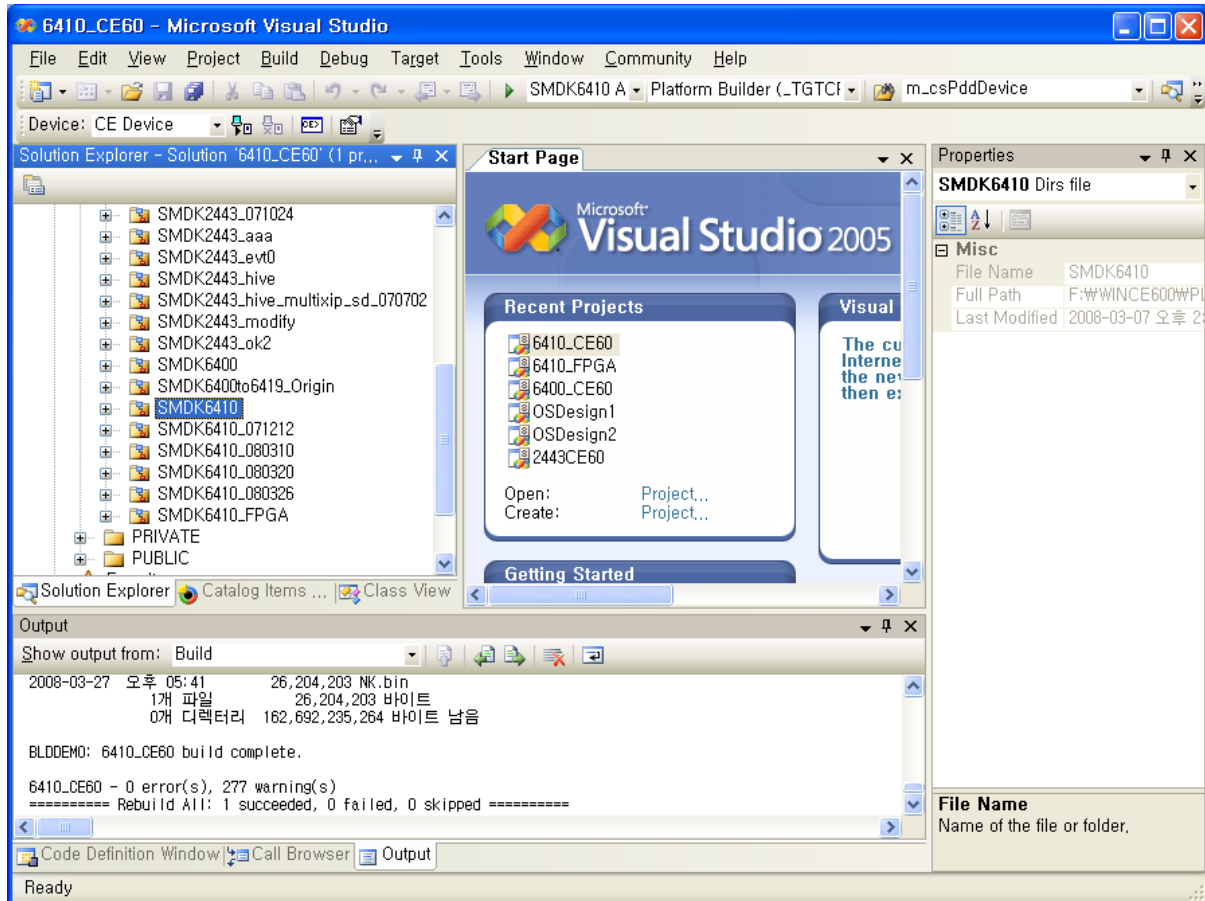


Figure 4-15 After Building the OS Image

## 5 Running NK.nb0 Image (available on the single-XIP only)

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

- Before you download the WinCE Image through the USB, you must have **6410\_OtgMon.bin** image on your AMD Flash. (The image was already fused on your AMD Flash in the board before release)
- Configure DIP switch CFG0 on the CPU Board and CFGB1 on the CPU board properly for booting from AMD Flash. (For more information, Read SMDK6410 Board User's Manual)

- Set the CFG3 Jumpers on CPU Board for NAND boot.

CFG3		1	2	3	4	5	6
Boot Mode	Umon boot	OFF	ON	OFF	ON	OFF	X
	NAND iROM boot	OFF	ON	ON	ON	ON	X

Note) X : X means Don't Care

CFG4		1	2	3	4
CS2	NAND	ON	ON	OFF	OFF
	OneNAND	OFF	OFF	ON	ON

- Set the Jumpers on Base Board. (CFGB1, CFGB2, CFGB3, CFGB4)

CFGB1	1	2	3	4
nCS0 SEL	ON	OFF	OFF	OFF

CFGB2	1	2	3	4
nCS1 SEL	OFF	OFF	ON	OFF

CFGB3	1	2	3	4
SLC SOP NAND	ON	OFF	OFF	OFF
XD Card NAND	OFF	ON	OFF	OFF

CFGB4	1	2	3	4
nCS4 SEL	OFF	OFF	OFF	OFF

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



4. After installing the USB driver, run **dnw.exe** on the host PC. The following window appears on your screen.

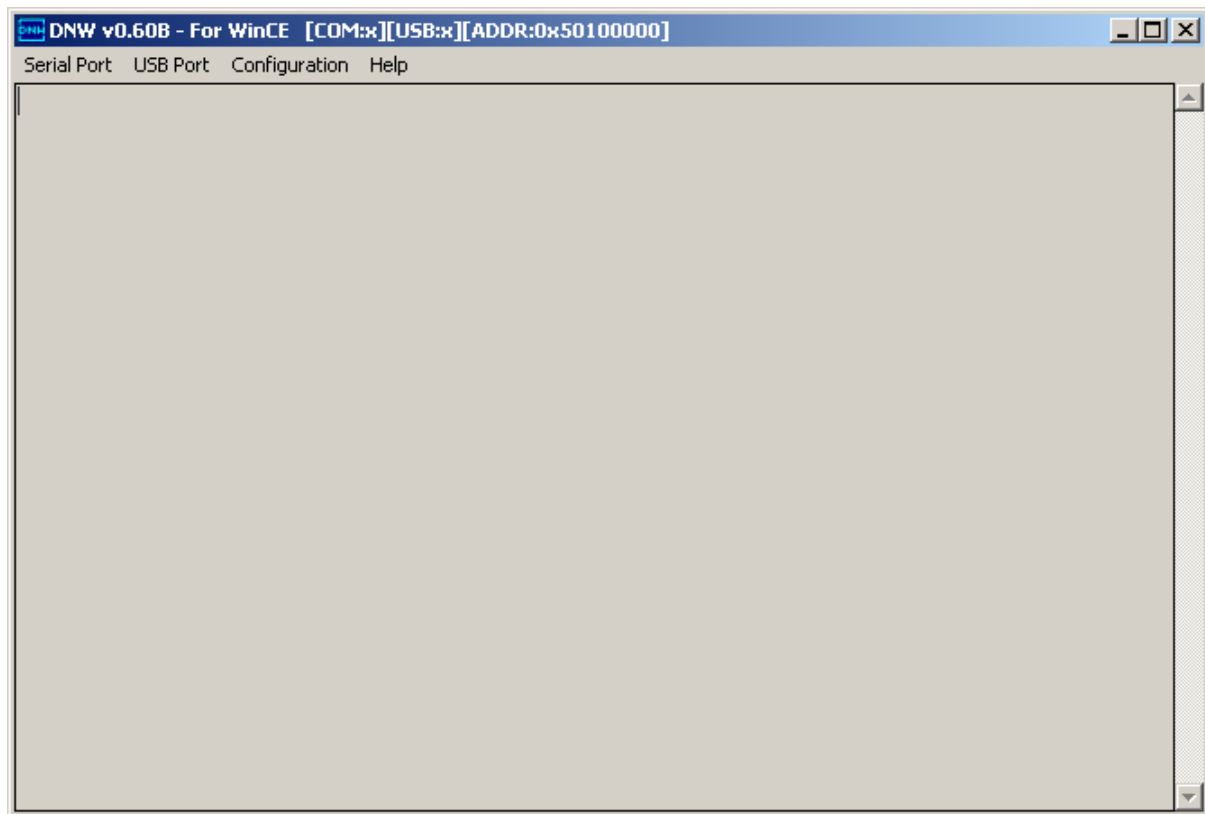


Figure 5-1 DNW Window

5. 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 5-2, enter the download address as **0x50100000** and then click **OK** button.

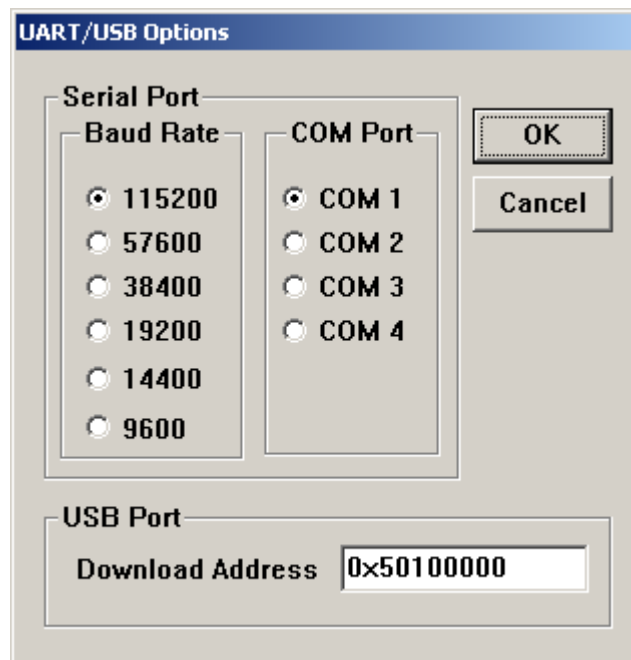


Figure 5-2 UART/USB Options

6. On the Serial Port menu, click Connect. Switch ON the board and then press any key. The DNW window appears as shown in figure 5-3.

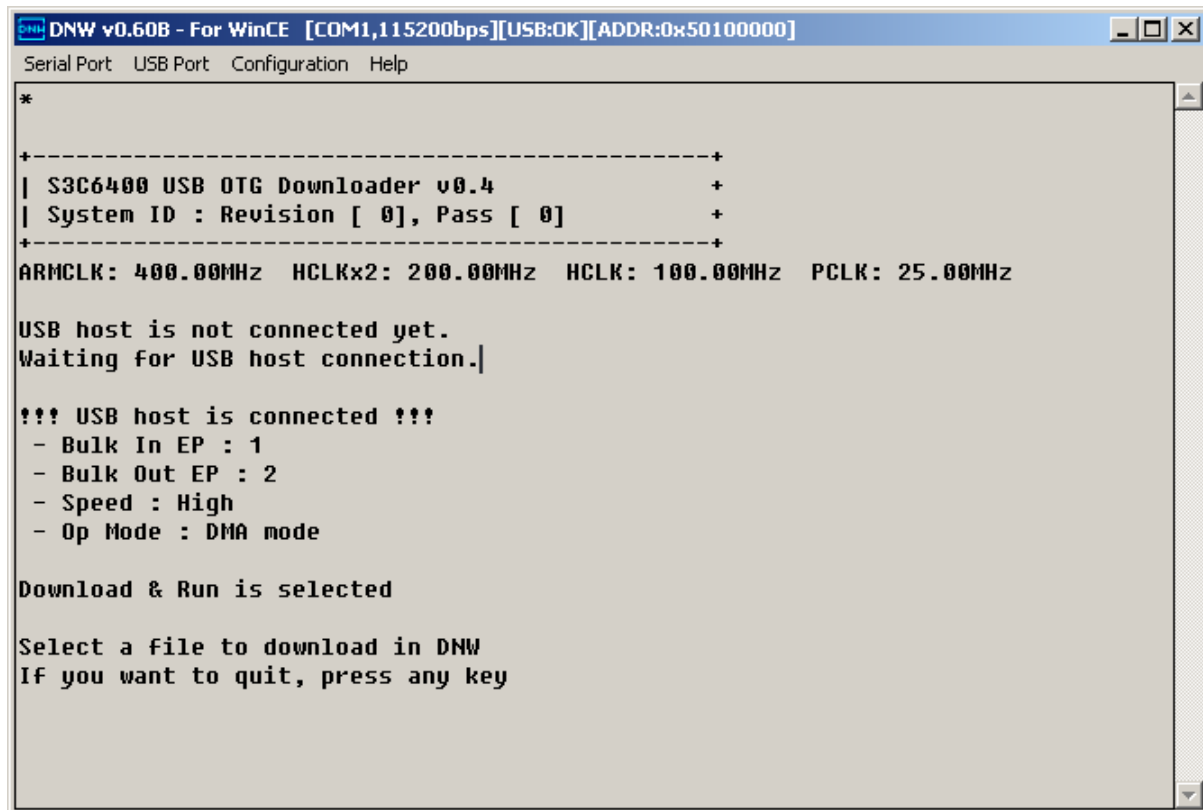


Figure 5-3 DNW Window after Board Power ON

7. Press any key to see USB OTG Mon menu. Now DNW window appears as shown below.

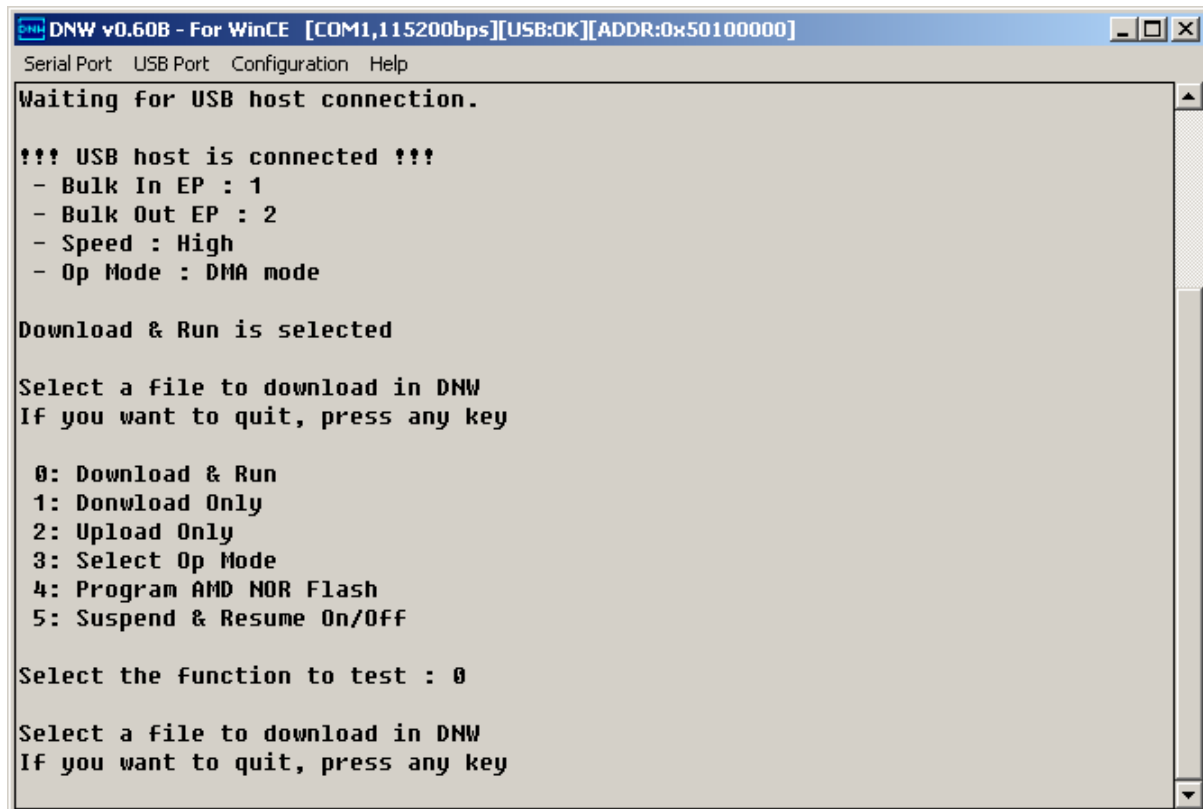


Figure 5-4 USB OTG Mon Menu

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

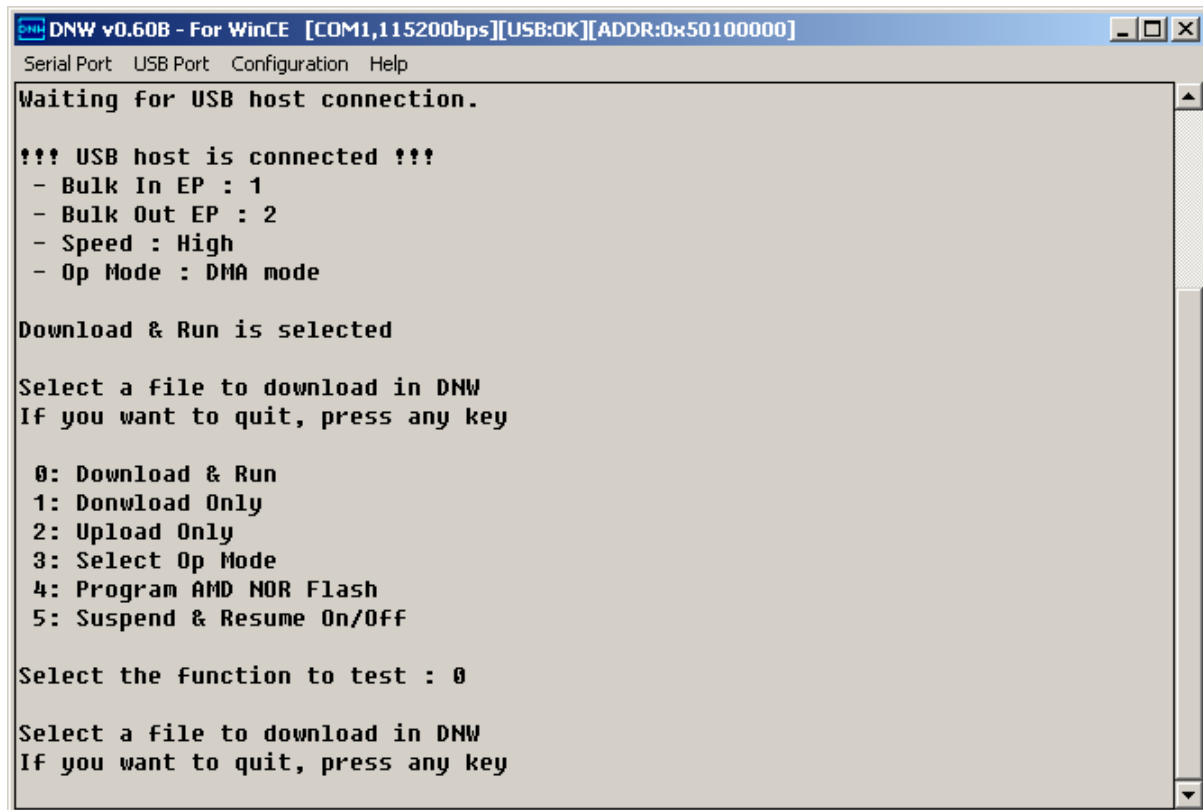


Figure 5-5 Download & Run

9. On the USB Port menu, click Transmit and the following window appears on your screen. Select NK.nb0 from X:\WINCE600\OSDesins\[OS Design name]\[OS Design name]\ReIDir\SMDK6410\_ARMV4I\_Release directory and then click Open button.

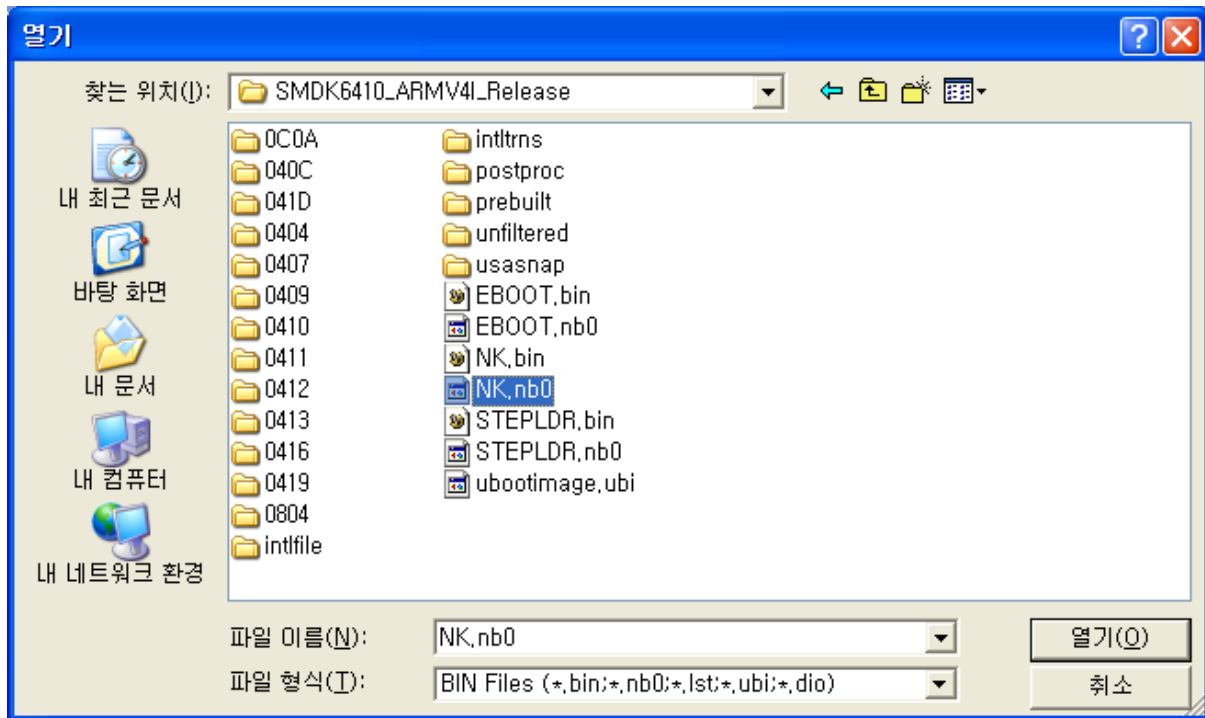


Figure 5-6 Selecting NK.nb0 for Download

10. Once download begins, a download status bar appears on your screen as shown in figure 5-7.  
After NK.nb0 download is over, Windows Embedded CE 6.0 boots on the target Board

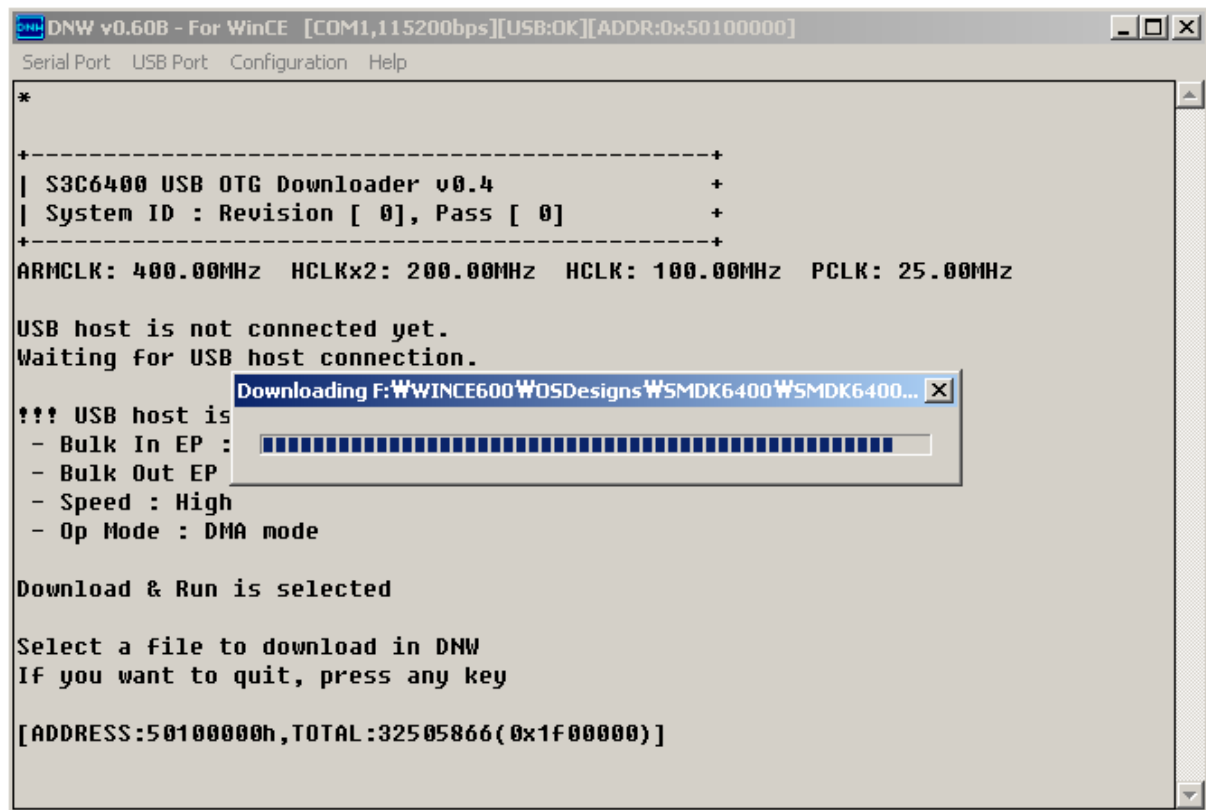


Figure 5-7 Downloading Status of NK.nb0

## 6 Fusing WinCE OS Image(single.bin or multiple.bin) to NAND Flash via USB

In this chapter, you can understand how to fuse WinCE image to NAND Flash via USB.

1. Before you download the WinCE Image through the USB, you must have **6410\_OtgMon.bin** image on your AMD Flash. (The image was already fused on your AMD Flash in the board before release)
2. Configure CFG0 DIP switch on the CPU Board and CFGB1 on the CPU board properly for booting from AMD Flash. (For more information, Read SMDK6410 Board User's Manual)
  - a. Set the CFG3 Jumpers on CPU Board for NAND boot.

CFG3		1	2	3	4	5	6
Boot Mode	Umon boot	OFF	ON	OFF	ON	OFF	X
	NAND iROM boot	OFF	ON	ON	ON	ON	X

Note) X : X means Don't Care

CFG4		1	2	3	4
CS2	NAND	ON	ON	OFF	OFF
	OneNAND	OFF	OFF	ON	ON

- b. Set the Jumpers on Base Board. (CFGB1, CFGB2, CFGB3, CFGB4)

CFGB1	1	2	3	4
nCS0 SEL	ON	OFF	OFF	OFF

CFGB2	1	2	3	4
nCS1 SEL	OFF	OFF	ON	OFF

CFGB3	1	2	3	4
SLC SOP NAND	ON	OFF	OFF	OFF
XD Card NAND	OFF	ON	OFF	OFF

CFGB4	1	2	3	4
nCS4 SEL	OFF	OFF	OFF	OFF



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

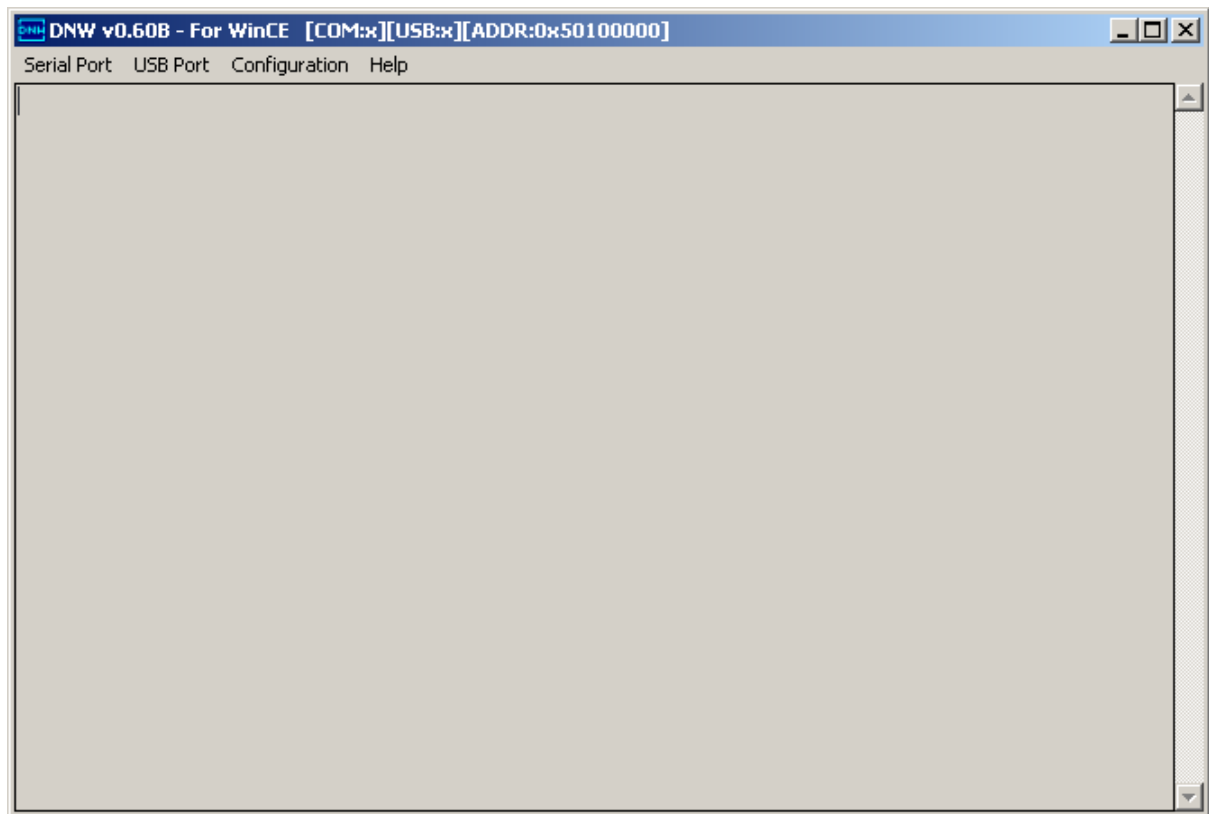


Figure 6-1 DNW Window

5. On the **Configuration** menu in the DNW window, 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 6-2, enter the download address as **0x50030000** and then click **OK** button.

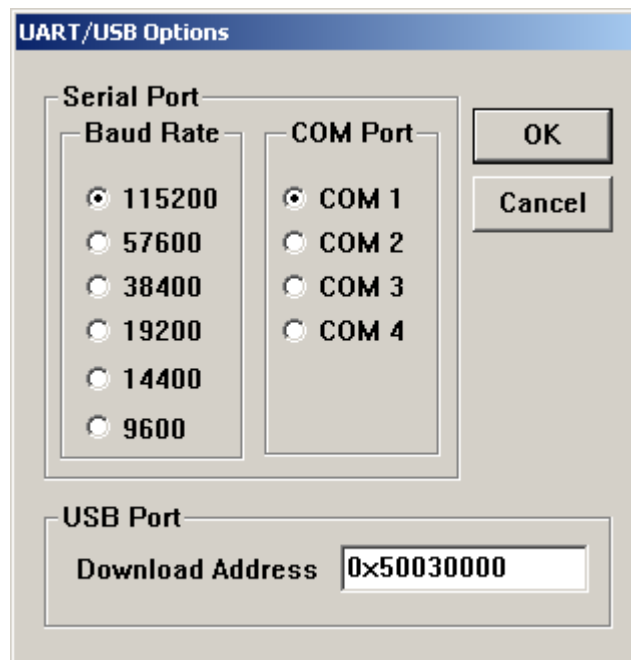


Figure 6-2 UART/USB Options

6. On the Serial Port menu, click Connect. Switch ON the board and then press any key. The DNW window appears as shown in figure 6-3.

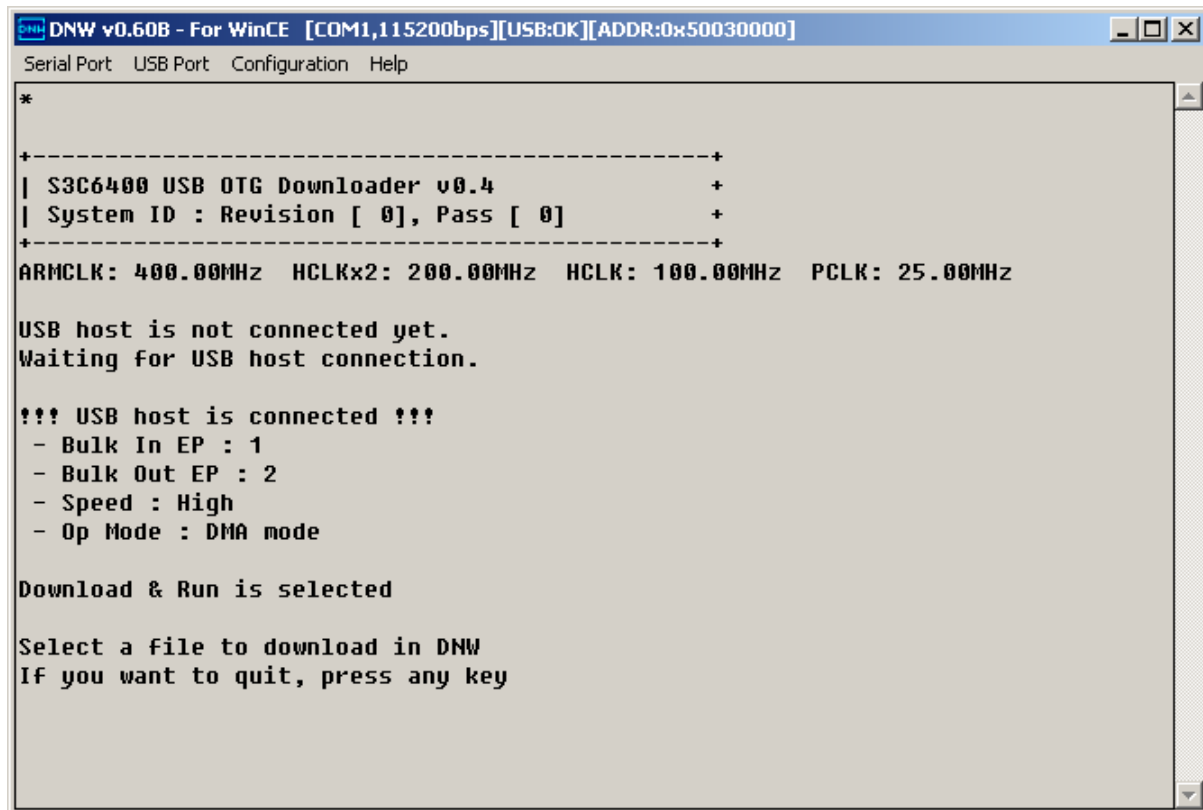


Figure 6-3 DNW Window after Board Power ON

7. Press any key to see USB OTG Mon menu. Now DNW window appears as shown below.

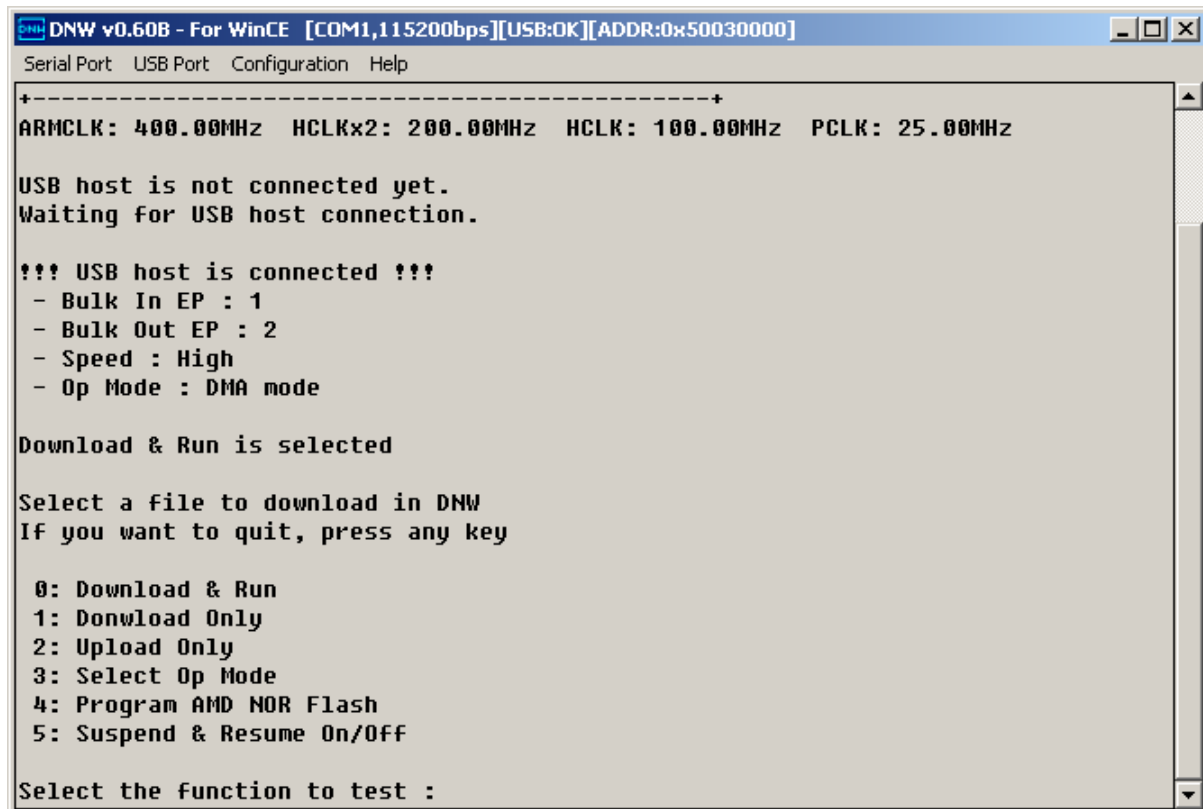


Figure 6-4 usb OTG Mon menu

8. Enter 0 to download and run the Image on the board. DNW window appears as shown in figure 6-5.

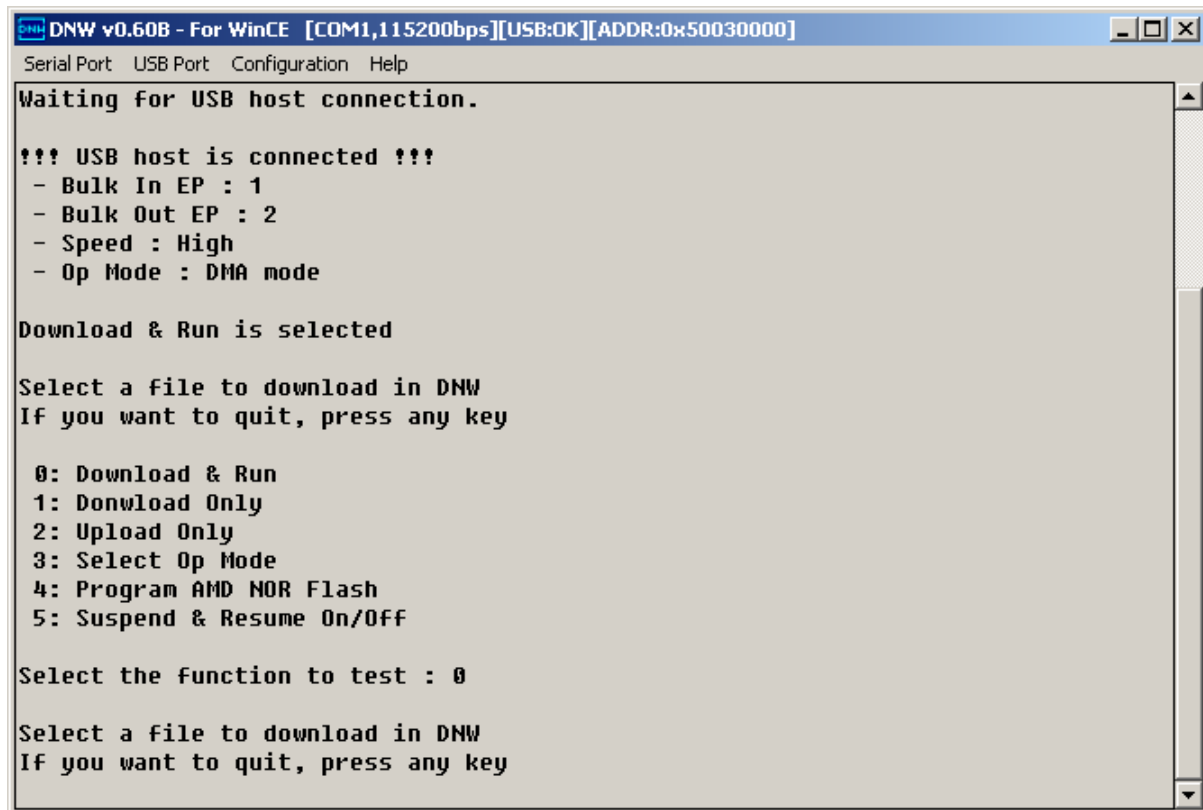


Figure 6-5 Download & Run

9. On the USB Port menu, click Transmit and the following window appears on your screen. Select EBOOT.nb0 file from X:\WINCE600\OSDesigns\[OSDesign name] \[OSDesign name]\ReIDir\SMDK6410\_ARMV4I\_Release directory and then click Open button.

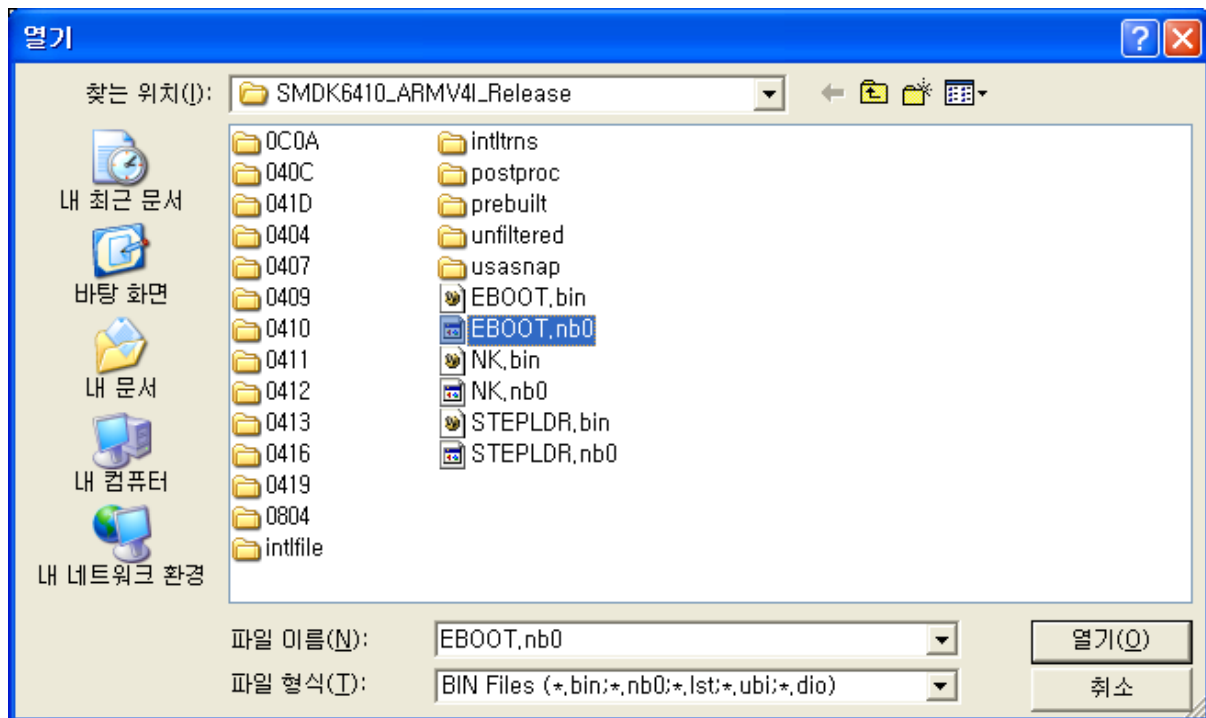
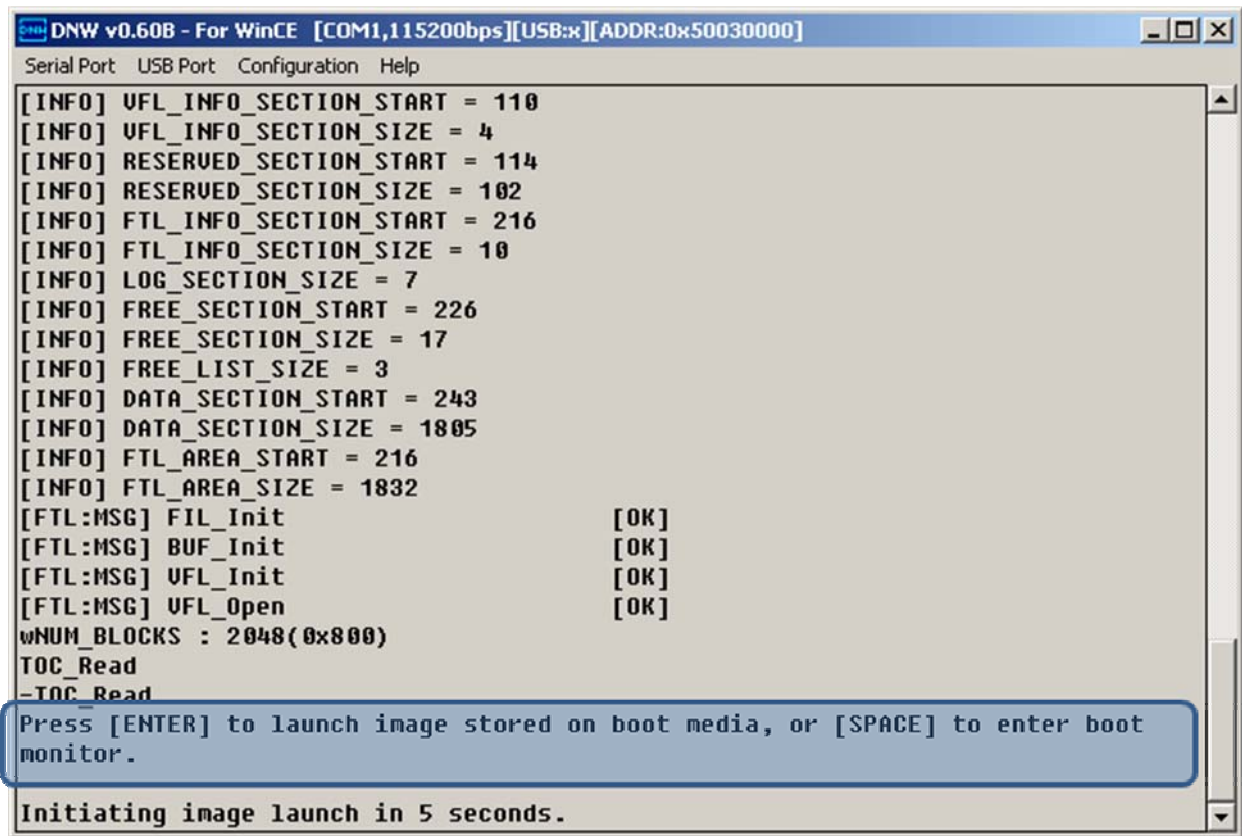


Figure 6-6 Selecting EBOOT.nb0 for Download

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



The screenshot shows a window titled "DNW v0.60B - For WinCE [COM1,115200bps][USB:x][ADDR:0x50030000]". The window has a menu bar with "Serial Port", "USB Port", "Configuration", and "Help". The main text area displays the following information:

```
[INFO] VFL_INFO_SECTION_START = 110
[INFO] VFL_INFO_SECTION_SIZE = 4
[INFO] RESERVED_SECTION_START = 114
[INFO] RESERVED_SECTION_SIZE = 102
[INFO] FTL_INFO_SECTION_START = 216
[INFO] FTL_INFO_SECTION_SIZE = 10
[INFO] LOG_SECTION_SIZE = 7
[INFO] FREE_SECTION_START = 226
[INFO] FREE_SECTION_SIZE = 17
[INFO] FREE_LIST_SIZE = 3
[INFO] DATA_SECTION_START = 243
[INFO] DATA_SECTION_SIZE = 1805
[INFO] FTL_AREA_START = 216
[INFO] FTL_AREA_SIZE = 1832
[FTL:MSG] FIL_Init [OK]
[FTL:MSG] BUF_Init [OK]
[FTL:MSG] VFL_Init [OK]
[FTL:MSG] VFL_Open [OK]
wNUM_BLOCKS : 2048(0x800)
TOC_Read
-TOC_Read
```

A blue-bordered box at the bottom of the window contains the text: "Press [ENTER] to launch image stored on boot media, or [SPACE] to enter boot monitor." Below this box, the text "Initiating image launch in 5 seconds." is displayed.

Figure 6-7 After EBOOT.nb0 Download

11. Please hit the SPACE BAR key to view the current Ethernet Boot Loader Configuration.

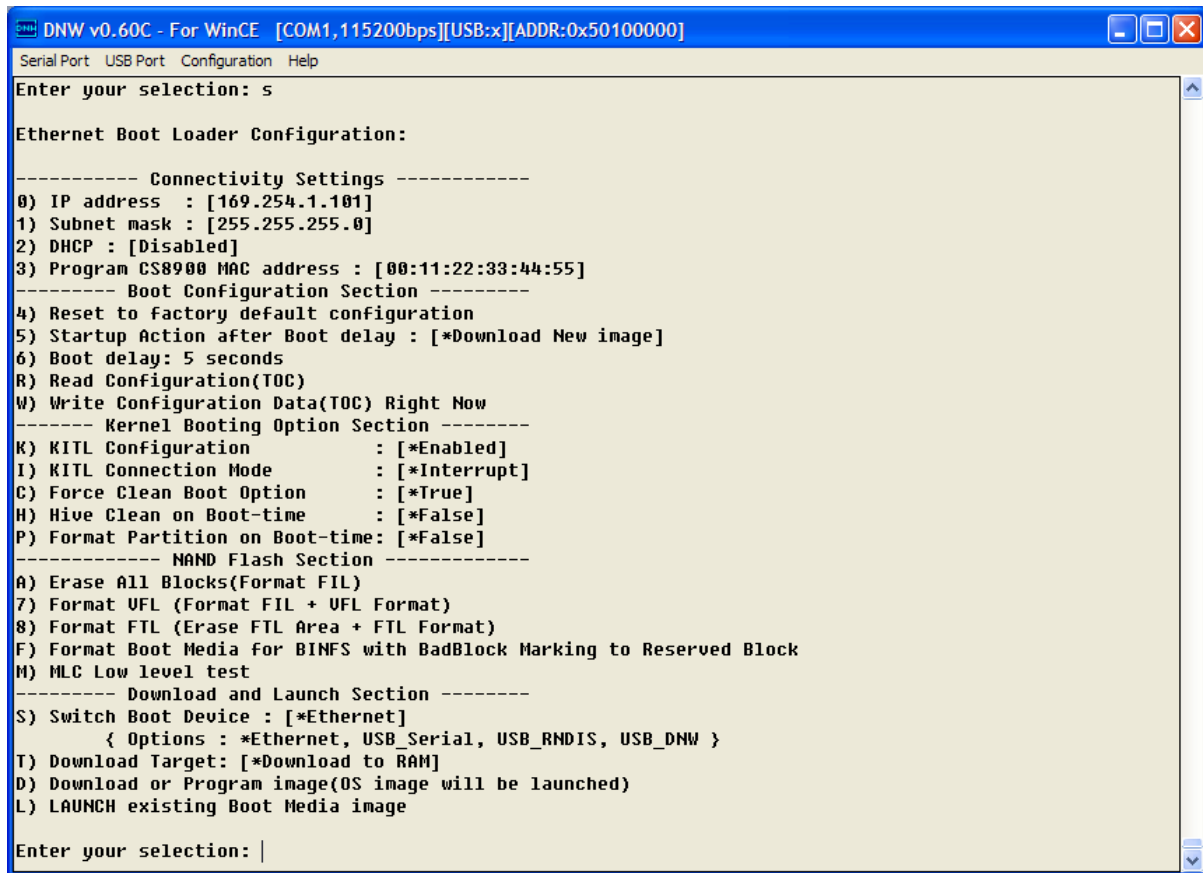
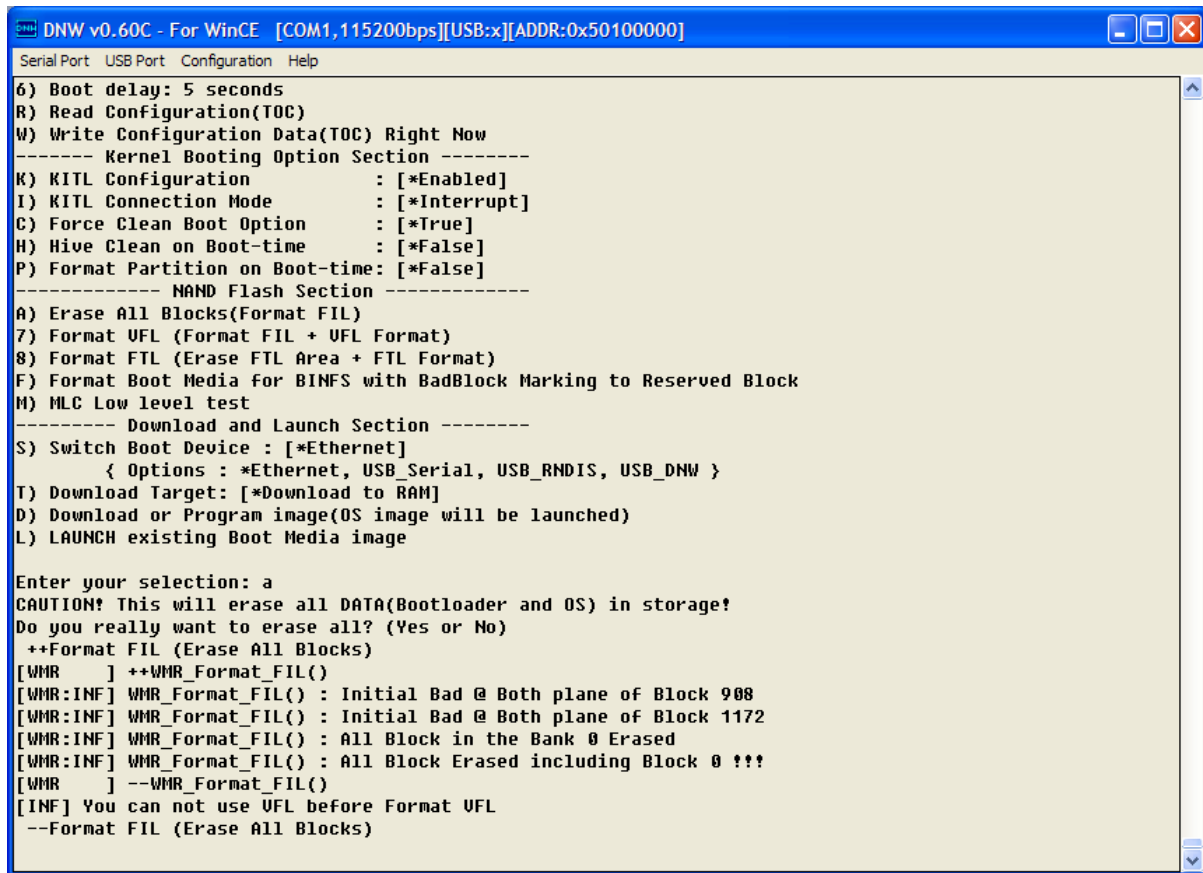


Figure 6-8 Ethernet Boot Loader Configuration - Before



12. And then Enter [A] for Erase All Blocks. If so, You can see the below window.



```

DNW v0.60C - For WinCE [COM1,115200bps][USB:x][ADDR:0x50100000]
Serial Port  USB Port  Configuration  Help
6) Boot delay: 5 seconds
R) Read Configuration(TOC)
W) Write Configuration Data(TOC) Right Now
----- Kernel Booting Option Section -----
K) KITL Configuration      : [*Enabled]
I) KITL Connection Mode    : [*Interrupt]
C) Force Clean Boot Option : [*True]
H) Hive Clean on Boot-time : [*False]
P) Format Partition on Boot-time: [*False]
----- NAND Flash Section -----
A) Erase All Blocks(Format FIL)
7) Format UFL (Format FIL + UFL Format)
8) Format FTL (Erase FTL Area + FTL Format)
F) Format Boot Media for BINFS with BadBlock Marking to Reserved Block
M) MLC Low level test
----- Download and Launch Section -----
S) Switch Boot Device : [*Ethernet]
   { Options : *Ethernet, USB_Serial, USB_RNDIS, USB_DNW }
T) Download Target: [*Download to RAM]
D) Download or Program image(OS image will be launched)
L) LAUNCH existing Boot Media image

Enter your selection: a
CAUTION! This will erase all DATA(Bootloader and OS) in storage!
Do you really want to erase all? (Yes or No)
++Format FIL (Erase All Blocks)
[WMR  ] ++WMR_Format_FIL()
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 908
[WMR:INF] WMR_Format_FIL() : Initial Bad @ Both plane of Block 1172
[WMR:INF] WMR_Format_FIL() : All Block in the Bank 0 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)
  
```

Figure 6-9 Format FIL (Erase All Blocks)

13. Reset the board. DNW window appears as shown in figure 6-10.

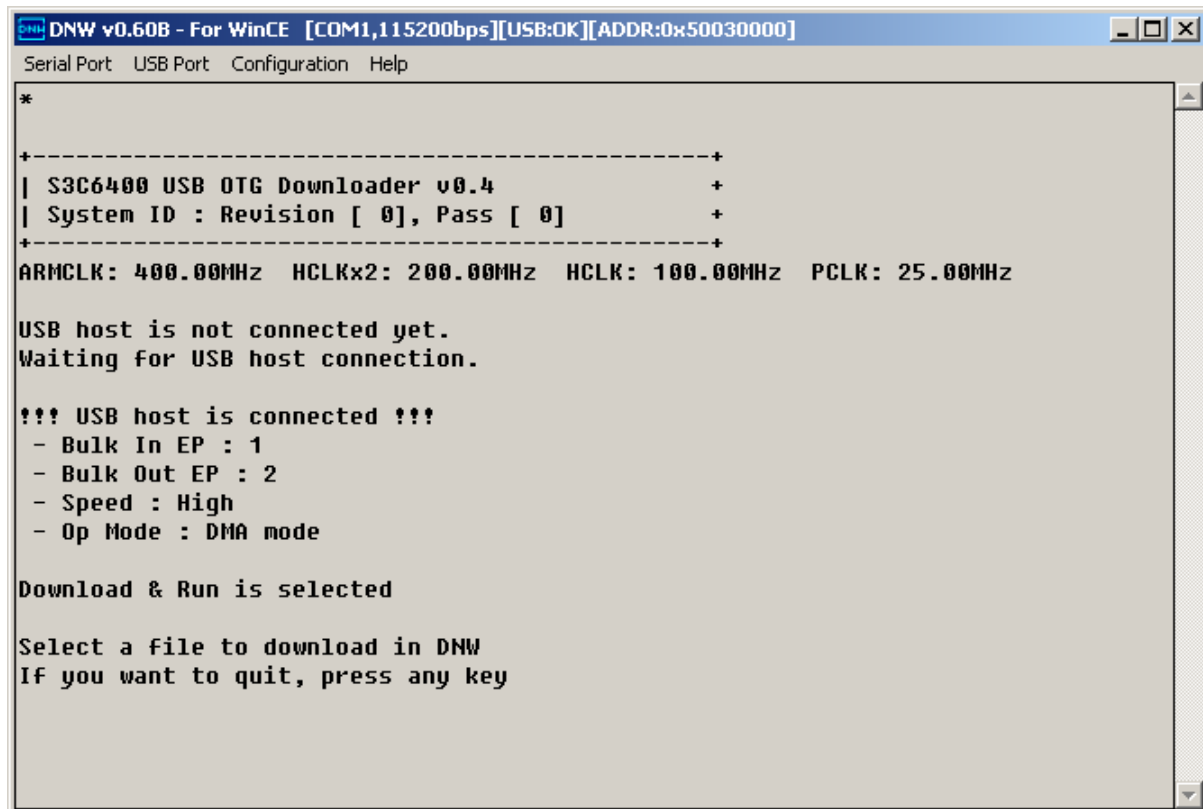


Figure 6-10 DNW Window after reset

14. On the USB Port menu, click Transmit and the following window appears on your screen. Select EBOOT.nb0 file from X:\WINCE600\OSDesigns\[OSDesign name] \[OSDesign name]\ReIDir\SMDK6410\_ARMV4I \_Release directory and then click Open button.

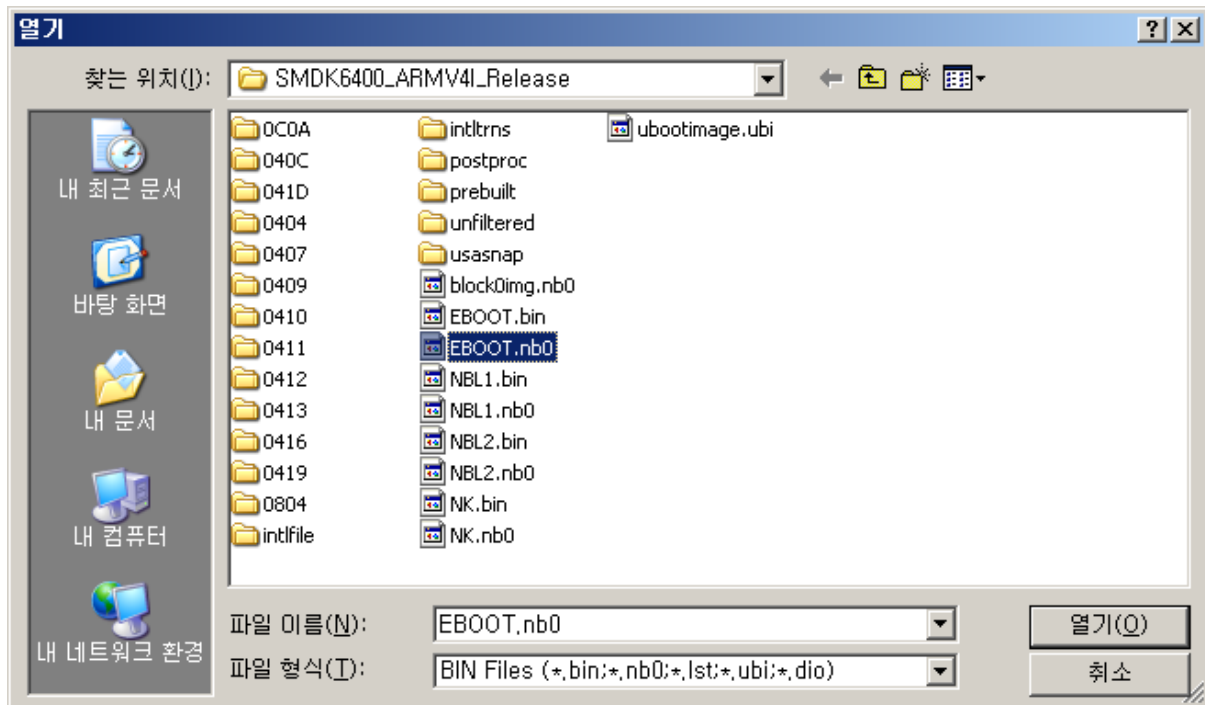
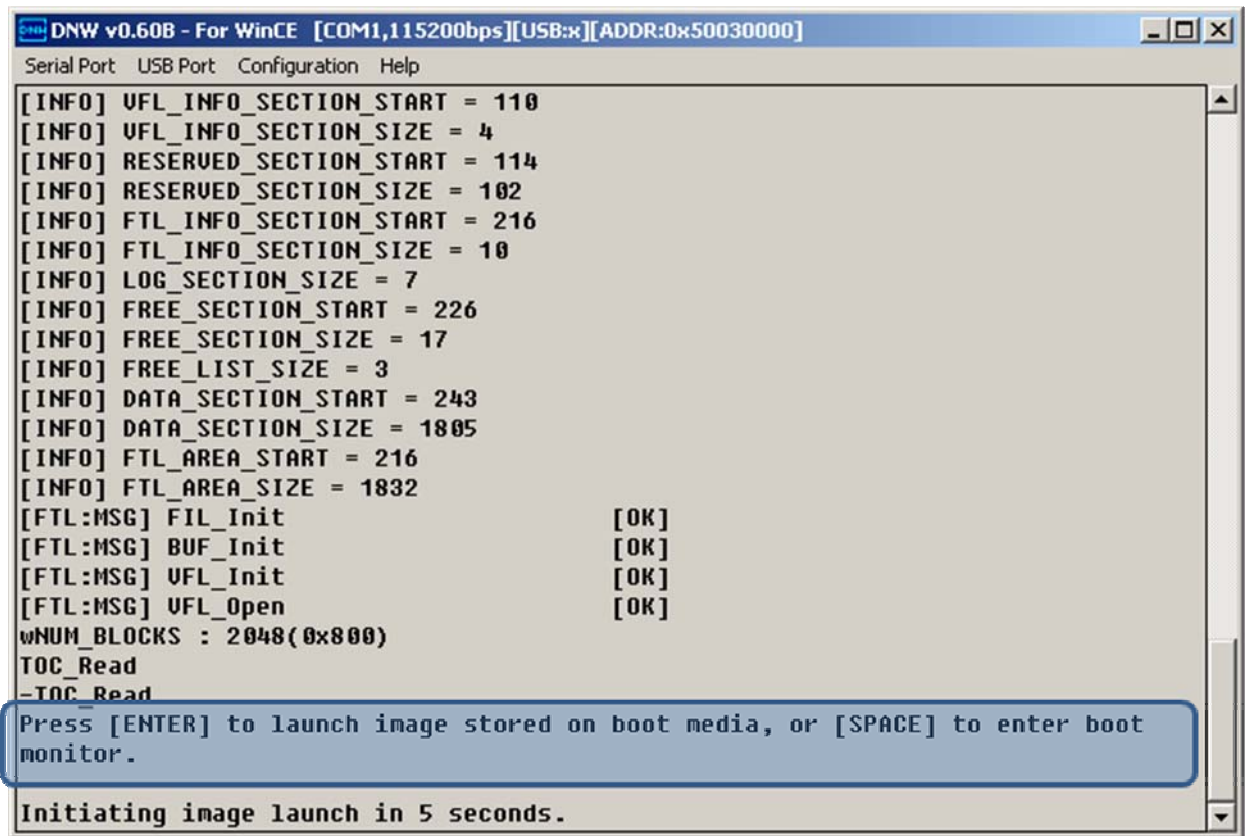


Figure 6-11 Selecting EBOOT.nb0 for Download

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



The screenshot shows a window titled "DNW v0.60B - For WinCE [COM1,115200bps][USB:x][ADDR:0x50030000]". The window has a menu bar with "Serial Port", "USB Port", "Configuration", and "Help". The main area displays the following text:

```
[INFO] VFL_INFO_SECTION_START = 110
[INFO] VFL_INFO_SECTION_SIZE = 4
[INFO] RESERVED_SECTION_START = 114
[INFO] RESERVED_SECTION_SIZE = 102
[INFO] FTL_INFO_SECTION_START = 216
[INFO] FTL_INFO_SECTION_SIZE = 10
[INFO] LOG_SECTION_SIZE = 7
[INFO] FREE_SECTION_START = 226
[INFO] FREE_SECTION_SIZE = 17
[INFO] FREE_LIST_SIZE = 3
[INFO] DATA_SECTION_START = 243
[INFO] DATA_SECTION_SIZE = 1805
[INFO] FTL_AREA_START = 216
[INFO] FTL_AREA_SIZE = 1832
[FTL:MSG] FIL_Init [OK]
[FTL:MSG] BUF_Init [OK]
[FTL:MSG] VFL_Init [OK]
[FTL:MSG] VFL_Open [OK]
wNUM_BLOCKS : 2048(0x800)
TOC_Read
-TOC_Read
Press [ENTER] to launch image stored on boot media, or [SPACE] to enter boot
monitor.
Initiating image launch in 5 seconds.
```

Figure 6-12 After EBOOT.nb0 Download

16. Please hit the SPACE BAR key to view the current Ethernet Boot Loader Configuration.

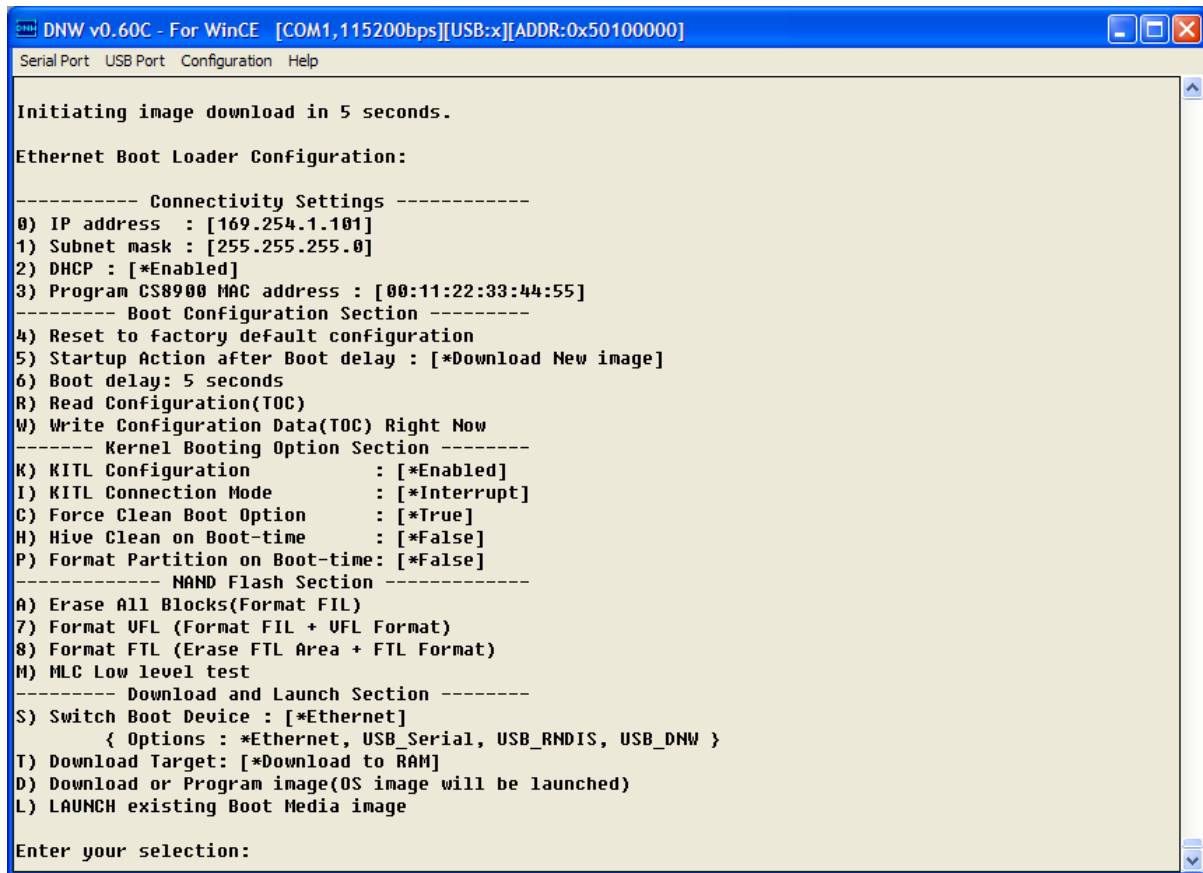


Figure 6-13 Ethernet Boot Loader Configuration - Before

17. Configure the Ethernet Boot loader as follows by entering the respective options:

- Enter [5] to change Startup action after Boot Delay to Launch Existing OS image from Storage. Default values is Download New Image
- Enter [T] to change Download Target to Write to NAND Storage. Default value is Download to RAM
- Enter [K] to change KITL Configuration to DISABLE. Default value is Enabled
- Enter [S] twice to change Boot Device to USB\_DNW. Default value is Ethernet.
- Enter [W] to Write Configuration Right Now

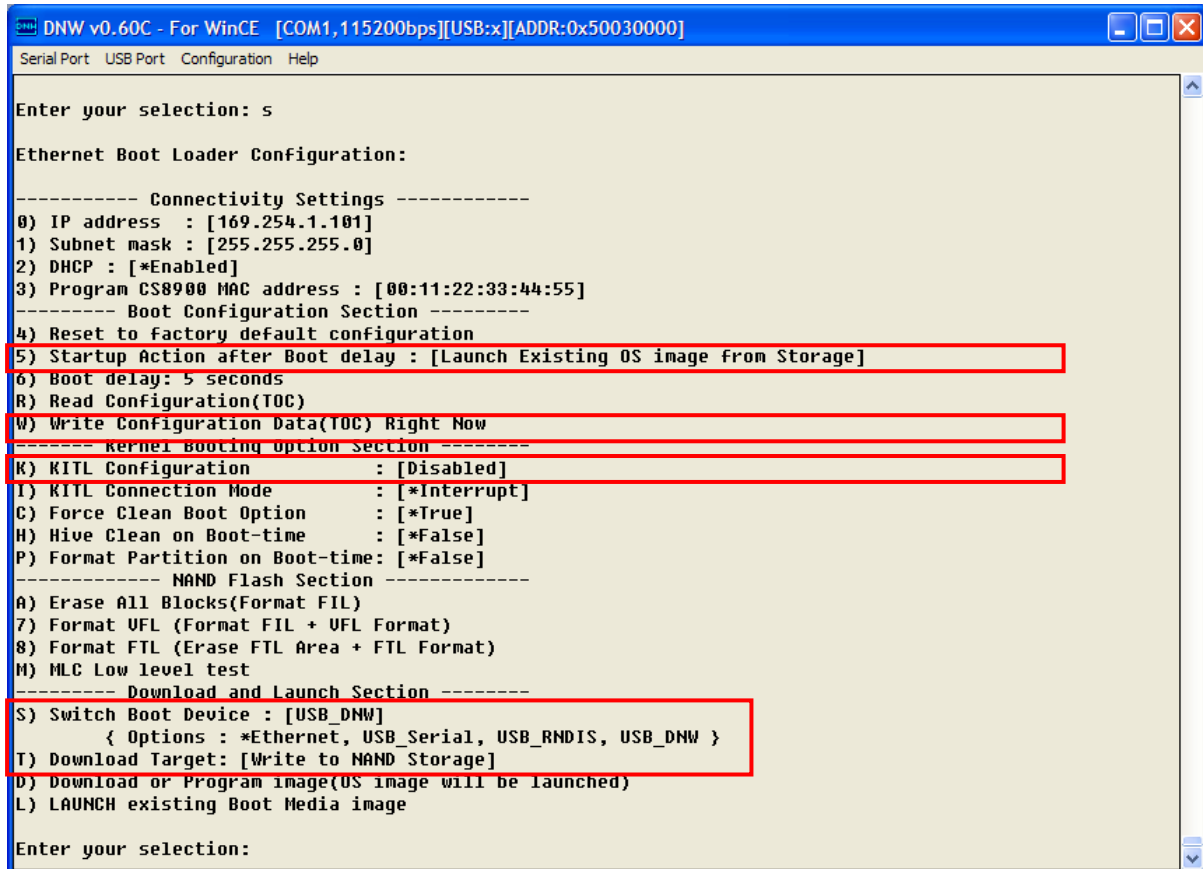
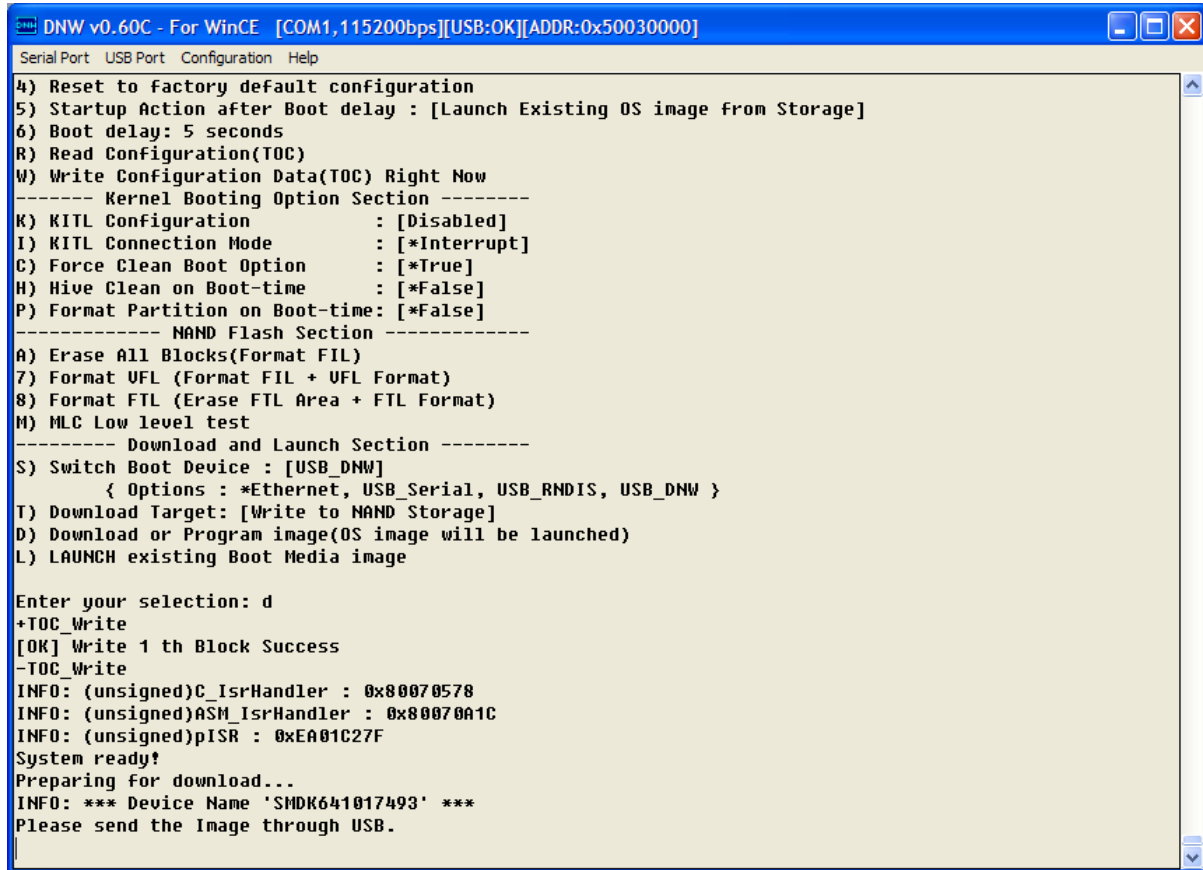


Figure 6-14 Ethernet Boot Loader Configuration - After

18. Change the [0] IP address and [1] Subnet Mask manually on your Host PC in TCP/IP properties before you start to download the OS image to the target board via Ethernet or USB\_RNDIS. For example, if the Target Board IP Address is 192.168.1.200, then set Host PC IP address as 192.168.1.100. Set the subnet mask as 255.255.255.0. If you has some collision. Try to change the [3] MAC Address like 33:44:55:66:77:88. You can skip this step for downloading via USB\_DNW or USB\_Serial.

And Enter [D] to Download image with selected Boot device. Then you can see the below messages.



```

DNW v0.60C - For WinCE [COM1,115200bps][USB:OK][ADDR:0x50030000]
Serial Port  USB Port  Configuration  Help
4) Reset to factory default configuration
5) Startup Action after Boot delay : [Launch Existing OS image from Storage]
6) Boot delay: 5 seconds
R) Read Configuration(TOC)
W) Write Configuration Data(TOC) Right Now
----- Kernel Booting Option Section -----
K) KITL Configuration          : [Disabled]
I) KITL Connection Mode       : [*Interrupt]
C) Force Clean Boot Option    : [*True]
H) Hive Clean on Boot-time    : [*False]
P) Format Partition on Boot-time: [*False]
----- NAND Flash Section -----
A) Erase All Blocks(Format FIL)
7) Format UFL (Format FIL + UFL Format)
8) Format FTL (Erase FTL Area + FTL Format)
M) MLC Low level test
----- Download and Launch Section -----
S) Switch Boot Device : [USB_DNW]
   { Options : *Ethernet, USB_Serial, USB_RNDIS, USB_DNW }
T) Download Target: [Write to NAND Storage]
D) Download or Program image(OS image will be launched)
L) LAUNCH existing Boot Media image

Enter your selection: d
+TOC_Write
[OK] Write 1 th Block Success
-TOC_Write
INFO: (unsigned)C_IsrHandler : 0x80070578
INFO: (unsigned)ASM_IsrHandler : 0x80070A1C
INFO: (unsigned)pISR : 0xEA01C27F
System ready!
Preparing for download...
INFO: *** Device Name 'SMDK641017493' ***
Please send the Image through USB.
  
```

Figure 6-15 Preparing to download image through USB

19. On the USB Port menu click UBOOT and the following window appears on your screen. Select block0img.nb0 from X:\WINCE600\OSDesigns\[OSDesign name]\[OSDesign name]\ReIDir\SMDK6410\_ARMV4I\_Release directory and then click Open button.

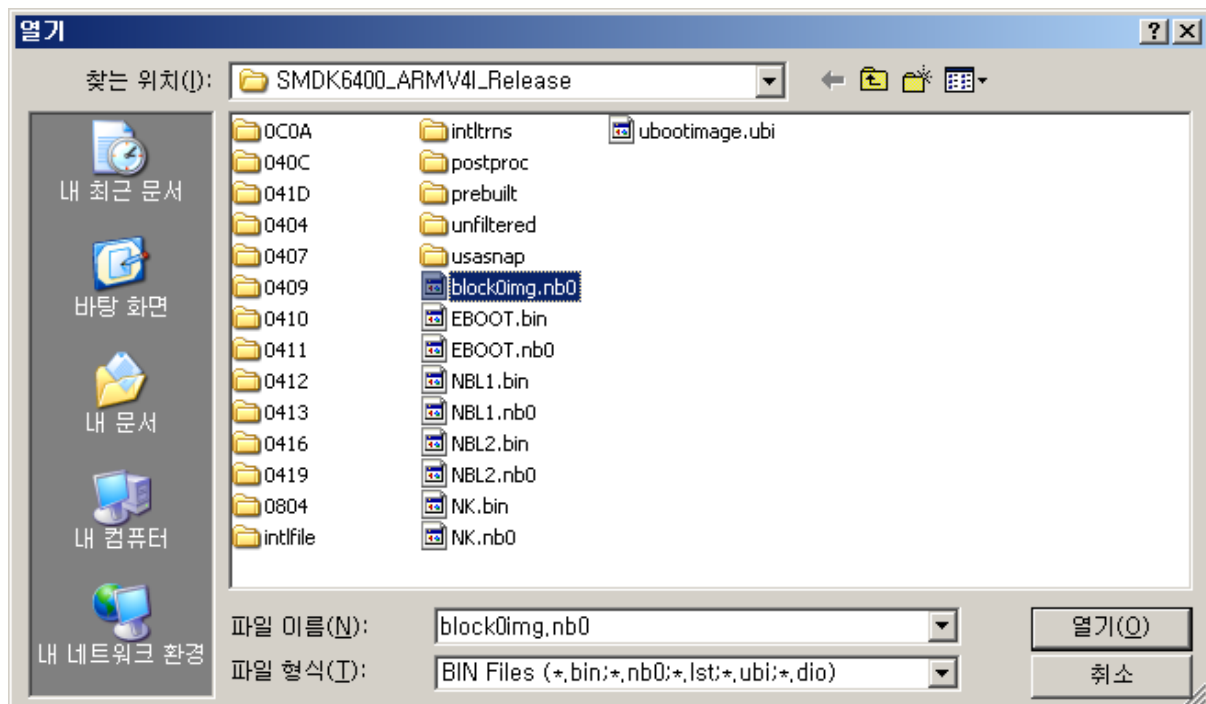
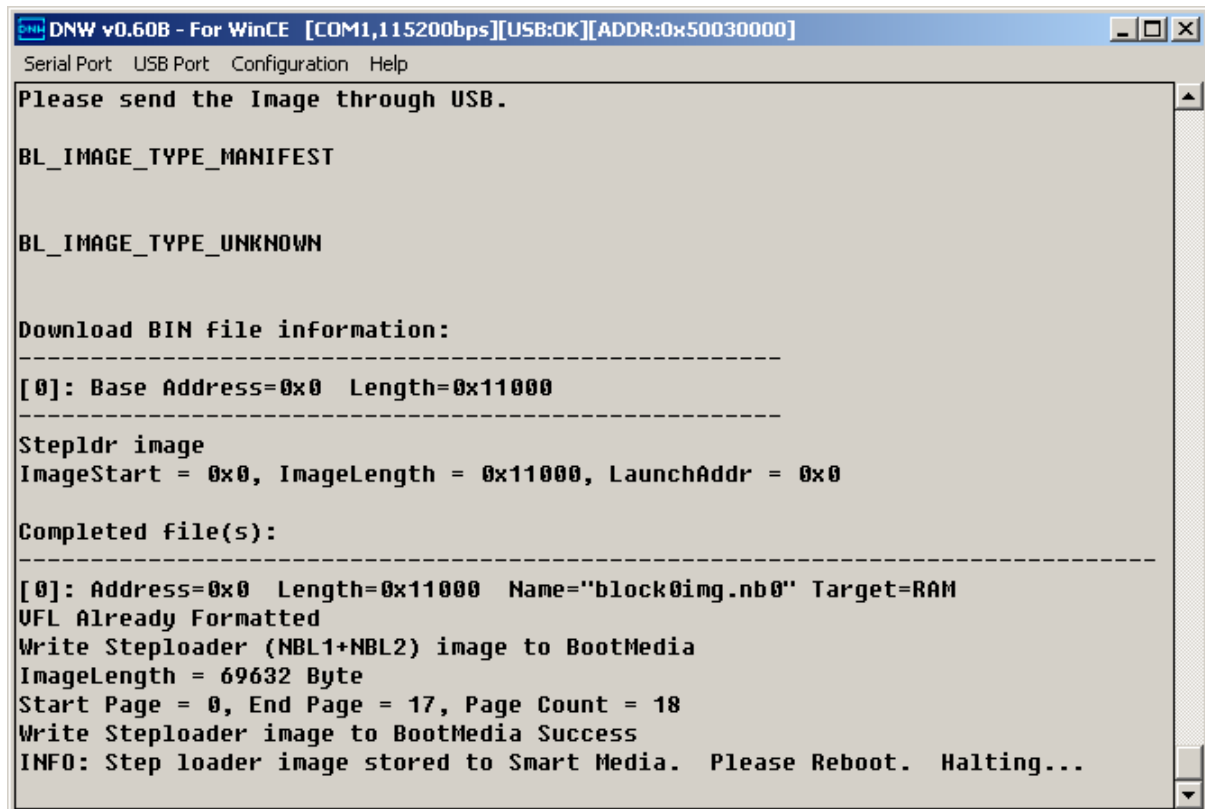


Figure 6-16 Selecting block0img.nb0 for Download



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



The screenshot shows a window titled "DNW v0.60B - For WinCE [COM1,115200bps][USB:OK][ADDR:0x50030000]". The window has a menu bar with "Serial Port", "USB Port", "Configuration", and "Help". The main text area displays the following messages:

```
Please send the Image through USB.

BL_IMAGE_TYPE_MANIFEST

BL_IMAGE_TYPE_UNKNOWN

Download BIN file information:
-----
[0]: Base Address=0x0  Length=0x11000
-----

Stepldr image
ImageStart = 0x0, ImageLength = 0x11000, LaunchAddr = 0x0

Completed file(s):
-----
[0]: Address=0x0  Length=0x11000  Name="block0img.nb0" Target=RAM
UFL Already Formatted
Write Steploader (NBL1+NBL2) image to BootMedia
ImageLength = 69632 Byte
Start Page = 0, End Page = 17, Page Count = 18
Write Steploader image to BootMedia Success
INFO: Step loader image stored to Smart Media. Please Reboot. Halting...
```

Figure 6-17 Messages via UART Port after block0img.nb0 Download

21. Reset the board. DNW window appears as shown in figure 6-18.

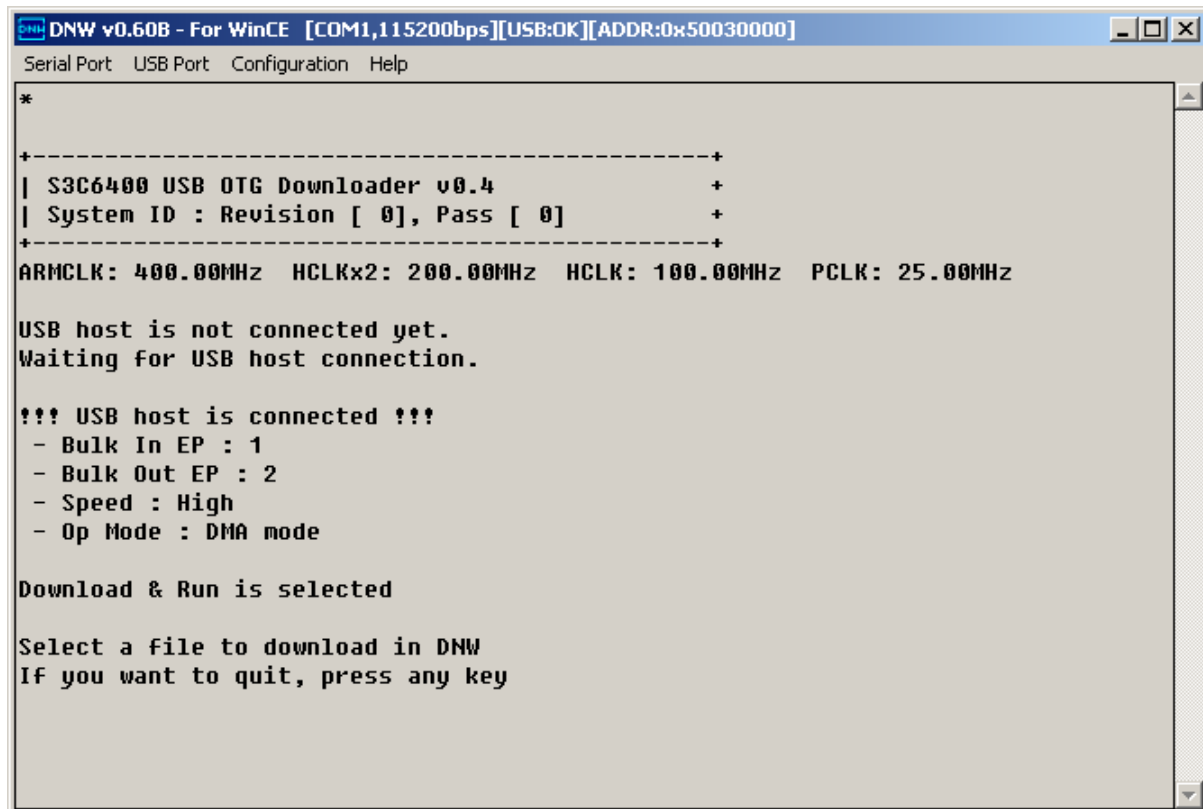


Figure 6-18 DNW Window after reset

22. On the USB Port menu, click Transmit and the following window appears on your screen. Select EBOOT.nb0 file from X:\WINCE600\OSDesigns\[OSDesign name] \[OSDesign name]\ReIDir\SMDK6410\_ARMV4I\_Release directory and then click Open button.

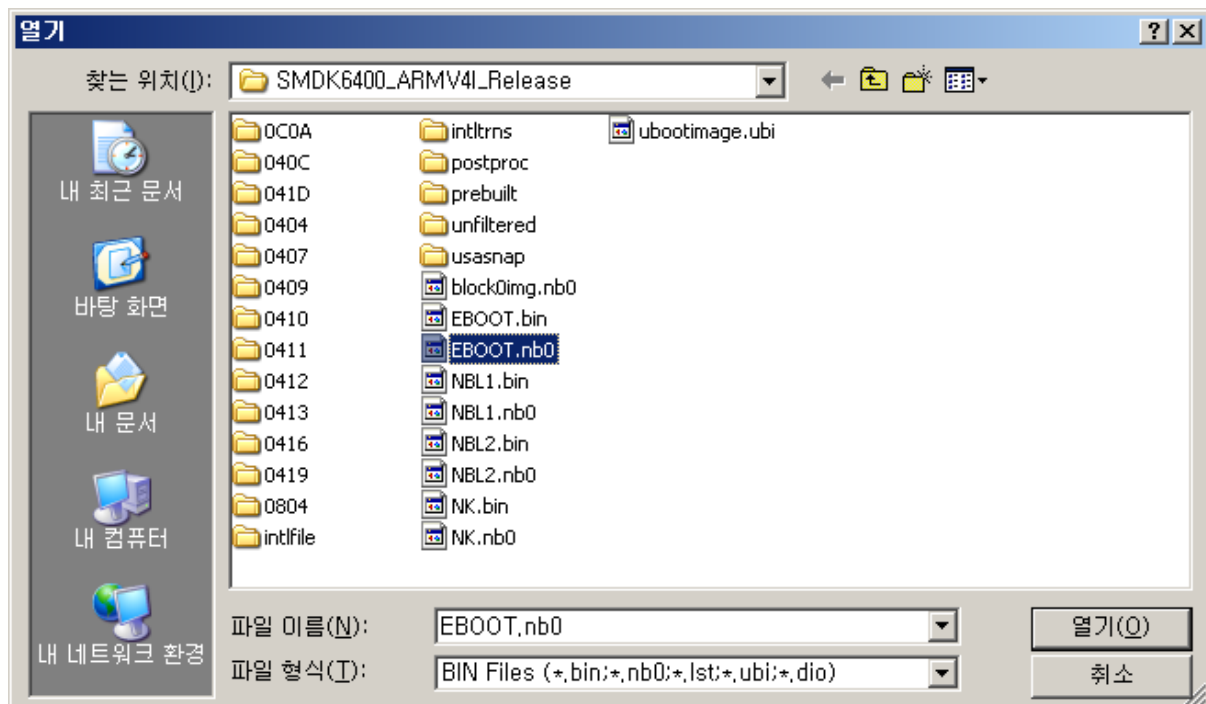
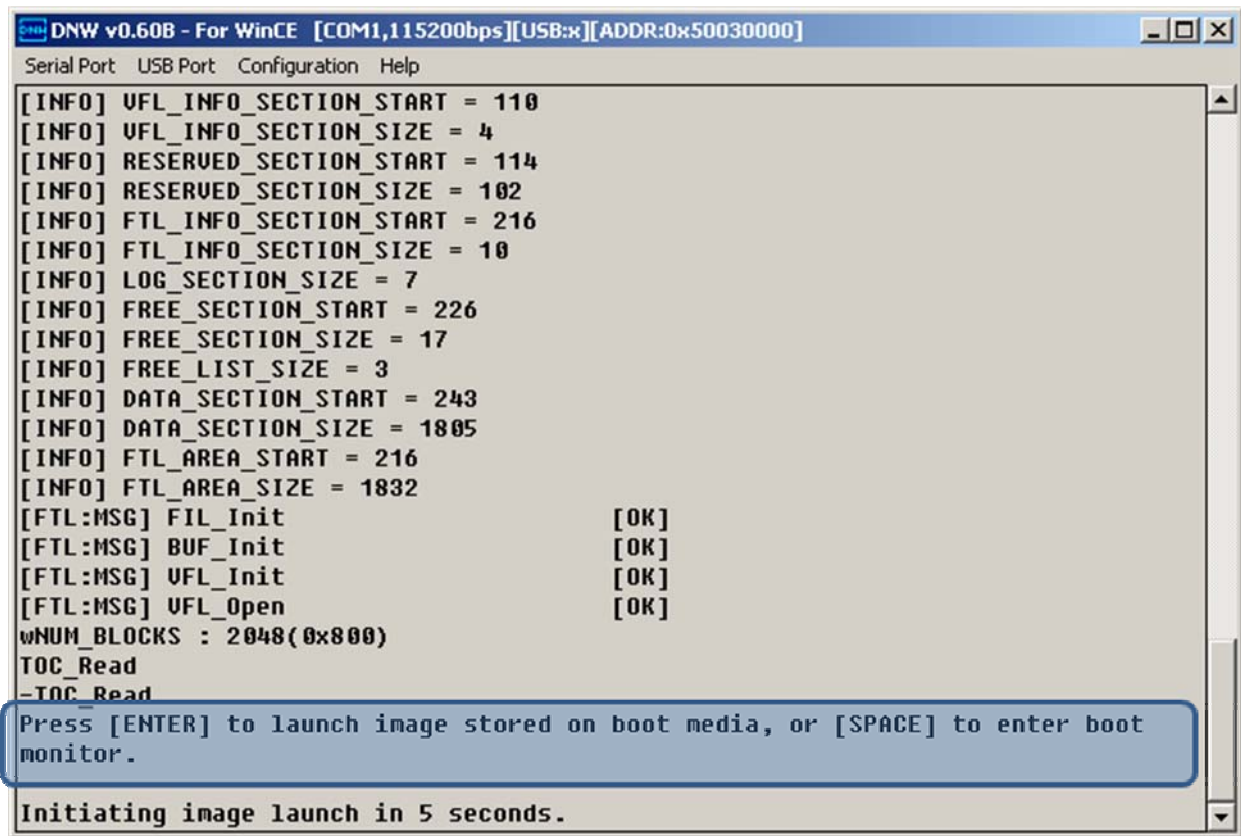


Figure 6-19 Selecting EBOOT.nb0 for Download

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



The screenshot shows a window titled "DNW v0.60B - For WinCE [COM1,115200bps][USB:x][ADDR:0x50030000]". The window has a menu bar with "Serial Port", "USB Port", "Configuration", and "Help". The main area displays the following text:

```
[INFO] UFL_INFO_SECTION_START = 110
[INFO] UFL_INFO_SECTION_SIZE = 4
[INFO] RESERVED_SECTION_START = 114
[INFO] RESERVED_SECTION_SIZE = 102
[INFO] FTL_INFO_SECTION_START = 216
[INFO] FTL_INFO_SECTION_SIZE = 10
[INFO] LOG_SECTION_SIZE = 7
[INFO] FREE_SECTION_START = 226
[INFO] FREE_SECTION_SIZE = 17
[INFO] FREE_LIST_SIZE = 3
[INFO] DATA_SECTION_START = 243
[INFO] DATA_SECTION_SIZE = 1805
[INFO] FTL_AREA_START = 216
[INFO] FTL_AREA_SIZE = 1832
[FTL:MSG] FIL_Init [OK]
[FTL:MSG] BUF_Init [OK]
[FTL:MSG] UFL_Init [OK]
[FTL:MSG] UFL_Open [OK]
wNUM_BLOCKS : 2048(0x800)
TOC_Read
-TOC_Read
```

A blue-bordered box contains the text: "Press [ENTER] to launch image stored on boot media, or [SPACE] to enter boot monitor."

Below the box, it says: "Initiating image launch in 5 seconds."

Figure 6-20 After EBOOT.nb0 Download

24. Please hit the SPACE BAR key to view the current Ethernet Boot Loader Configuration.

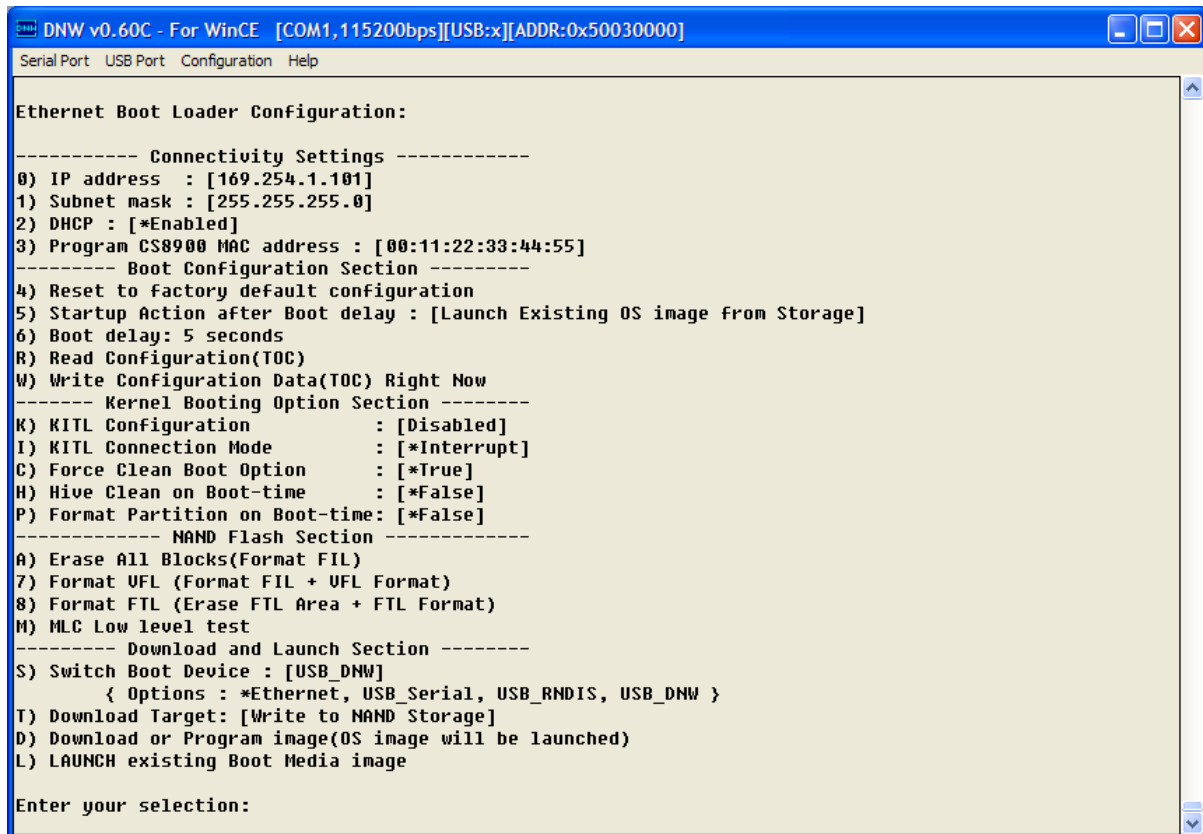
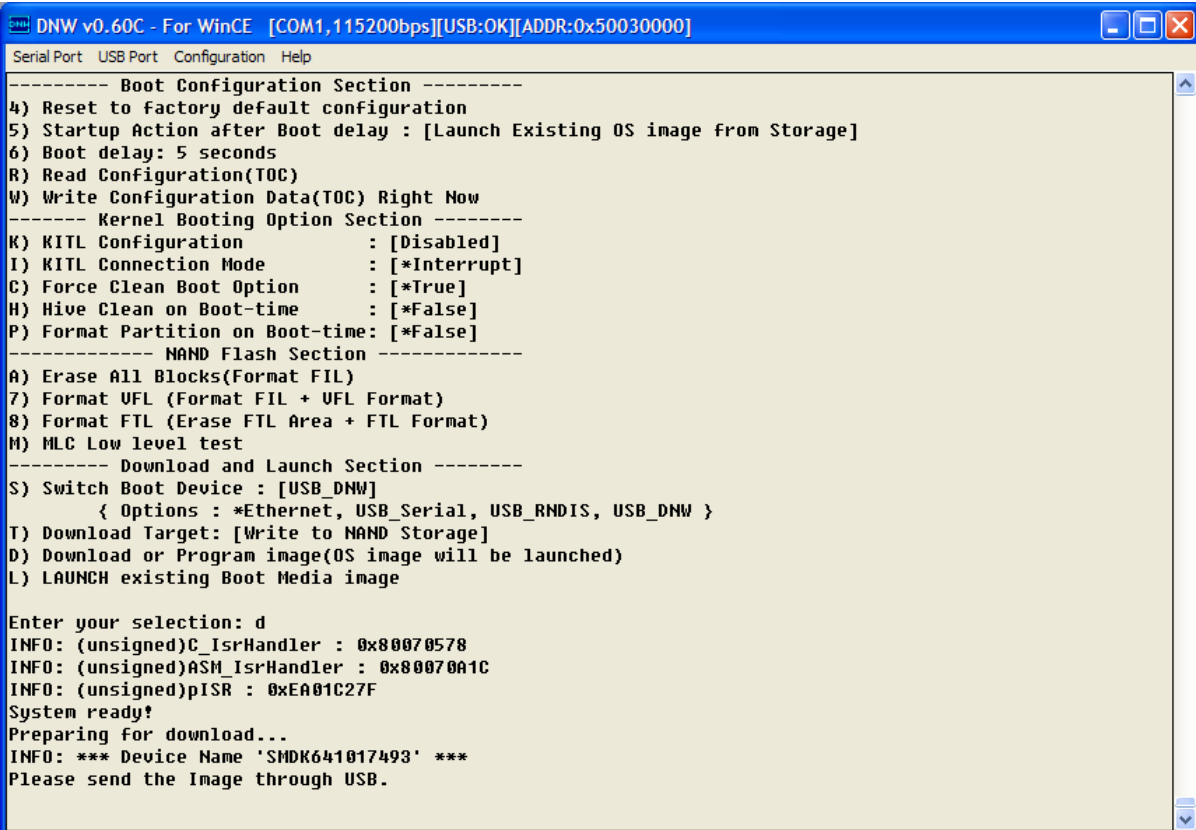


Figure 6-21 Ethernet Boot Loader Configuration

25. Enter [D] to Download image, the following messages appear in the DNW window.



```
DNW v0.60C - For WinCE [COM1,115200bps][USB:OK][ADDR:0x50030000]
Serial Port  USB Port  Configuration  Help
----- Boot Configuration Section -----
4) Reset to factory default configuration
5) Startup Action after Boot delay : [Launch Existing OS image from Storage]
6) Boot delay: 5 seconds
R) Read Configuration(TOC)
W) Write Configuration Data(TOC) Right Now
----- Kernel Booting Option Section -----
K) KITL Configuration      : [Disabled]
I) KITL Connection Mode    : [*Interrupt]
C) Force Clean Boot Option : [*True]
H) Hive Clean on Boot-time : [*False]
P) Format Partition on Boot-time: [*False]
----- NAND Flash Section -----
A) Erase All Blocks(Format FIL)
7) Format UFL (Format FIL + UFL Format)
8) Format FTL (Erase FTL Area + FTL Format)
M) MLC Low level test
----- Download and Launch Section -----
S) Switch Boot Device : [USB_DNW]
   { Options : *Ethernet, USB_Serial, USB_RNDIS, USB_DNW }
T) Download Target: [Write to NAND Storage]
D) Download or Program image(OS image will be launched)
L) LAUNCH existing Boot Media image

Enter your selection: d
INFO: (unsigned)C_IsrHandler : 0x80070578
INFO: (unsigned)ASM_IsrHandler : 0x80070A1C
INFO: (unsigned)pISR : 0xEA01C27F
System ready!
Preparing for download...
INFO: *** Device Name 'SMDK641017493' ***
Please send the Image through USB.
```

Figure 6-22 Preparing to download image through USB

26. On the USB Port menu click UBOOT and the following window appears on your screen. Select Eboot.bin from X:\WINCE600\OSDesigns\[OSDesign name]\[OSDesign name]\ReDir\SMDK6410\_ARMV4I\_Release directory and then click Open button.

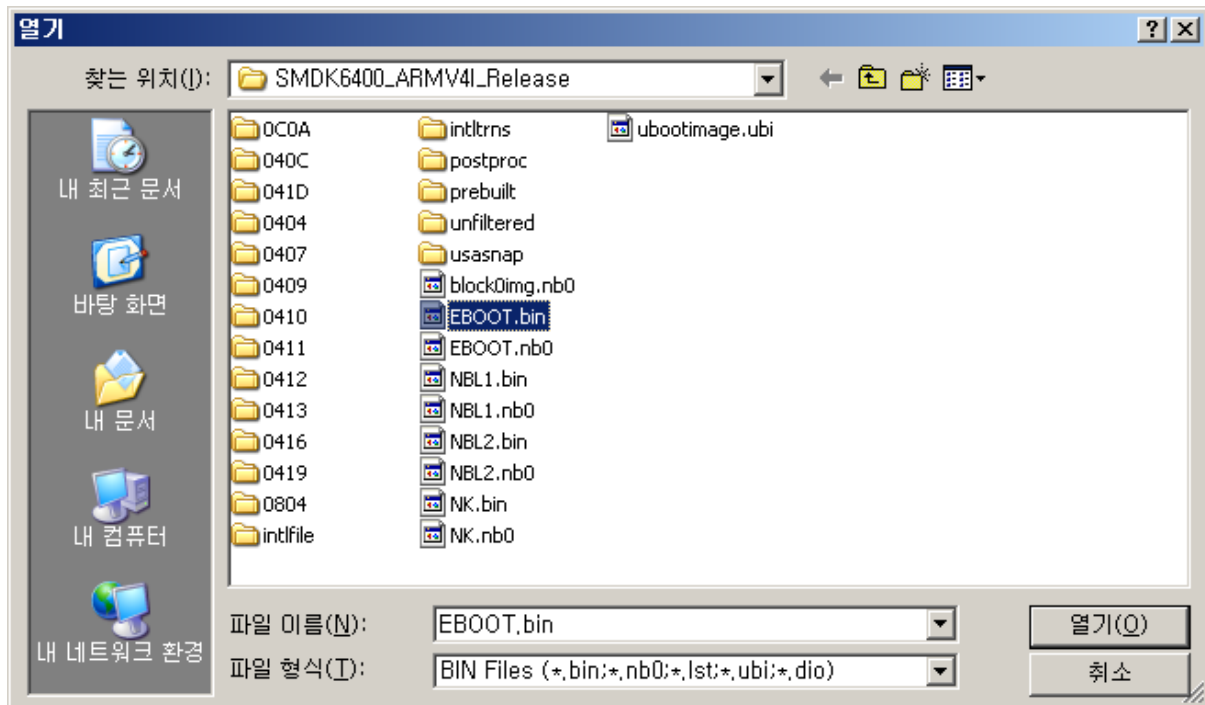
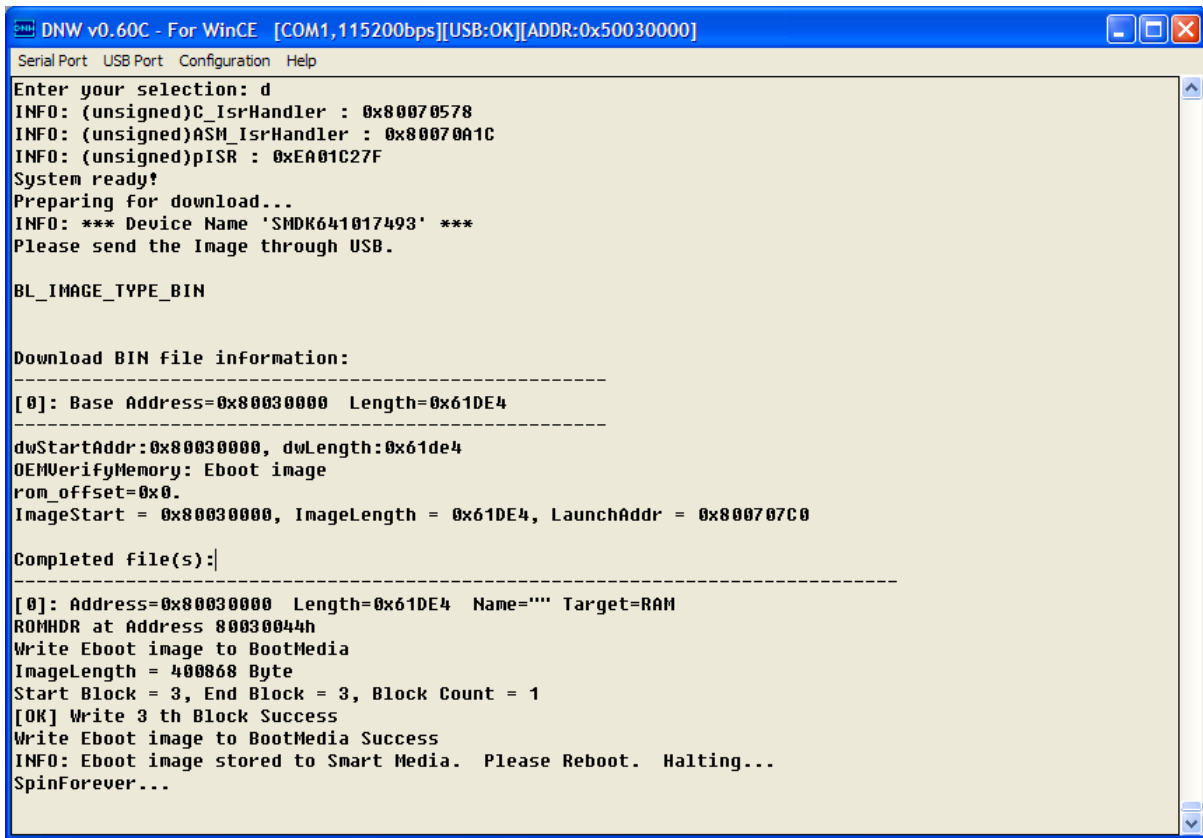


Figure 6-23 Selecting EBOOT.bin for Download

27. You can see the following messages on the DNW window after EBOOT.bin download.



The screenshot shows a window titled "DNW v0.60C - For WinCE [COM1,115200bps][USB:OK][ADDR:0x50030000]". The window has a menu bar with "Serial Port", "USB Port", "Configuration", and "Help". The main text area displays the following messages:

```
Enter your selection: d
INFO: (unsigned)C_IsrHandler : 0x80070578
INFO: (unsigned)ASM_IsrHandler : 0x80070A1C
INFO: (unsigned)pISR : 0xEA01C27F
System ready!
Preparing for download...
INFO: *** Device Name 'SMDK641017493' ***
Please send the Image through USB.

BL_IMAGE_TYPE_BIN

Download BIN file information:
-----
[0]: Base Address=0x80030000 Length=0x61DE4
-----
dwStartAddr:0x80030000, dwLength:0x61de4
OEMVerifyMemory: Eboot image
rom_offset=0x0.
ImageStart = 0x80030000, ImageLength = 0x61DE4, LaunchAddr = 0x800707C0

Completed file(s):|
-----
[0]: Address=0x80030000 Length=0x61DE4 Name="" Target=RAM
ROMHDR at Address 80030044h
Write Eboot image to BootMedia
ImageLength = 400868 Byte
Start Block = 3, End Block = 3, Block Count = 1
[OK] Write 3 th Block Success
Write Eboot image to BootMedia Success
INFO: Eboot image stored to Smart Media. Please Reboot. Halting...
SpinForever...
```

Figure 6-24 Messages via UART Port after EBOOT.bin Download



28. Reset the board. DNW window appears as shown in figure 6-25.

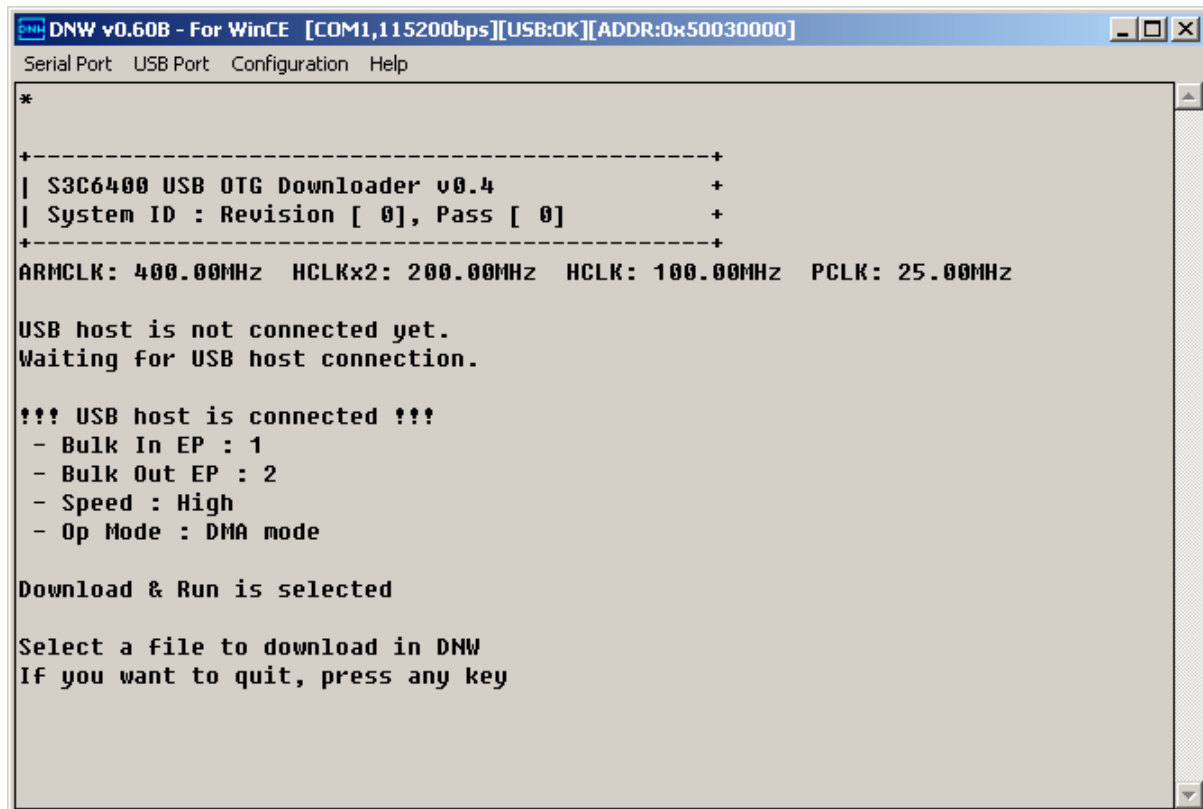


Figure 6-25 DNW Window after reset

29. On the USB Port menu, click Transmit and the following window appears on your screen. Select EBOOT.nb0 file from X:\WINCE600\OSDesigns\[OSDesign name] \[OSDesign name]\ReIDir\SMDK6410\_ARMV4I\_Release directory and then click Open button.

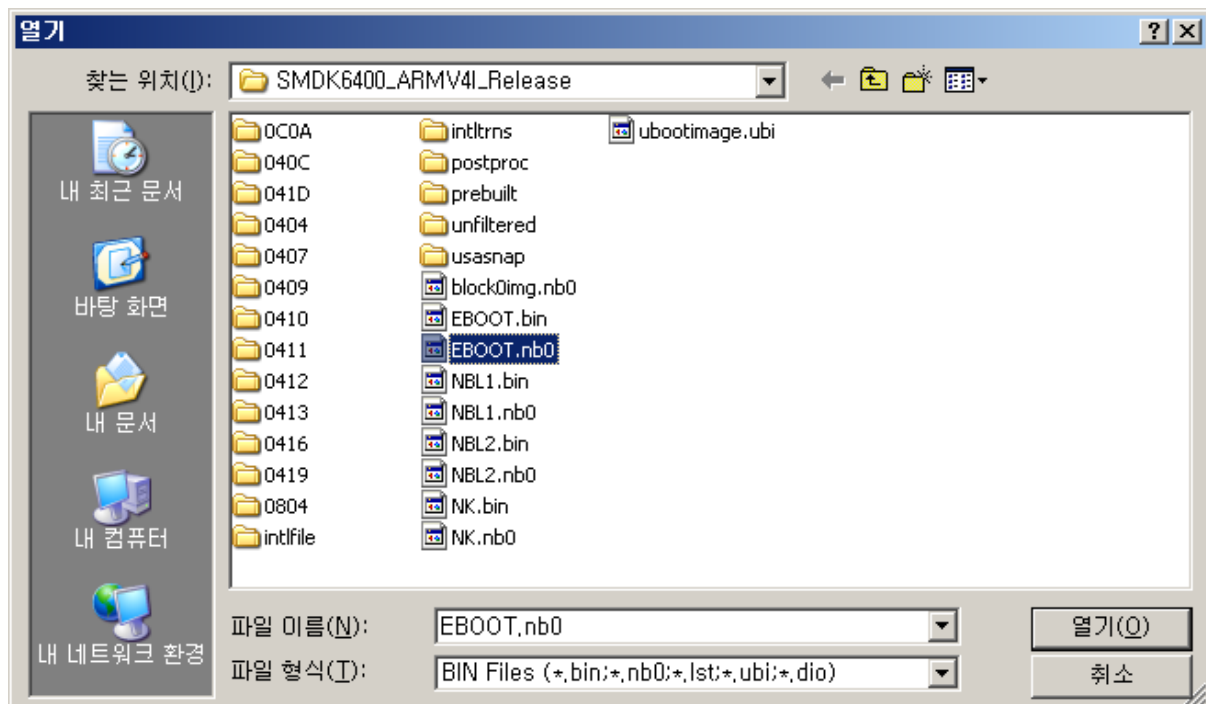
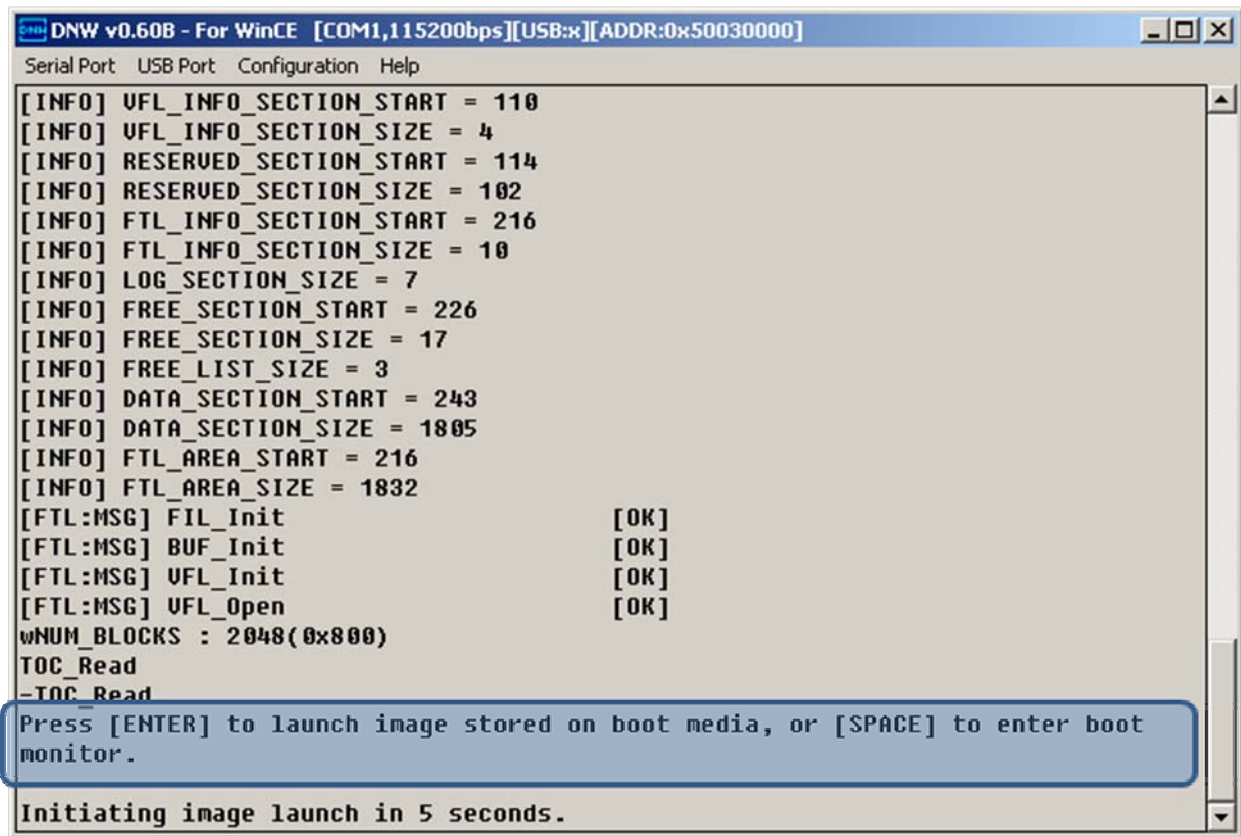


Figure 6-26 Selecting EBOOT.nb0 for Download

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



The screenshot shows a window titled "DNW v0.60B - For WinCE [COM1,115200bps][USB:x][ADDR:0x50030000]". The window has a menu bar with "Serial Port", "USB Port", "Configuration", and "Help". The main area displays the following text:

```
[INFO] VFL_INFO_SECTION_START = 110
[INFO] VFL_INFO_SECTION_SIZE = 4
[INFO] RESERVED_SECTION_START = 114
[INFO] RESERVED_SECTION_SIZE = 102
[INFO] FTL_INFO_SECTION_START = 216
[INFO] FTL_INFO_SECTION_SIZE = 10
[INFO] LOG_SECTION_SIZE = 7
[INFO] FREE_SECTION_START = 226
[INFO] FREE_SECTION_SIZE = 17
[INFO] FREE_LIST_SIZE = 3
[INFO] DATA_SECTION_START = 243
[INFO] DATA_SECTION_SIZE = 1805
[INFO] FTL_AREA_START = 216
[INFO] FTL_AREA_SIZE = 1832
[FTL:MSG] FIL_Init [OK]
[FTL:MSG] BUF_Init [OK]
[FTL:MSG] VFL_Init [OK]
[FTL:MSG] VFL_Open [OK]
wNUM_BLOCKS : 2048(0x800)
TOC_Read
-TOC_Read
Press [ENTER] to launch image stored on boot media, or [SPACE] to enter boot
monitor.
Initiating image launch in 5 seconds.
```

Figure 6-27 After EBOOT.nb0 Download

31. Please hit the SPACE BAR key to view the current Ethernet Boot Loader Configuration.

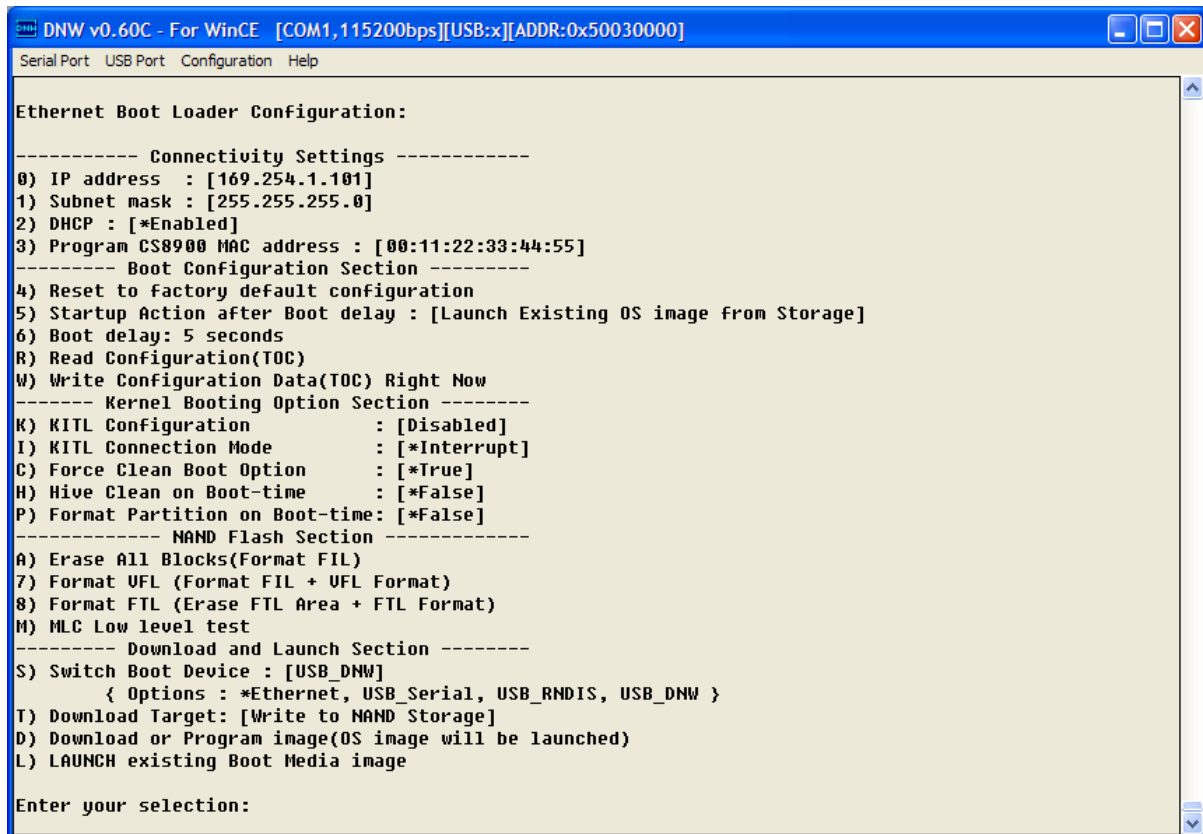
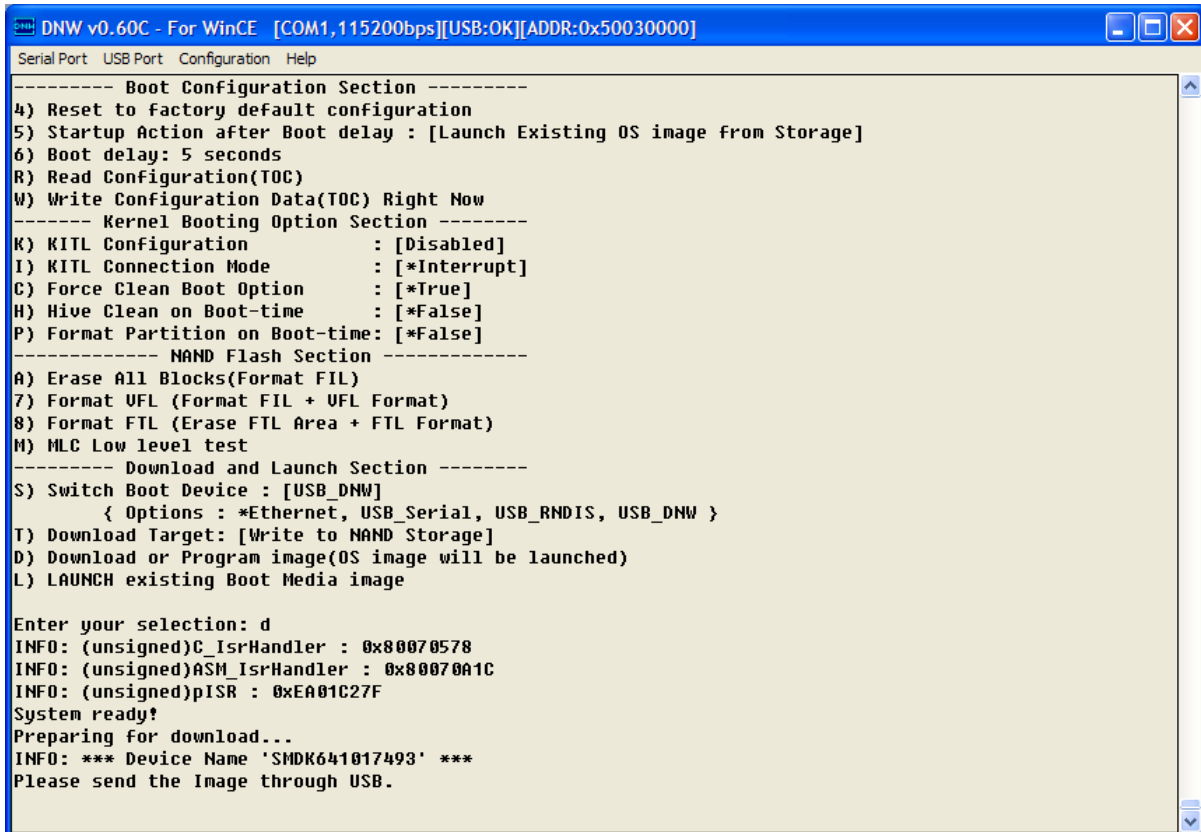


Figure 6-28 Ethernet Boot Loader Configuration

32. Enter [D] to Download image, the following messages appear in the DNW window.



```

DNW v0.60C - For WinCE [COM1,115200bps][USB:OK][ADDR:0x50030000]
Serial Port  USB Port  Configuration  Help
----- Boot Configuration Section -----
4) Reset to factory default configuration
5) Startup Action after Boot delay : [Launch Existing OS image from Storage]
6) Boot delay: 5 seconds
R) Read Configuration(TOC)
W) Write Configuration Data(TOC) Right Now
----- Kernel Booting Option Section -----
K) KITL Configuration      : [Disabled]
I) KITL Connection Mode    : [*Interrupt]
C) Force Clean Boot Option : [*True]
H) Hive Clean on Boot-time : [*False]
P) Format Partition on Boot-time: [*False]
----- NAND Flash Section -----
A) Erase All Blocks(Format FIL)
7) Format UFL (Format FIL + UFL Format)
8) Format FTL (Erase FTL Area + FTL Format)
M) MLC Low level test
----- Download and Launch Section -----
S) Switch Boot Device : [USB_DNW]
   { Options : *Ethernet, USB_Serial, USB_RNDIS, USB_DNW }
T) Download Target: [Write to NAND Storage]
D) Download or Program image(OS image will be launched)
L) LAUNCH existing Boot Media image

Enter your selection: d
INFO: (unsigned)C_IsrHandler : 0x80070578
INFO: (unsigned)ASM_IsrHandler : 0x80070A1C
INFO: (unsigned)pISR : 0xEA01C27F
System ready!
Preparing for download...
INFO: *** Device Name 'SMDK641017493' ***
Please send the Image through USB.

```

Figure 6-29 Preparing to download image through USB

33. On the USB Port menu click UBOOT and the following window appears on your screen. Select NK.bin from X:\WINCE600\OSDesigns\[OSDesign name]\[OSDesign name]\ReDir\SMDK6410\_ARMV4I\_Release directory and then click Open button.

- Single-XIP (no IMGMULTIXIP) : Select NK.bin
- Multiple-XIP (IMGMULTIXIP=1) : Select chain.lst

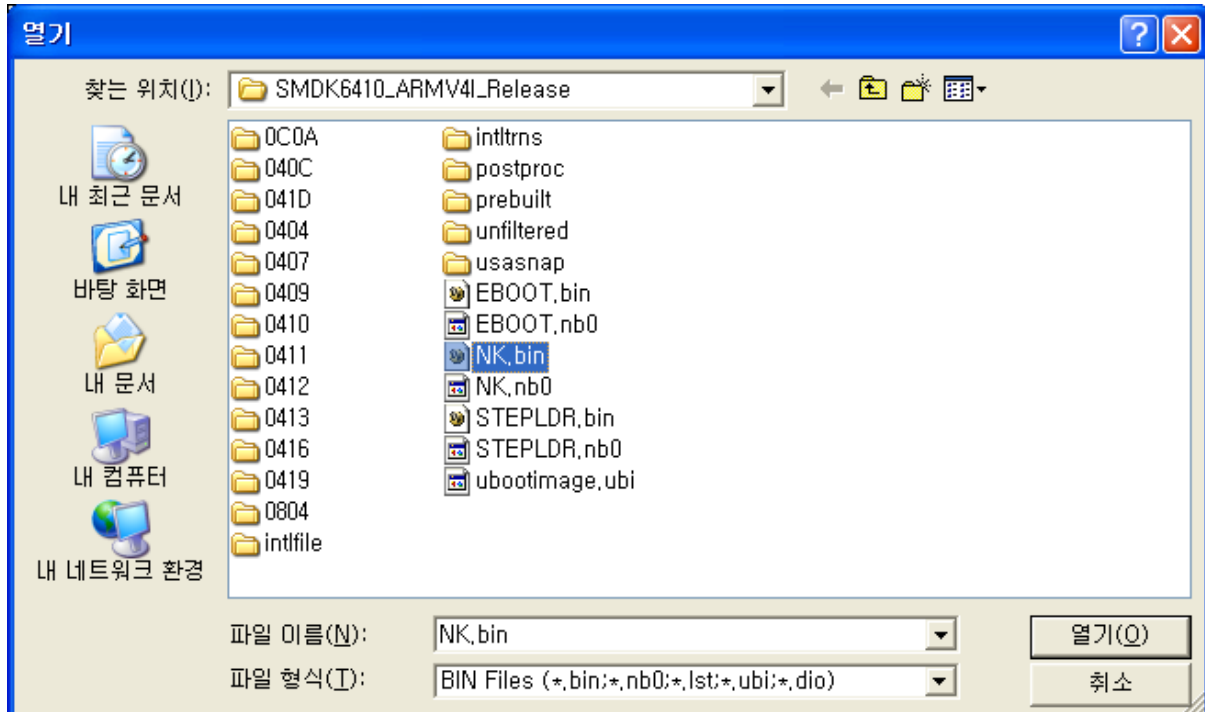


Figure 6-30 Selecting NK.bin for Download (no IMGMULTIXIP)

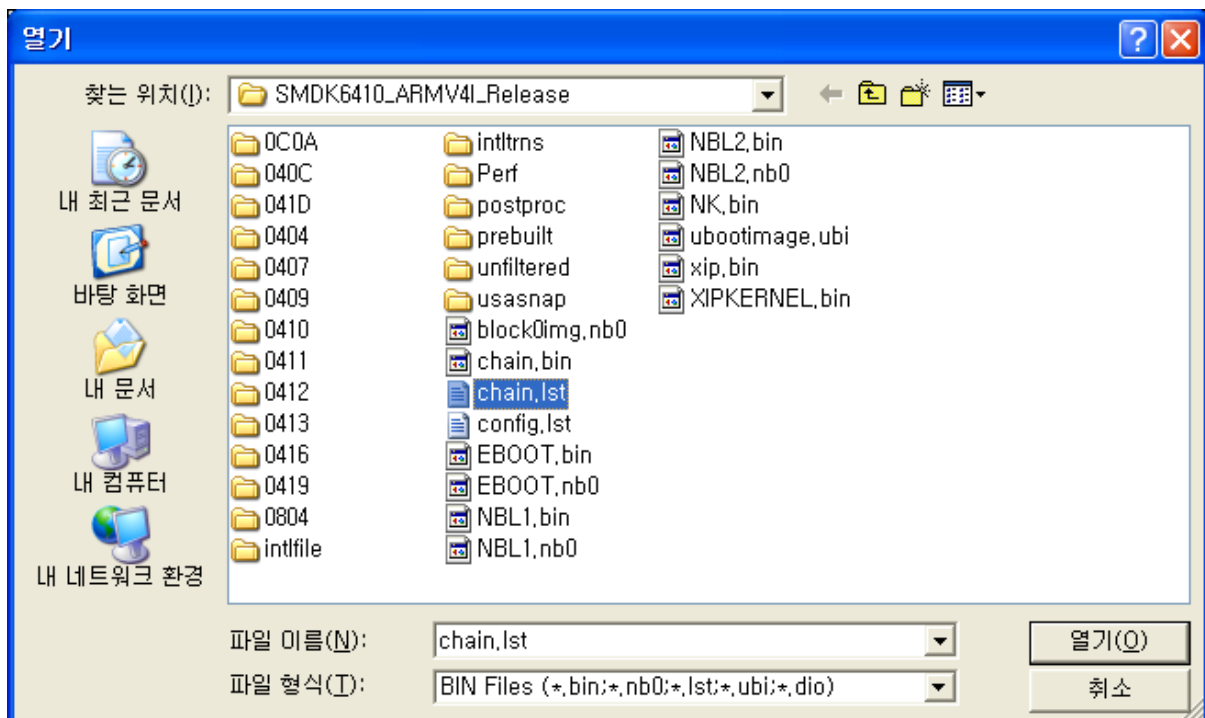
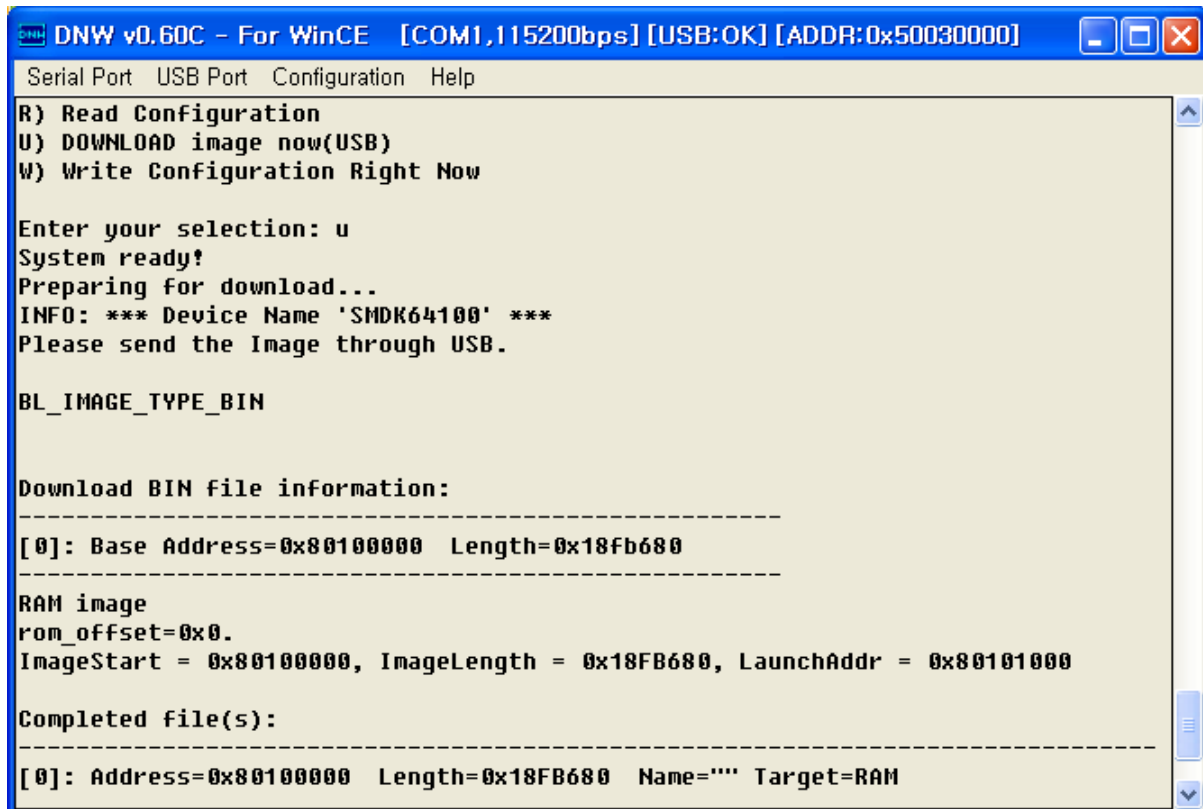


Figure 6-31 Selecting chain.lst for Download (IMGMULTIXIP=1)

34. You can see the following messages on the DNW window after OS image download.



```

DNW v0.60C - For WinCE [COM1,115200bps] [USB:OK] [ADDR:0x50030000]
Serial Port  USB Port  Configuration  Help
R) Read Configuration
U) DOWNLOAD image now(USB)
W) Write Configuration Right Now

Enter your selection: u
System ready!
Preparing for download...
INFO: *** Device Name 'SMDK64100' ***
Please send the Image through USB.

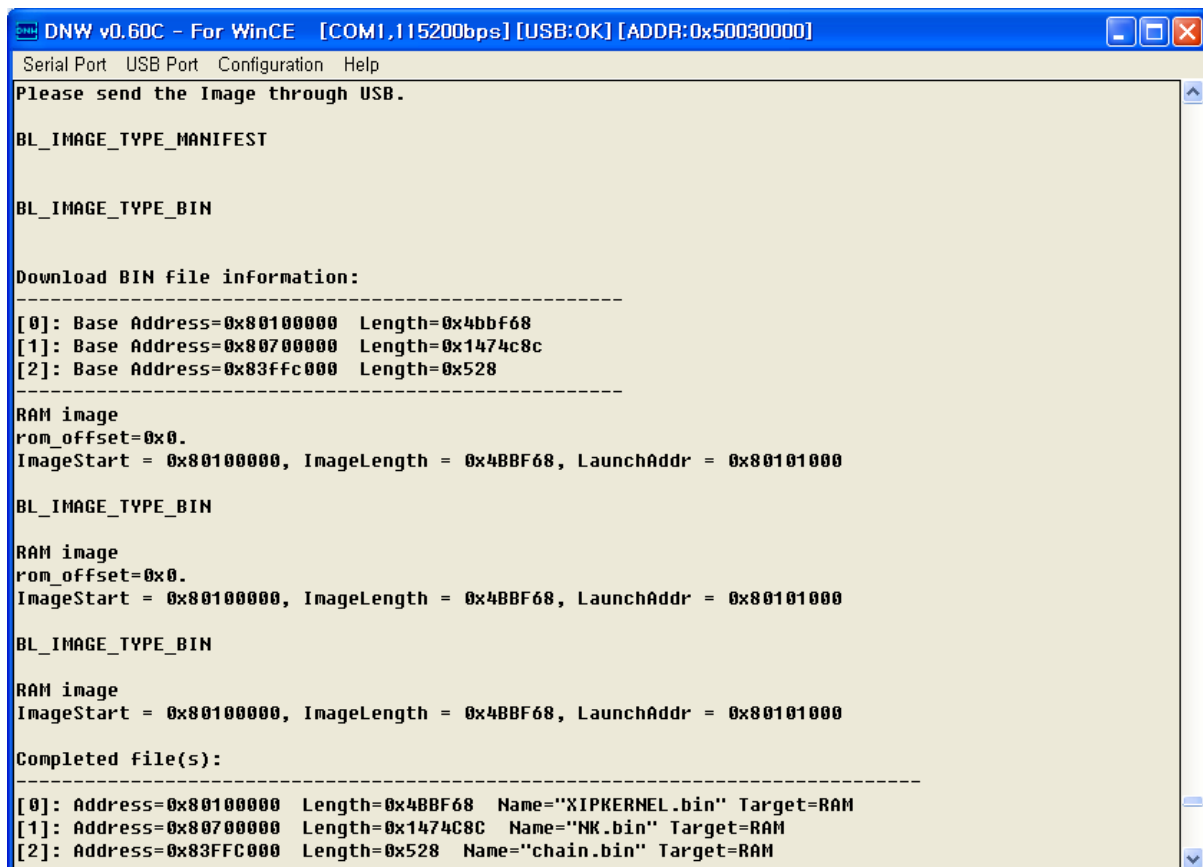
BL_IMAGE_TYPE_BIN

Download BIN file information:
-----
[0]: Base Address=0x80100000  Length=0x18fb680
-----

RAM image
rom_offset=0x0.
ImageStart = 0x80100000, ImageLength = 0x18FB680, LaunchAddr = 0x80101000

Completed file(s):
-----
[0]: Address=0x80100000  Length=0x18FB680  Name=""  Target=RAM
  
```

Figure 6-32 Messages via UART Port during NK.bin Download (no IMGMULTIXIP)



```

DNW v0.60C - For WinCE [COM1,115200bps] [USB:OK] [ADDR:0x50030000]
Serial Port  USB Port  Configuration  Help
Please send the Image through USB.

BL_IMAGE_TYPE_MANIFEST

BL_IMAGE_TYPE_BIN

Download BIN file information:
-----
[0]: Base Address=0x80100000  Length=0x4bbf68
[1]: Base Address=0x80700000  Length=0x1474c8c
[2]: Base Address=0x83ffc000  Length=0x528
-----

RAM image
rom_offset=0x0.
ImageStart = 0x80100000, ImageLength = 0x4BBF68, LaunchAddr = 0x80101000

BL_IMAGE_TYPE_BIN

RAM image
rom_offset=0x0.
ImageStart = 0x80100000, ImageLength = 0x4BBF68, LaunchAddr = 0x80101000

BL_IMAGE_TYPE_BIN

RAM image
ImageStart = 0x80100000, ImageLength = 0x4BBF68, LaunchAddr = 0x80101000

Completed file(s):
-----
[0]: Address=0x80100000  Length=0x4BBF68  Name="XIPKERNEL.bin"  Target=RAM
[1]: Address=0x80700000  Length=0x1474C8C  Name="NK.bin"  Target=RAM
[2]: Address=0x83FFC000  Length=0x528  Name="chain.bin"  Target=RAM
  
```

Figure 6-33 Messages via UART Port during chain.lst Download (IMGMULTIXIP=1)

35. After OS image download is over, **Windows Embedded CE 6.0** boots on the target Board.

36. Power **OFF** the board and Configure DIP switch CFG0 on the CPU Board and CFGB3 on the base board properly for booting from NAND Flash. (For more information about board configuration, Refer to the SMDK6410 Board User's Manual)

A. Set the CFG3 Jumpers on CPU Board for NAND boot.

CFG3		1	2	3	4	5	6
Boot Mode	Umon boot	OFF	ON	OFF	ON	OFF	X
	NAND iROM boot	OFF	ON	ON	ON	ON	X

Note) X : X means Don't Care

CFG4		1	2	3	4
CS2	NAND	ON	ON	OFF	OFF
	OneNAND	OFF	OFF	ON	ON

IROM Booting	Page	Address	J8	J7	J6
SD/MMC CH0			1-2	1-2	1-2
OneNAND			1-2	1-2	2-3
Nand	512	3	1-2	2-3	1-2
		4	1-2	2-3	2-3
	2048	4	2-3	1-2	1-2
		5	2-3	1-2	2-3
	4096	5	2-3	2-3	1-2
SD/MMC CH1			2-3	2-3	2-3

B. Set the Jumpers on Base Board. (CFGB1, CFGB2, CFGB3, CFGB4)

CFGB1	1	2	3	4
nCS0 SEL	ON	OFF	OFF	OFF

CFGB2	1	2	3	4
nCS1 SEL	OFF	OFF	ON	OFF

CFGB3	1	2	3	4
SLC SOP NAND	ON	OFF	OFF	OFF
XD Card NAND	OFF	ON	OFF	OFF

CFGB4	1	2	3	4
nCS4 SEL	OFF	OFF	OFF	OFF



37. Power ON the board. You can see **Windows Embedded CE 6.0** boots on the target board.

## 7 Building and Running OS Image - With KITL

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

USB Serial and Ethernet(USB\_RNDIS) KITL connection can be made.

1. To enable KITL, on the top of Visual Studio 2005, you can see the Project menu as below figure. And then select **Properties...**

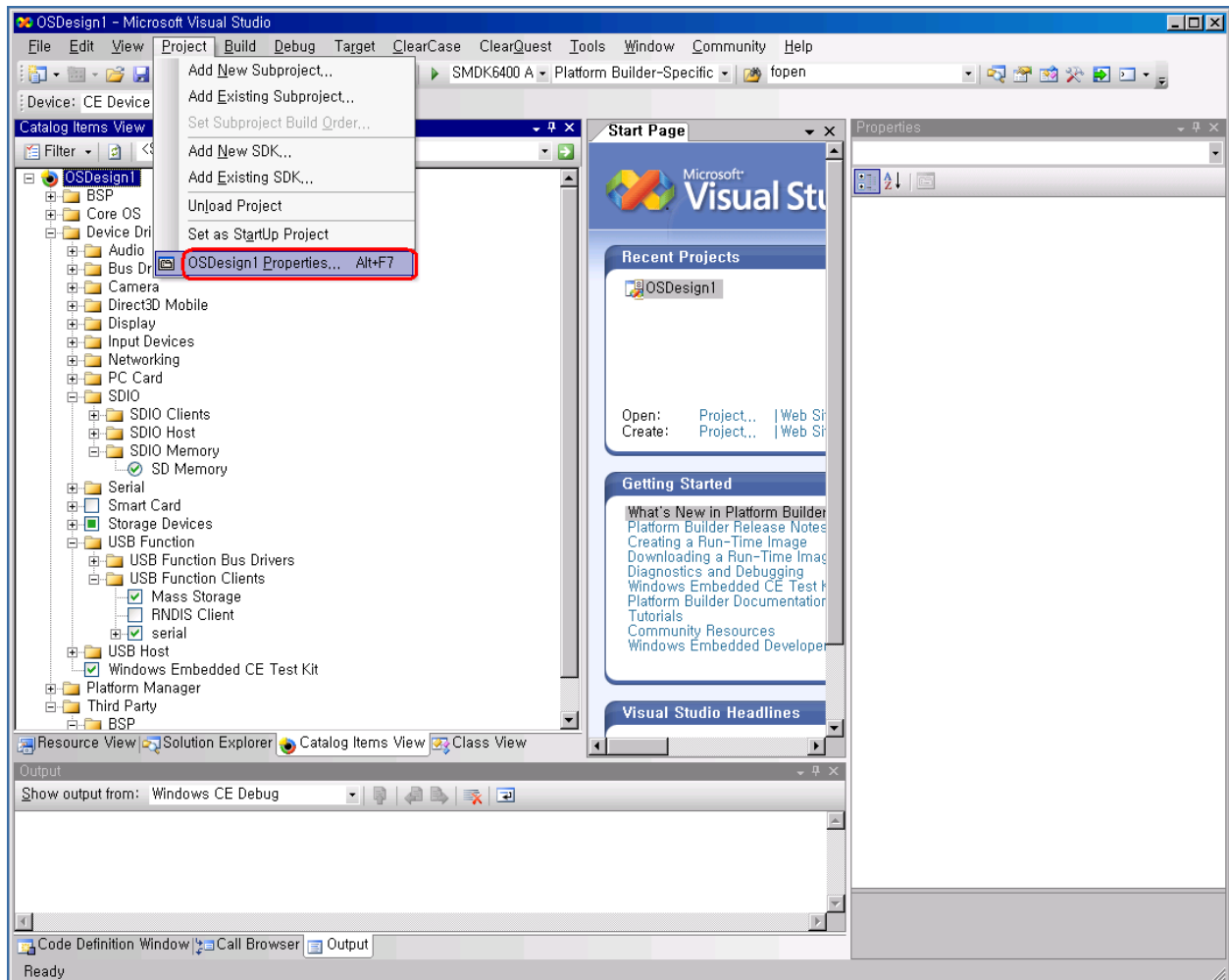


Figure 7-1 OSDesign Properties

2. OSDesign1 Property Pages window appears on your screen. Check square boxes **Enable kernel debugger**(no IMGNODEBUGGER=1) and **Enable KITL** (no IMGNOKITL=1) in the **Build Options** and then click OK button.

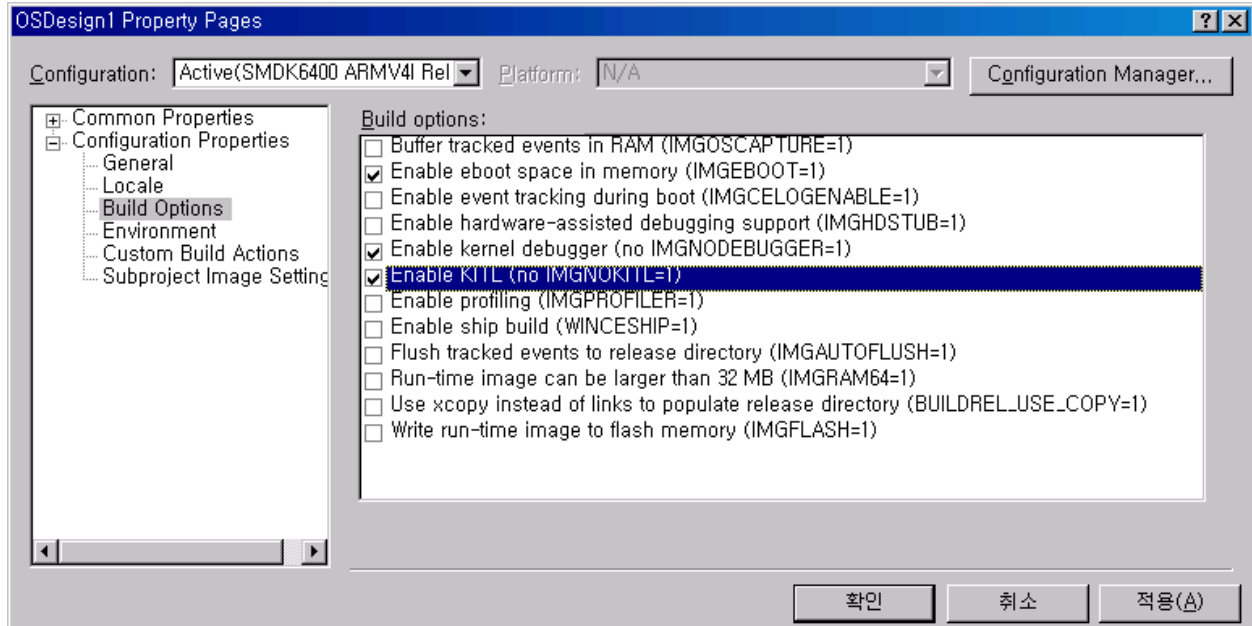


Figure 7-2 Property Pages for KITL

3. On the **Build** menu, click **Build OSDesign1** as shown in figure 7-3 to build the Eboot and OS image.

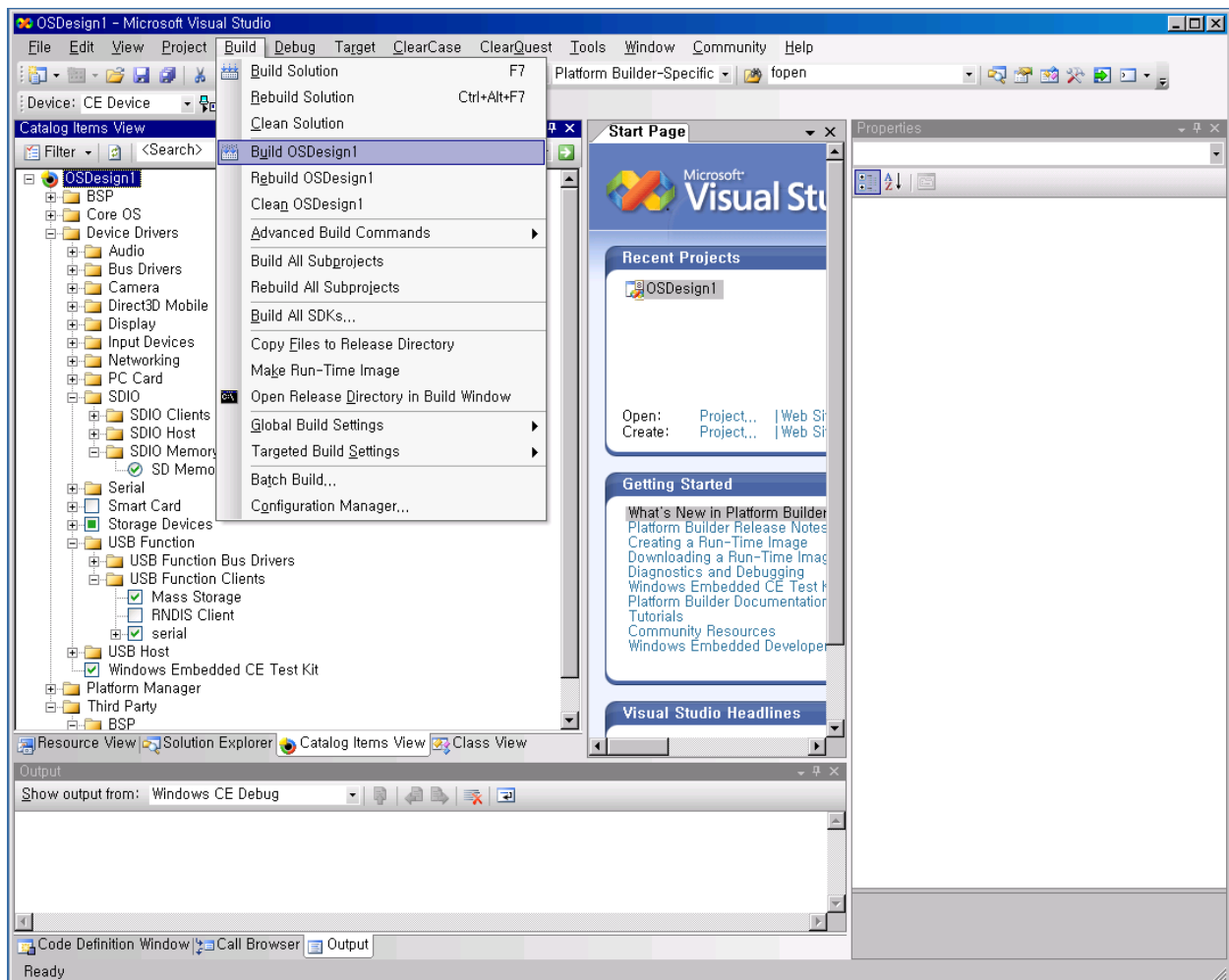


Figure 7-3 Build OSDesign

**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.

4. After completion of build process, . EBOOT.nb0, EBOOT.bin, block0img.nb0, NK.bin and NK.nb0 are now available in X:\WINCE600\OSDesigns \[OS Design Name]\ [OS Design Name]\RelDir\SMDK6410\_ARMV4I\_Release directory.
5. Configure DIP switch CFG0 on the CPU Board and CFGB1 on the CPU board properly for booting from AMD Flash. (For more information about board configuration, Read SMDK6410 Board User's Manual)

A. Set the CFG3 Jumpers on CPU Board for NAND boot.

CFG3		1	2	3	4	5	6
Boot Mode	Umon boot	OFF	ON	OFF	ON	OFF	X
	NAND iROM boot	OFF	ON	ON	ON	ON	X

Note) X : X means Don't Care

CFG4		1	2	3	4
CS2	NAND	ON	ON	OFF	OFF
	OneNAND	OFF	OFF	ON	ON

B. Set the Jumpers on Base Board. (CFGB1, CFGB2, CFGB3, CFGB4)

CFGB1	1	2	3	4
nCS0 SEL	ON	OFF	OFF	OFF

CFGB2	1	2	3	4
nCS1 SEL	OFF	OFF	ON	OFF

CFGB3	1	2	3	4
SLC SOP NAND	ON	OFF	OFF	OFF
XD Card NAND	OFF	ON	OFF	OFF

CFGB4	1	2	3	4
nCS4 SEL	OFF	OFF	OFF	OFF

6. Please install the USB Driver and DNW application on your host PC if it is not installed before.
7. Please refer to chapter 6 Fusing WinCE image to NAND Flash via USB in this documentation. And fuse to NAND Flash along to Step 29 from Step 1 in Chapter 6.

8. Reset the board. DNW window appears as shown in figure 7-4.

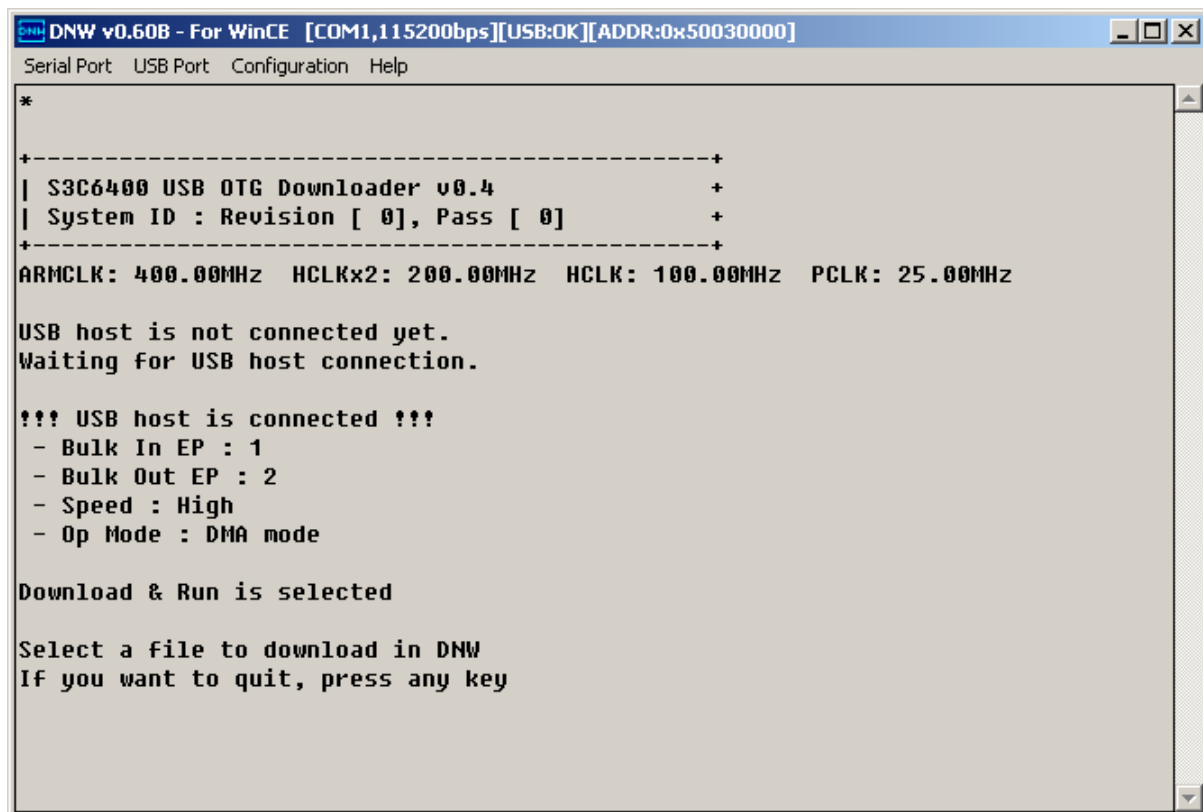


Figure 7-4 DNW Window after reset

9. On the **USB Port** menu, click **Transmit** and the following window appears on your screen. Select **EBOOT.nb0** file from **X:\WINCE600\OSDesigns\[OSDesign name] \[OSDesign name]\RelDir\SMDK6410\_ARMV4I \_Release** directory and then click **Open** button.

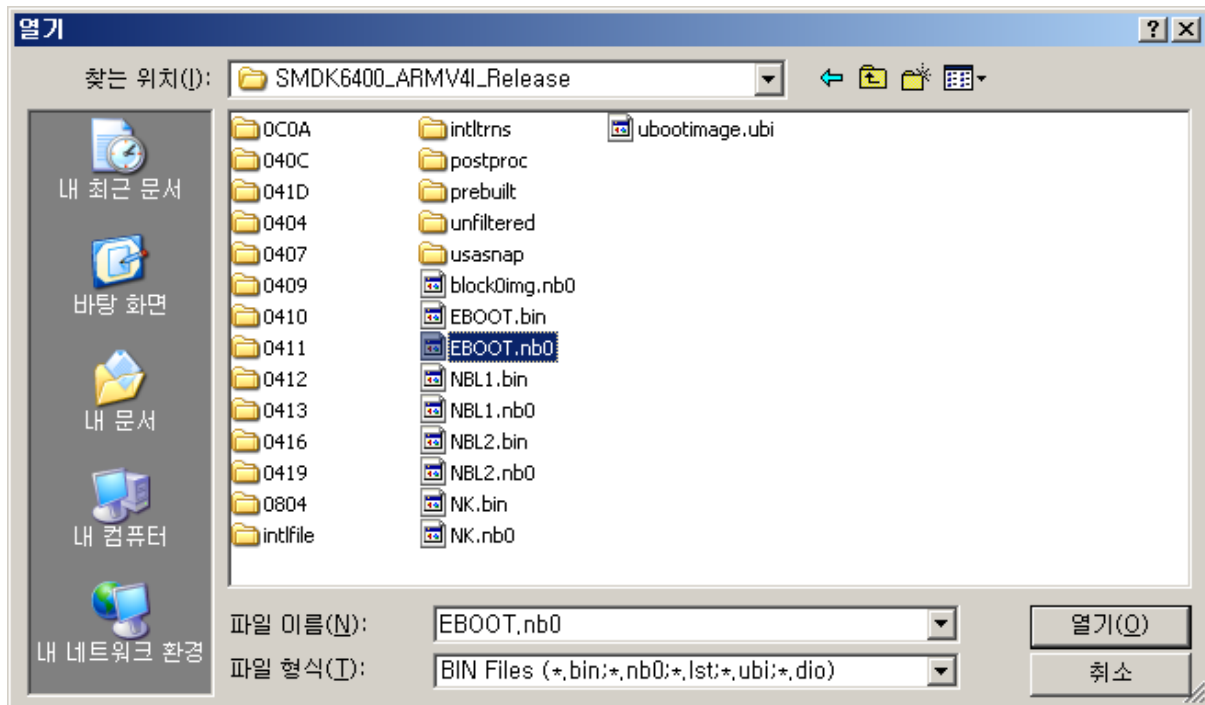
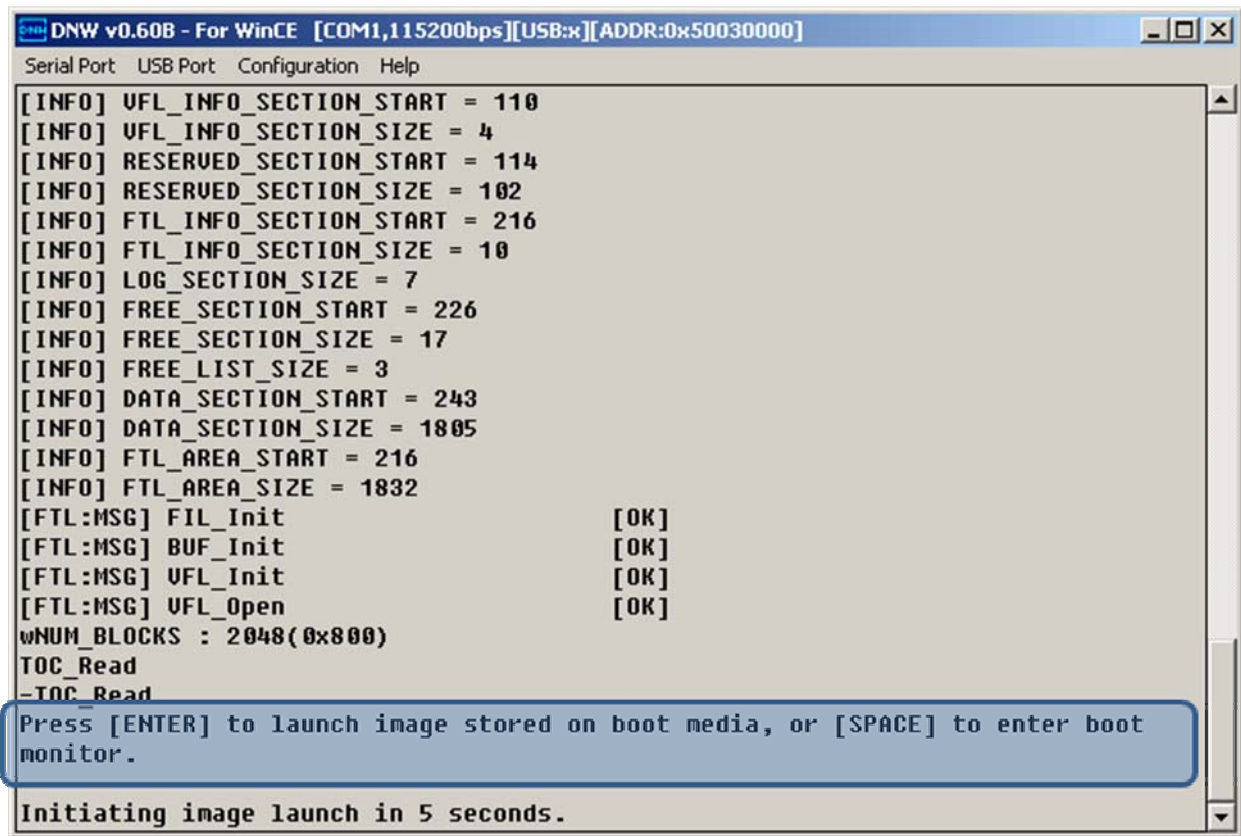


Figure 7-5 Selecting EBOOT.nb0 for Download

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



The screenshot shows a window titled "DNW v0.60B - For WinCE [COM1,115200bps][USB:x][ADDR:0x50030000]". The window has a menu bar with "Serial Port", "USB Port", "Configuration", and "Help". The main area displays the following text:

```
[INFO] UFL_INFO_SECTION_START = 110
[INFO] UFL_INFO_SECTION_SIZE = 4
[INFO] RESERVED_SECTION_START = 114
[INFO] RESERVED_SECTION_SIZE = 102
[INFO] FTL_INFO_SECTION_START = 216
[INFO] FTL_INFO_SECTION_SIZE = 10
[INFO] LOG_SECTION_SIZE = 7
[INFO] FREE_SECTION_START = 226
[INFO] FREE_SECTION_SIZE = 17
[INFO] FREE_LIST_SIZE = 3
[INFO] DATA_SECTION_START = 243
[INFO] DATA_SECTION_SIZE = 1805
[INFO] FTL_AREA_START = 216
[INFO] FTL_AREA_SIZE = 1832
[FTL:MSG] FIL_Init [OK]
[FTL:MSG] BUF_Init [OK]
[FTL:MSG] UFL_Init [OK]
[FTL:MSG] UFL_Open [OK]
wNUM_BLOCKS : 2048(0x800)
TOC_Read
-TOC_Read
```

A blue-bordered box contains the text: "Press [ENTER] to launch image stored on boot media, or [SPACE] to enter boot monitor."

Below the box, it says: "Initiating image launch in 5 seconds."

Figure 7-6 After EBOOT.nb0 Download



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

- Enter [K] to change KITL Configuration to **ENABLE**. Default value is **Enabled**
- Enter [S] to select proper KITL connection media. **Ethernet** and **USB\_RNDIS** will use **ETHERNET** transfer protocol, **USB\_Serial** and **USB\_DNW** will use USB transfer.
- If you use Ethernet transfer protocol, Configure IP Address and Network Properties as your network environment properly
  - Using 0) IP Address, 1) Subnet Mask, 2) DHCP, 3) Device MAC Address
- Enter [L] to **LAUNCH** existing Boot Media image

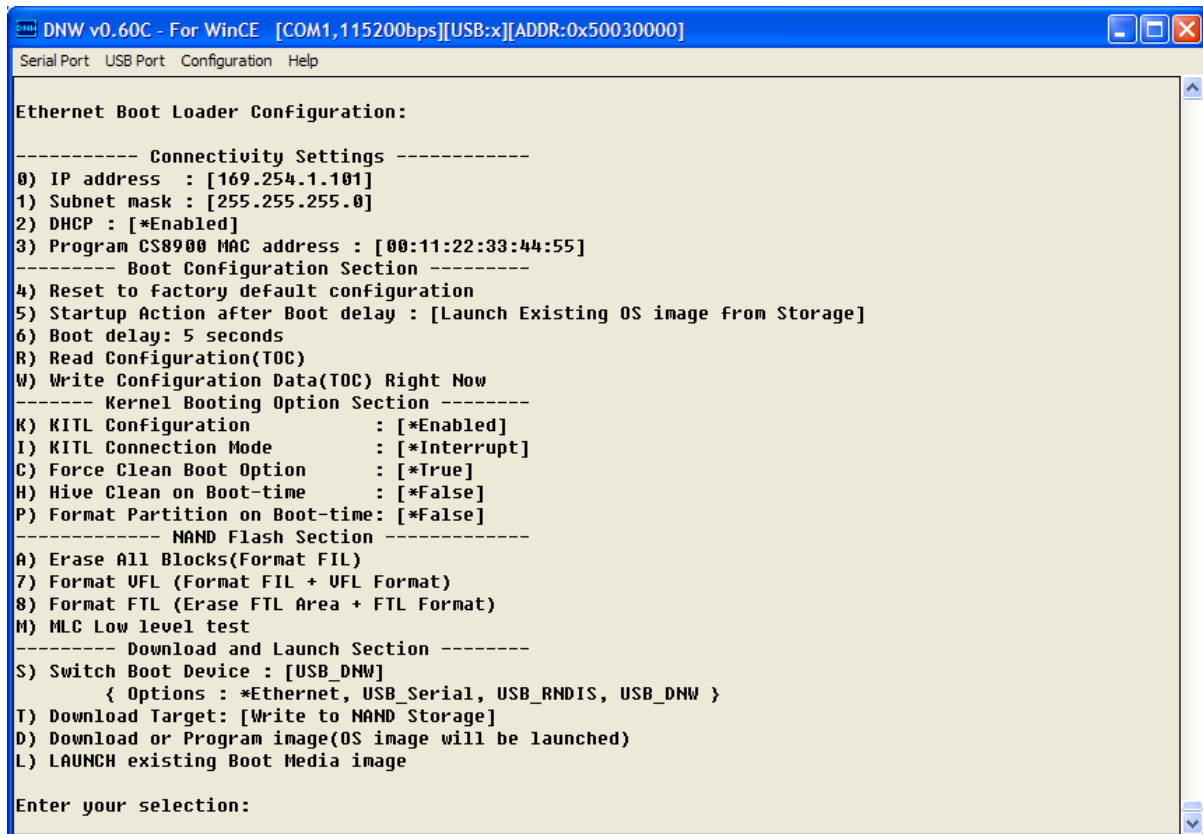


Figure 7-7 Ethernet Boot Loader Configuration

12. On the Target menu in the Visual Studio 2005 window, click **Connectivity Options...** as shown below. Target Device Connectivity Options window appears on your screen as shown in figure 7-8.

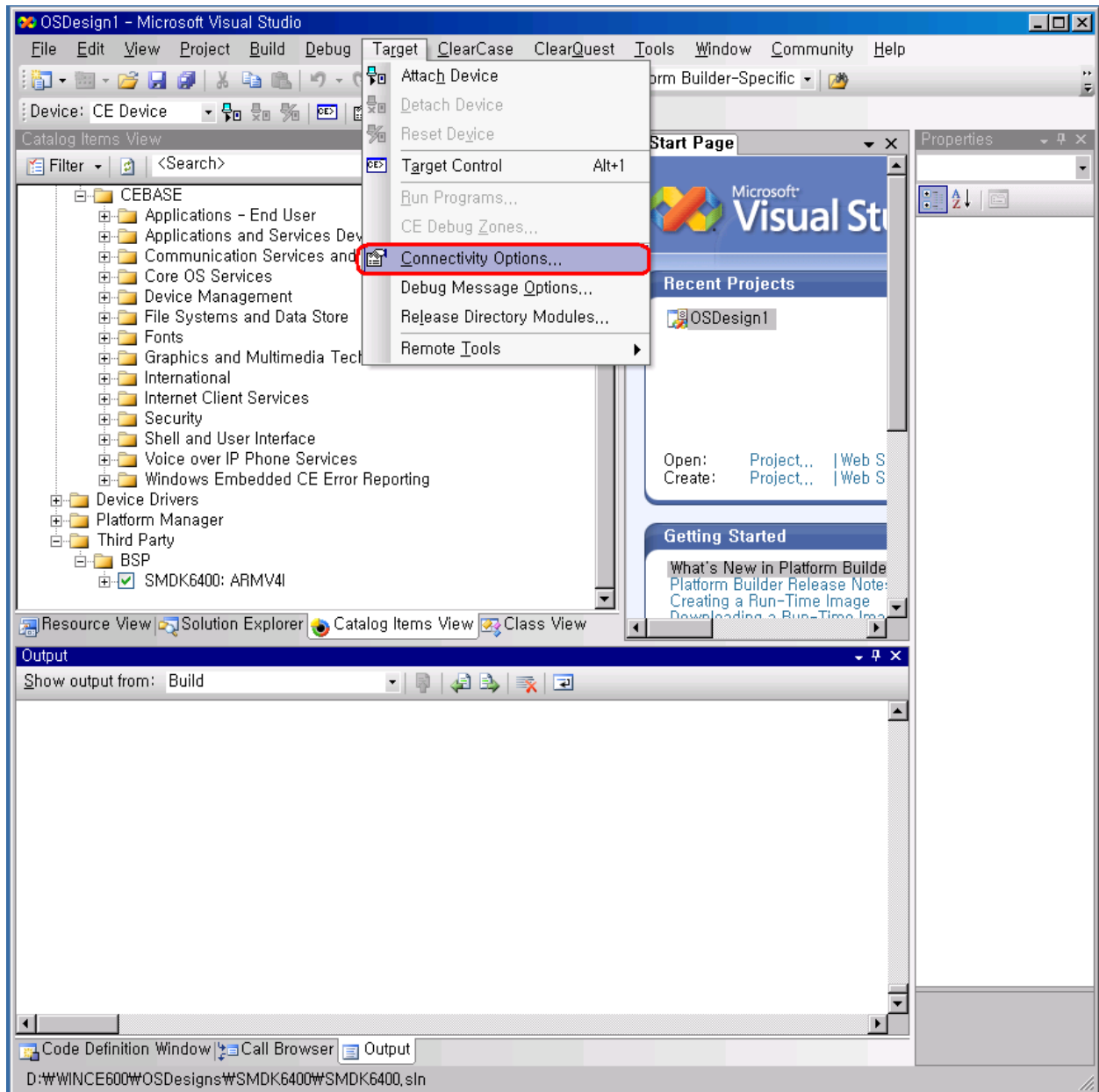


Figure 7-8 Target Connectivity Option

13. On the Target Device Connectivity Options window, select USB option from Transport drop down menu box.

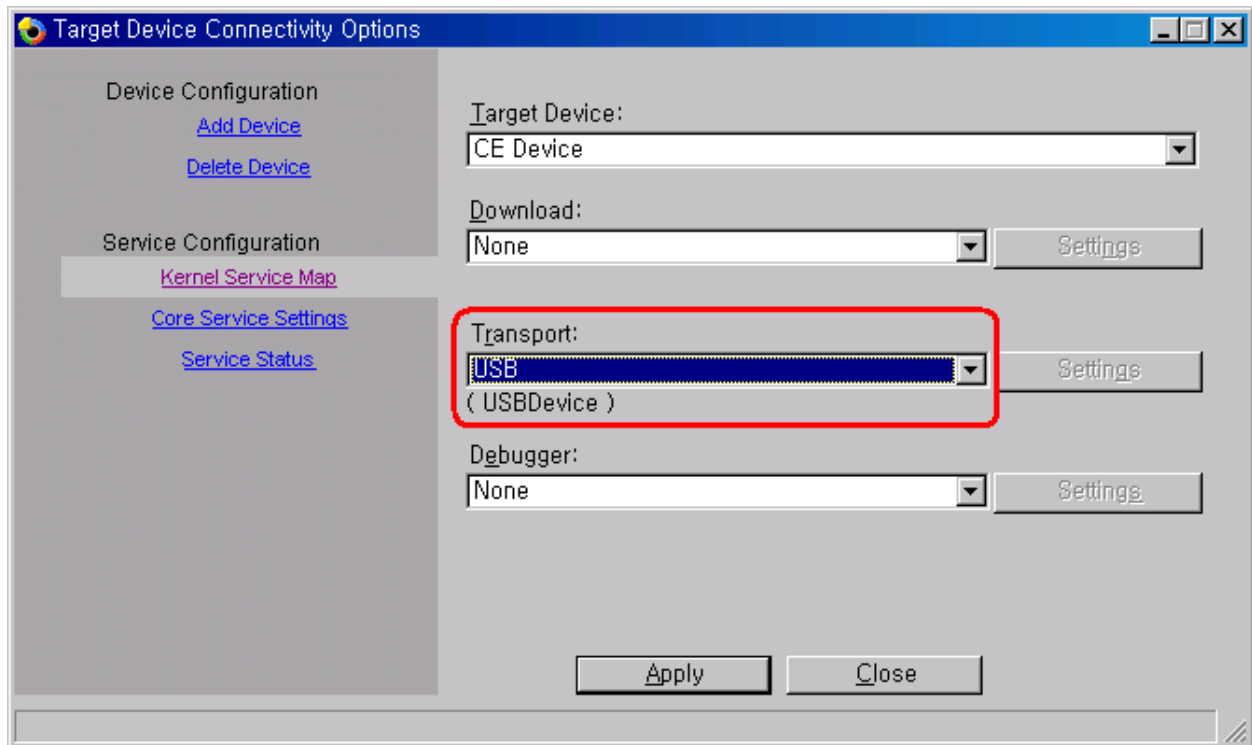


Figure 7-9 Target Device Connectivity Options Window after Transport Select

14. Configure the KdStub option in Debugger drop down menu box. And click **Apply** button

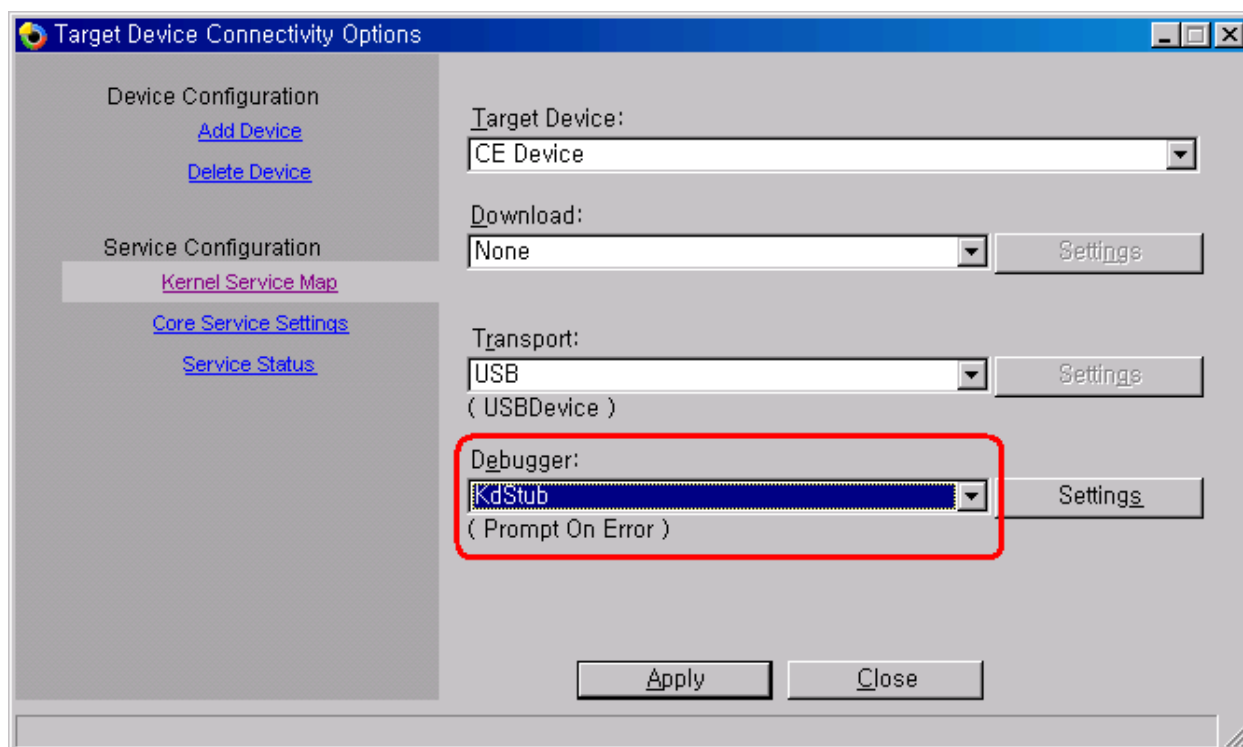


Figure 7-10 Target Device Connectivity Options Window After Debugger Select(USB)

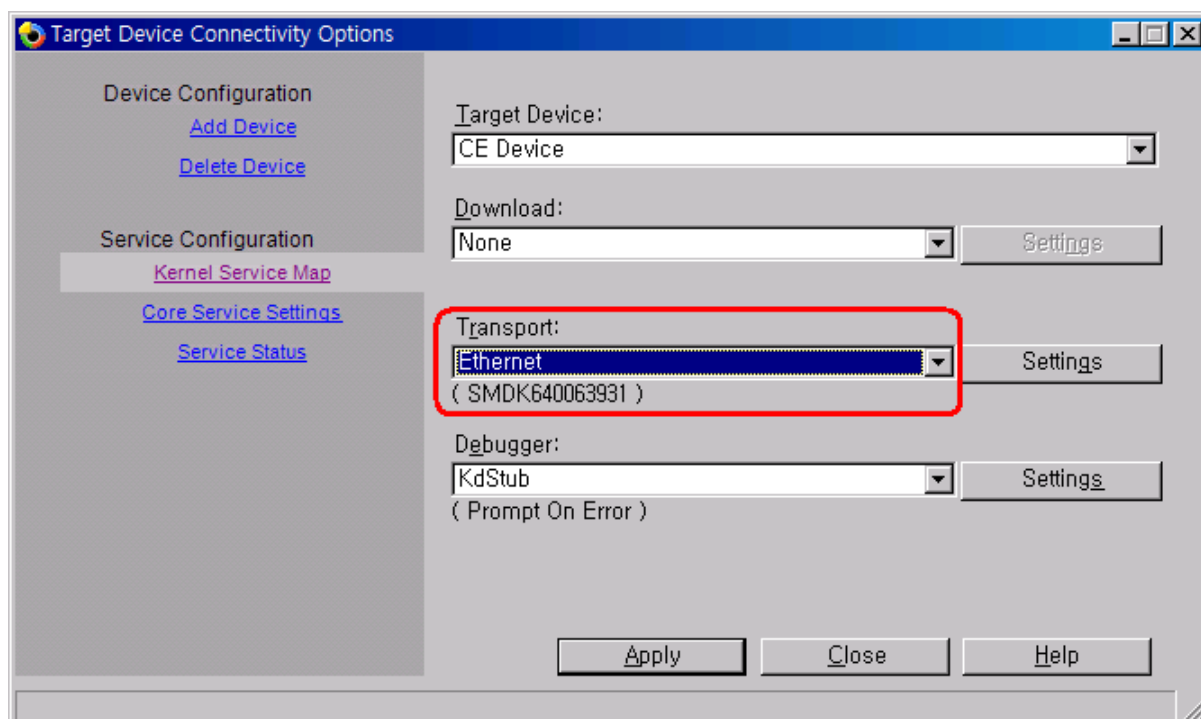


Figure 7-11 Target Device Connectivity Options Window After Debugger Select(Ethernet)

15. On the **Target** menu in Visual Studio 2005 window, click **Attach Device** as shown below.

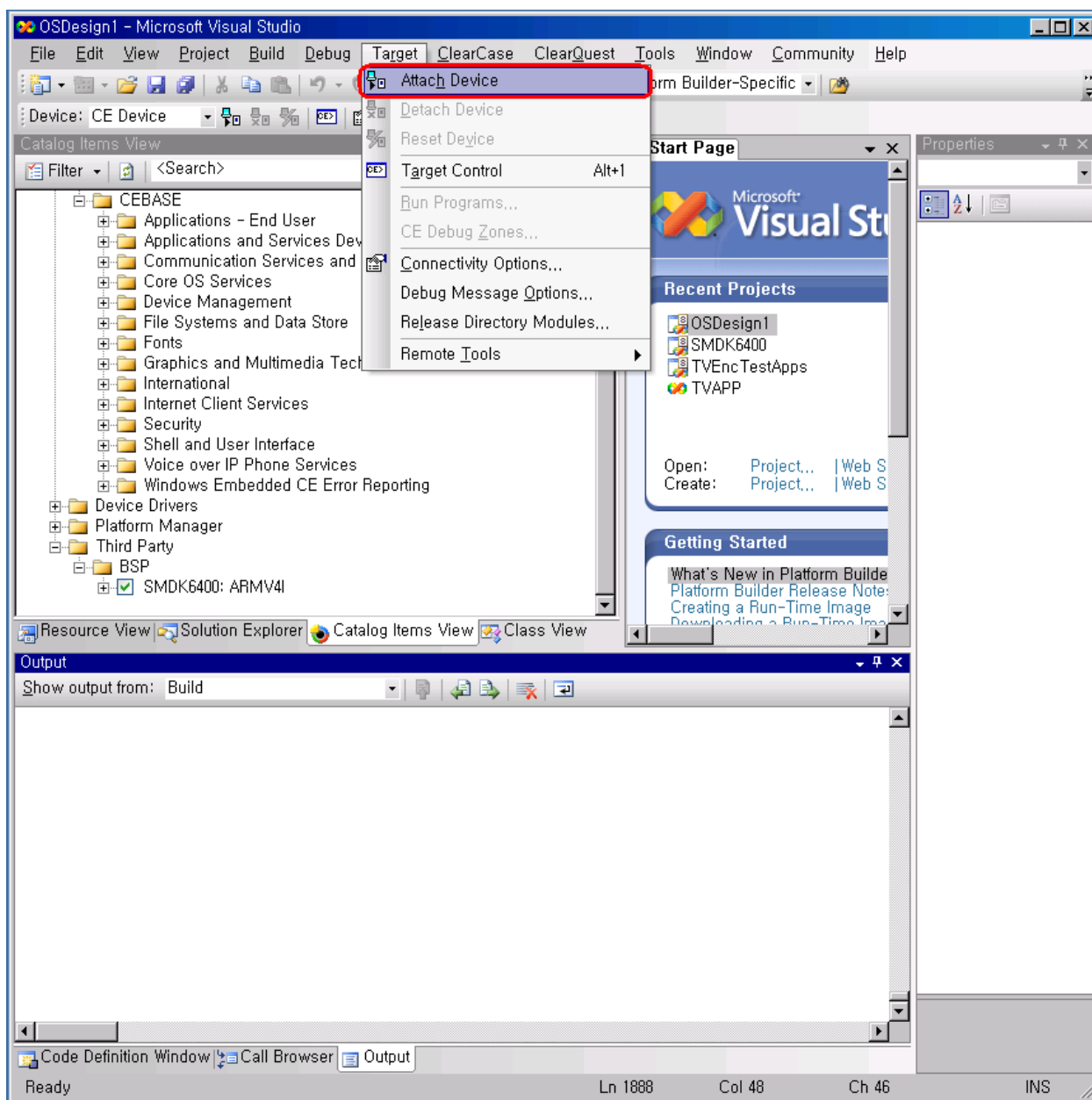
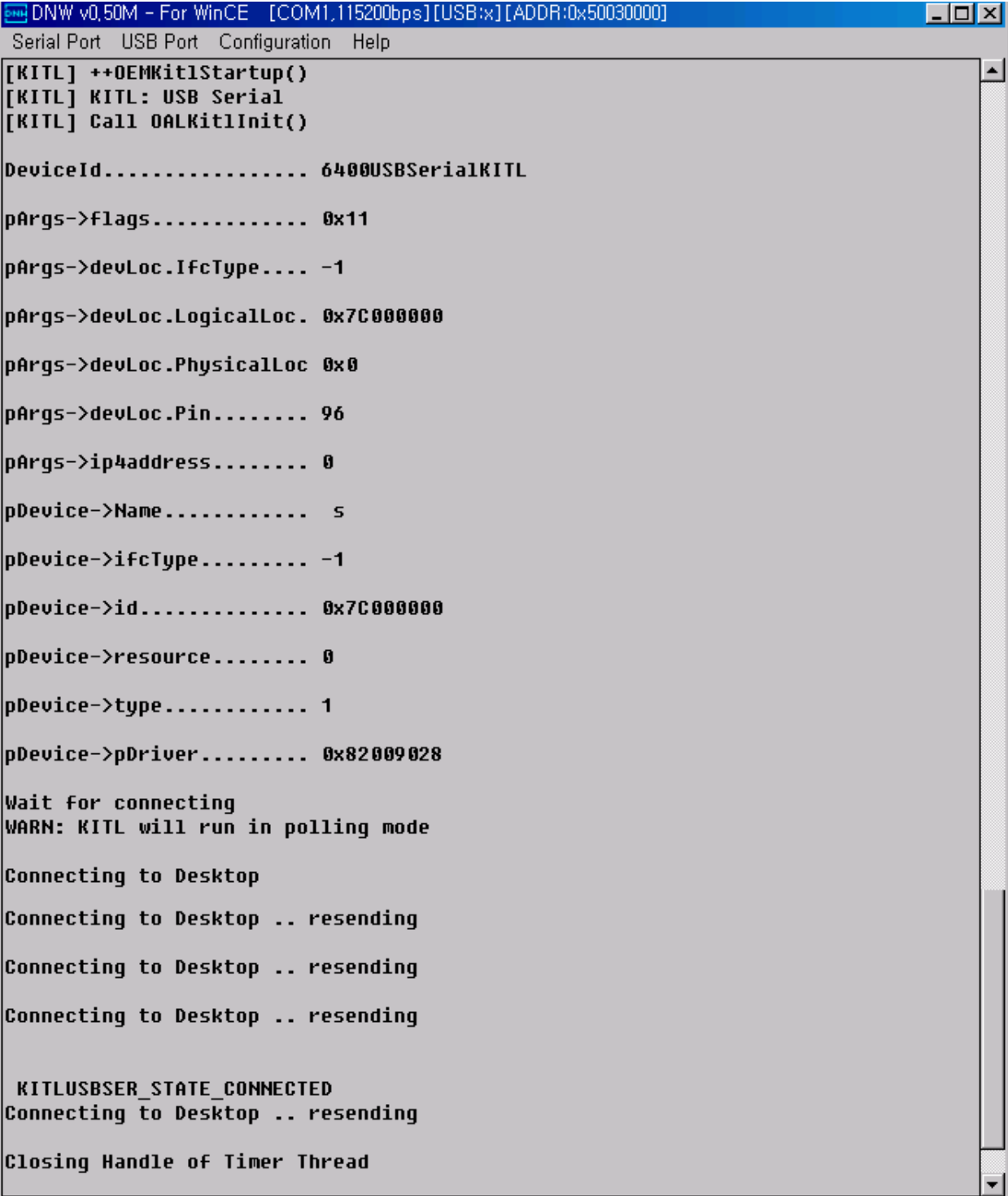


Figure 7-12 Attach Device

16. You can see the following messages on the DNW window.

The image is a screenshot of a software window titled "DNW v0.50M - For WinCE [COM1,115200bps][USB:x][ADDR:0x50030000]". The window has a menu bar with "Serial Port", "USB Port", "Configuration", and "Help". The main area displays a series of text messages from the KITL (Kernel I/O Transfer Layer) driver. The messages include initialization steps like "++OEMKitlStartup()", "KITL: USB Serial", and "Call OALKitlInit()". They then list various device parameters such as "DeviceId", "pArgs->flags", "pArgs->devLoc.Ifctype", "pArgs->devLoc.LogicalLoc", "pArgs->devLoc.PhysicalLoc", "pArgs->devLoc.Pin", "pArgs->ip4address", "pDevice->Name", "pDevice->ifctype", "pDevice->id", "pDevice->resource", "pDevice->type", and "pDevice->pDriver". Following these, the messages indicate a connection attempt: "Wait for connecting", "WARN: KITL will run in polling mode", and several "Connecting to Desktop .. resending" messages. The process concludes with "KITLUSBSER\_STATE\_CONNECTED", another "Connecting to Desktop .. resending" message, and "Closing Handle of Timer Thread".

```
DNW v0.50M - For WinCE [COM1,115200bps][USB:x][ADDR:0x50030000]
Serial Port  USB Port  Configuration  Help

[KITL] ++OEMKitlStartup()
[KITL] KITL: USB Serial
[KITL] Call OALKitlInit()

DeviceId..... 6400USBSerialKITL

pArgs->flags..... 0x11
pArgs->devLoc.Ifctype.... -1
pArgs->devLoc.LogicalLoc. 0x7C000000
pArgs->devLoc.PhysicalLoc 0x0
pArgs->devLoc.Pin..... 96
pArgs->ip4address..... 0
pDevice->Name..... s
pDevice->ifctype..... -1
pDevice->id..... 0x7C000000
pDevice->resource..... 0
pDevice->type..... 1
pDevice->pDriver..... 0x82009028

Wait for connecting
WARN: KITL will run in polling mode

Connecting to Desktop
Connecting to Desktop .. resending
Connecting to Desktop .. resending
Connecting to Desktop .. resending

KITLUSBSER_STATE_CONNECTED
Connecting to Desktop .. resending

Closing Handle of Timer Thread
```

Figure 7-13 Messages via UART Port

17. Windows Embedded CE 6.0 boots on the target board and platform builder window appears as shown below.

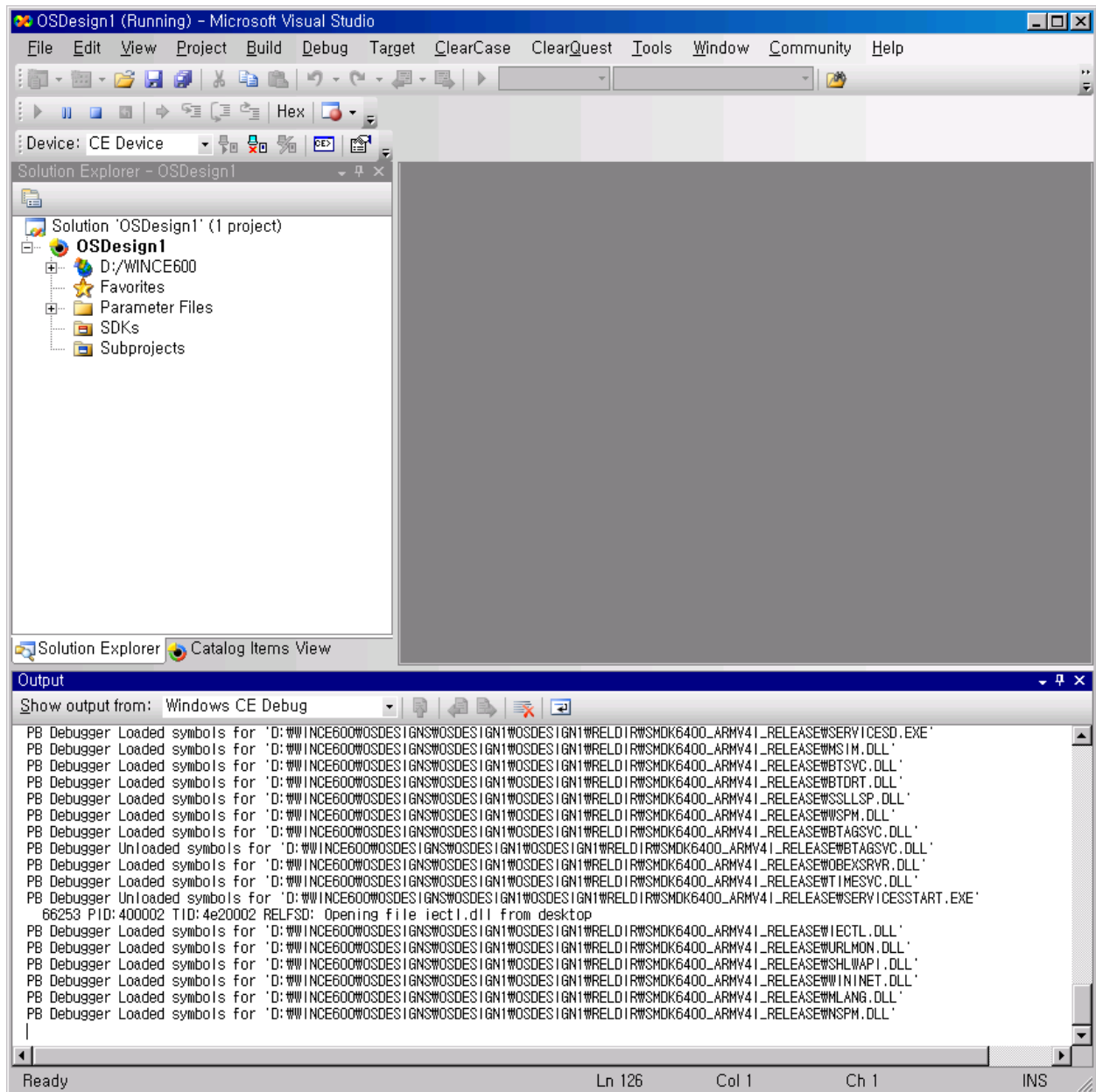


Figure 7-14 Visual Studio 2005 Window after KITL connected

## Appendix I – DIP Switch Settings for Booting Mode

Table 9-1 and 9-2 explains the DIP Switch configuration on the SMDK6410 board for Booting mode.

### AMD NOR/SROM Boot

<i>Description</i>	CFG0[6:1]				
	[6]	[5]	[4]	[3]	[2]
NOR Boot ( 8bit Data Width)	Don't Care	OFF	ON	OFF	OFF
NOR Boot (16bit Data Width)	Don't Care	OFF	ON	OFF	ON

<i>Description</i>	CFGB1[4:1]		
	[3]	[2]	[1]
Connected NorFlash to Xm0CSn0	OFF	OFF	ON
Connected SRAM to Xm0CSn0	OFF	ON	OFF

Table 0-1 DIP Switch setting for AMD Flash Boot (NOR Flash)

### NAND Boot

<i>Description</i>	CFG0[6:1]				
	[6]	[5]	[4]	[3]	[2]
Normal NAND, 512-byte page, 3 addr. Cycle	ON	OFF	OFF	OFF	OFF
Normal NAND, 512-byte page, 4 addr. Cycle	ON	OFF	OFF	OFF	ON
Advanced NAND, 2K-byte page, 4 addr. Cycle	ON	OFF	OFF	ON	OFF
Advanced NAND, 2K-byte page, 5 addr. Cycle	ON	OFF	OFF	ON	ON

<i>Description</i>	CFGB3[4:1]			
	[4]	[3]	[2]	[1]
Connected NandFlash to Xm0CSn2	OFF	OFF	OFF	ON
Connected XD Picture Card to Xm0CSn2	OFF	OFF	ON	OFF

Table 0-2 DIP Switch setting for NAND Flash Boot



IROM Booting	Page	Address	J8	J7	J6
SD/MMC CH0			1-2	1-2	1-2
OneNAND			1-2	1-2	2-3
Nand	512	3	1-2	2-3	1-2
		4	1-2	2-3	2-3
	2048	4	2-3	1-2	1-2
		5	2-3	1-2	2-3
	4096	5	2-3	2-3	1-2
SD/MMC CH1			2-3	2-3	2-3

Table 0-3 DIP Switch setting for iROM Boot

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**Note:** For more information about board configuration, Check SMDK6410 Board Manual

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