

WinCE5.0 MCS9950 Display Driver Installation:

The following procedure explains how to install the MCS9950 display driver.

Before we start we divide the whole process into three steps:

- I) Selecting the required “OS design components” (optional).
- II) Adding MCS9950 driver to the “OS image” being built (mandatory).
- III) Reserving memory of 3MB in DRAM so that can be used for DMA operations of mcs9950 display driver(mandatory).

I) selecting the required “OS design components”

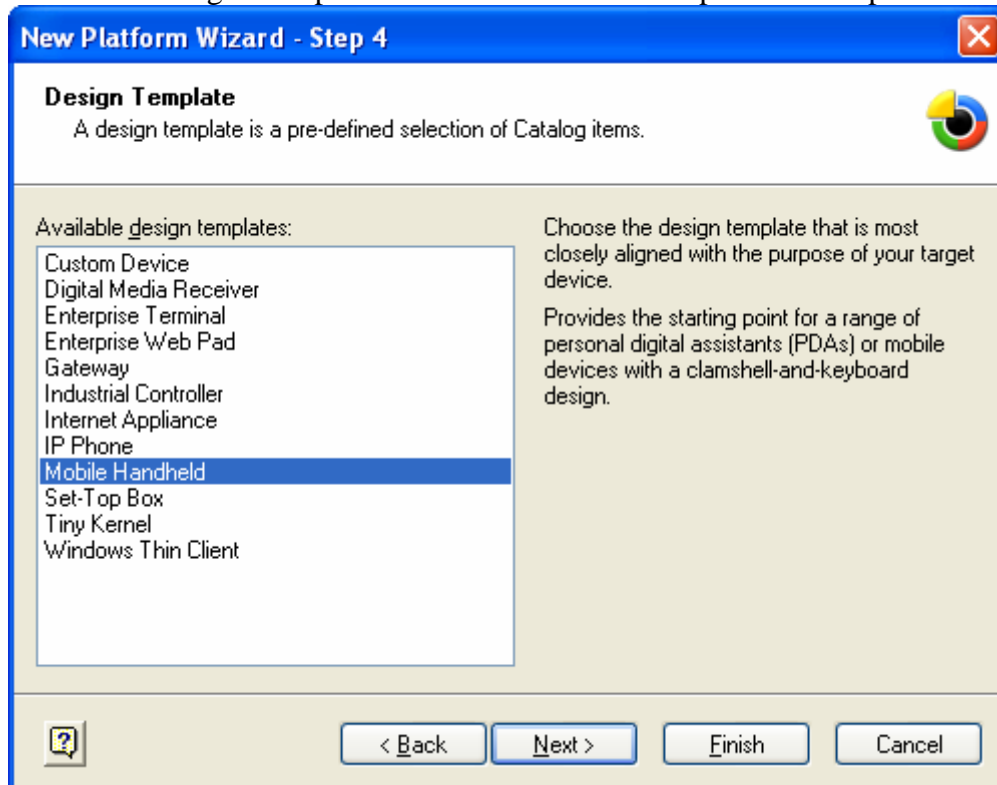
1. Obtain a copy of “MCS9950Ce50” WinCE 5.0 driver package and extract it to your computer.

Copy the extracted “MCS9950Ce50” folder to %WINCEROOT%\PLATFORM\
(Example: C:\WinCE500\Platform or F:\ WinCE500\Platform).

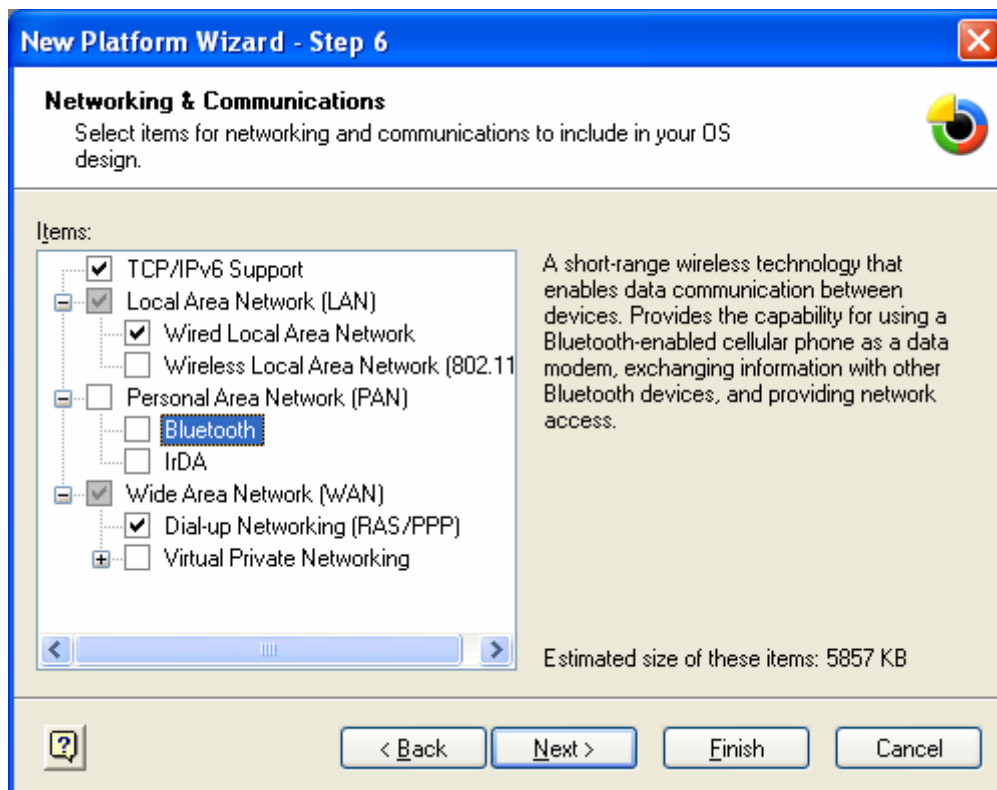
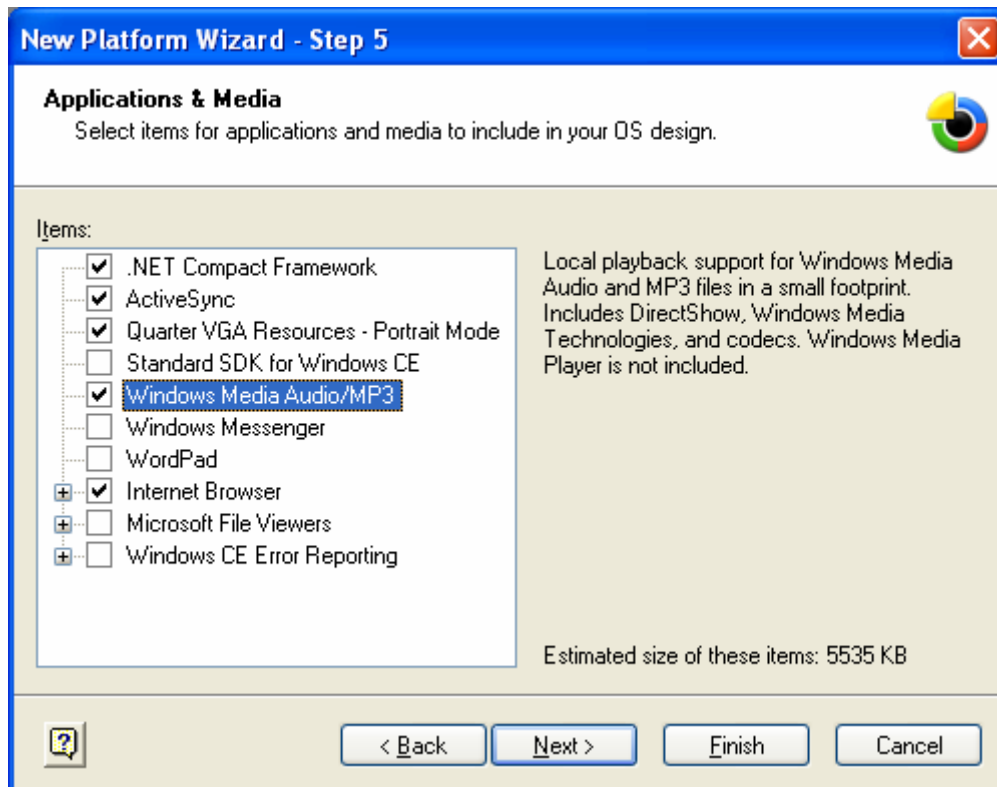
2. Start WinCE Platform Builder, select **File**, and open **New Platform**.

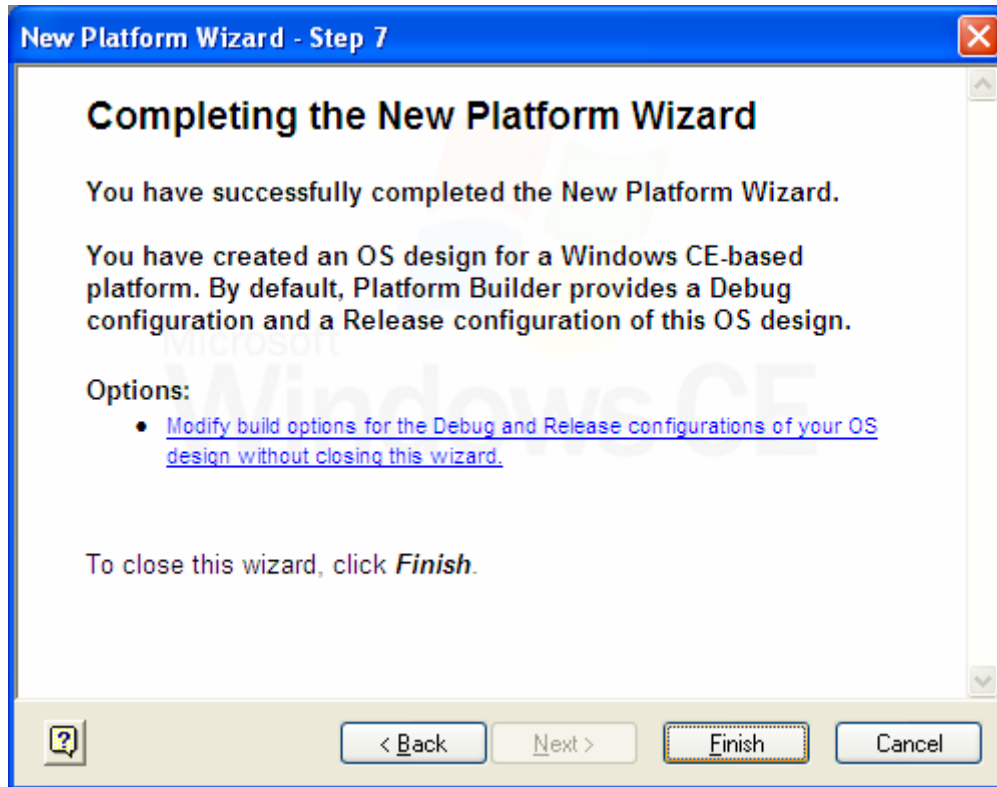
3. Enter a Name for Workspace and press **Next**

4. When you see **Board Support Packages, Design Template, Applications & Media, Networking & Communications**, select what you need to build your own environment. Then **Completing the New Platform Wizard** window will open to indicate that it has finished creating a new platform. Click **Finish** to complete the setup.



Note: Make sure we select Mobile handheld as design template

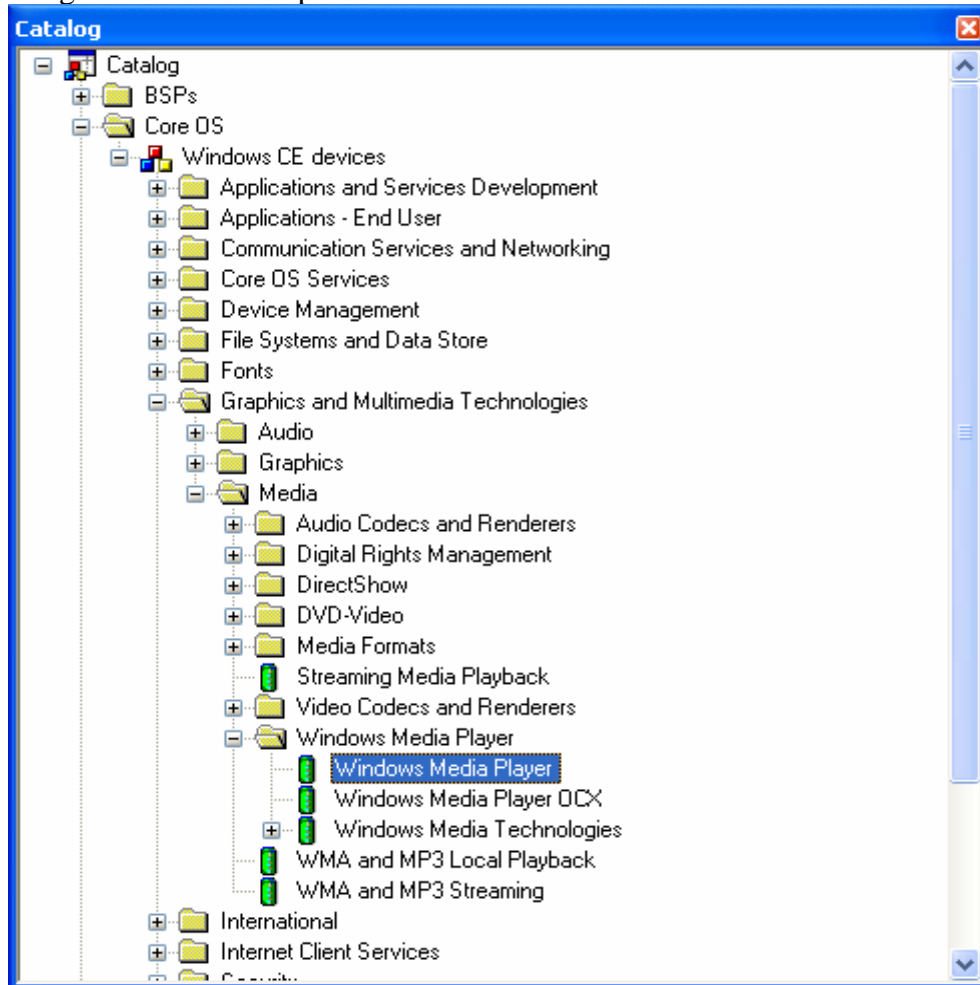




Add windows media player and required codec's.

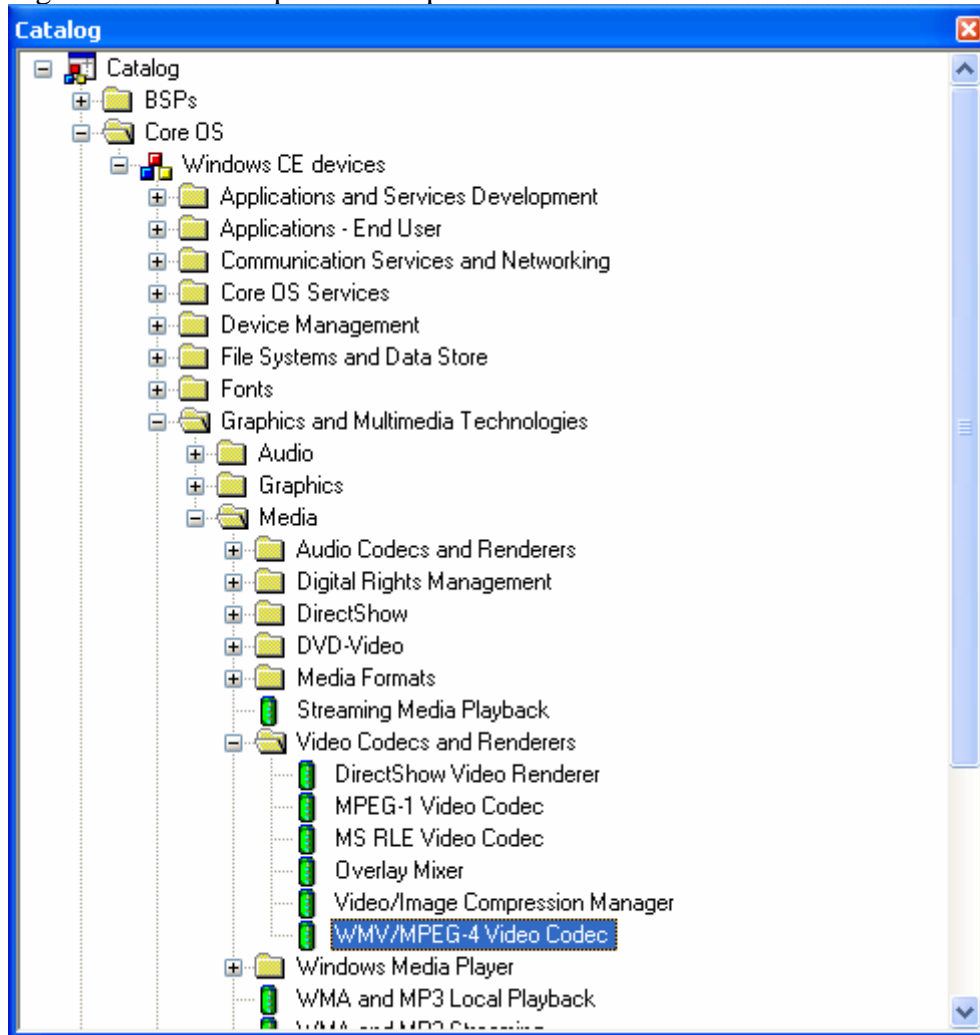
a) View->Catalog->CoreOs->WinCE devices->Graphics and Multimedia technologies
->Media players->Windows media player, right click mouse and add to os design.

Figure illustrates Step: a



- b) Click Video Codec's and Renderers->WMV/MPEG-4 Video Codec, right click mouse and add to os design.
c) Similarly add MPEG-1 video Codec as well.

Figure illustrates Step: b and Step: c

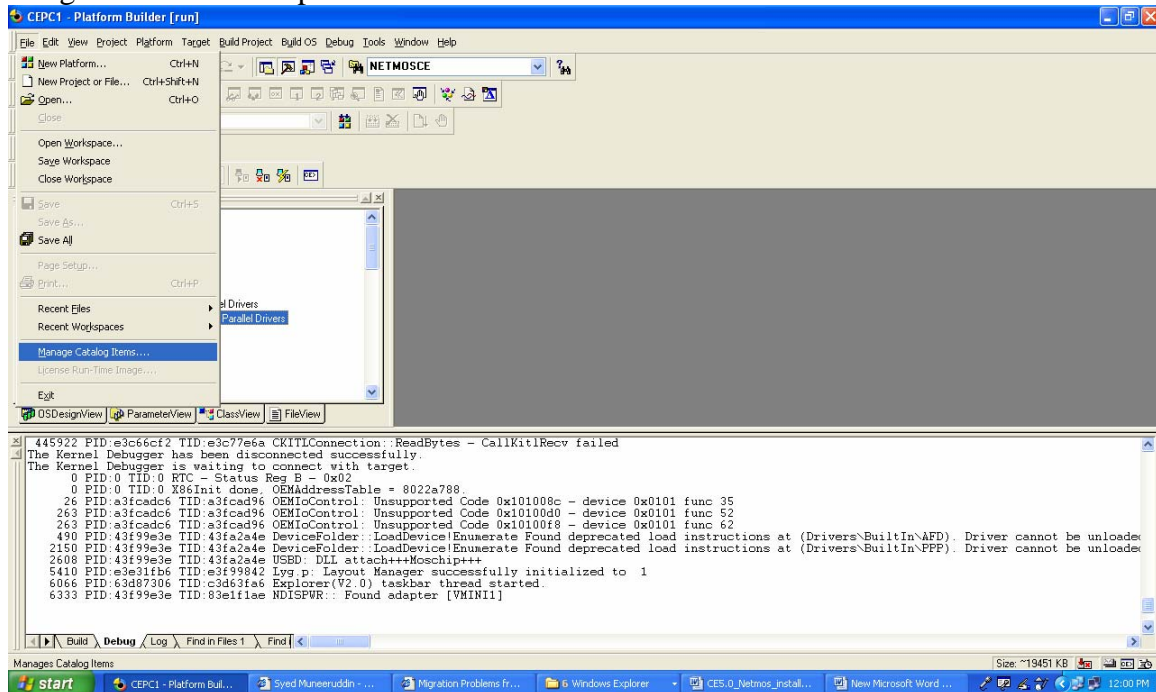


Note: Adding media player and respective codec's allow us to play video on WinCE device.

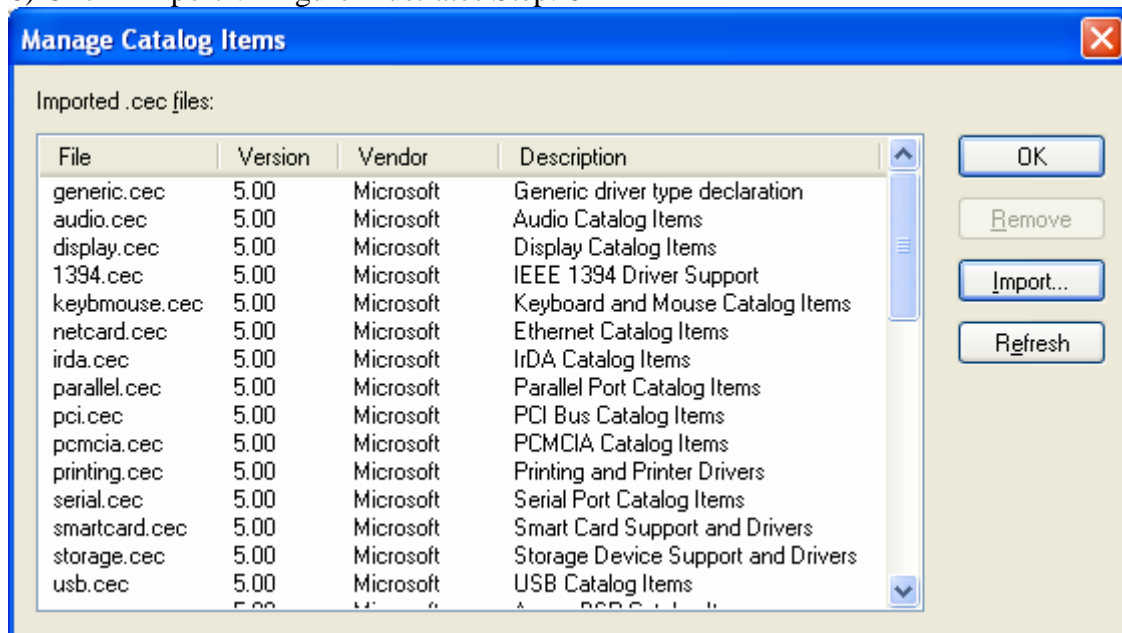
II) Adding MCS9950 driver to the “OS image”

5. Select “File”->”Manage Catalog items”->

Figure illustrates Step: 5

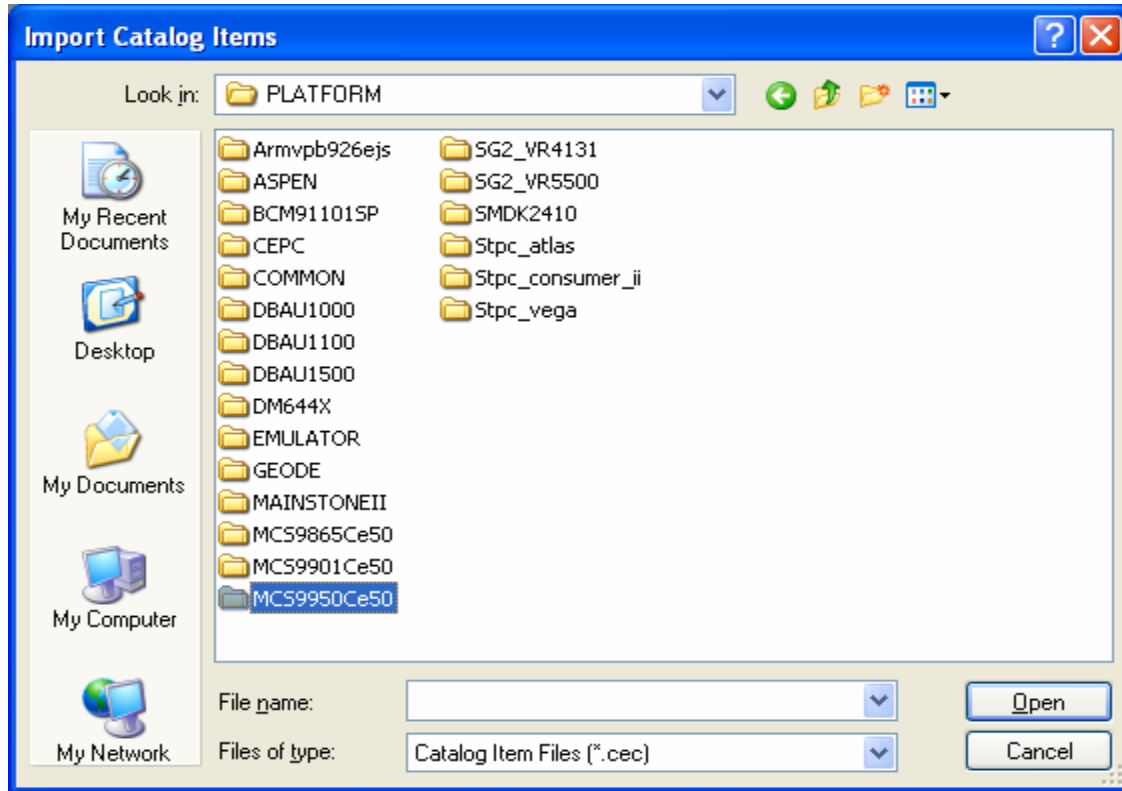


6) Click “Import”. Figure illustrates Step: 6



7) Browse to the Platform folder Select the required Project (eg: MCS9950Ce50)

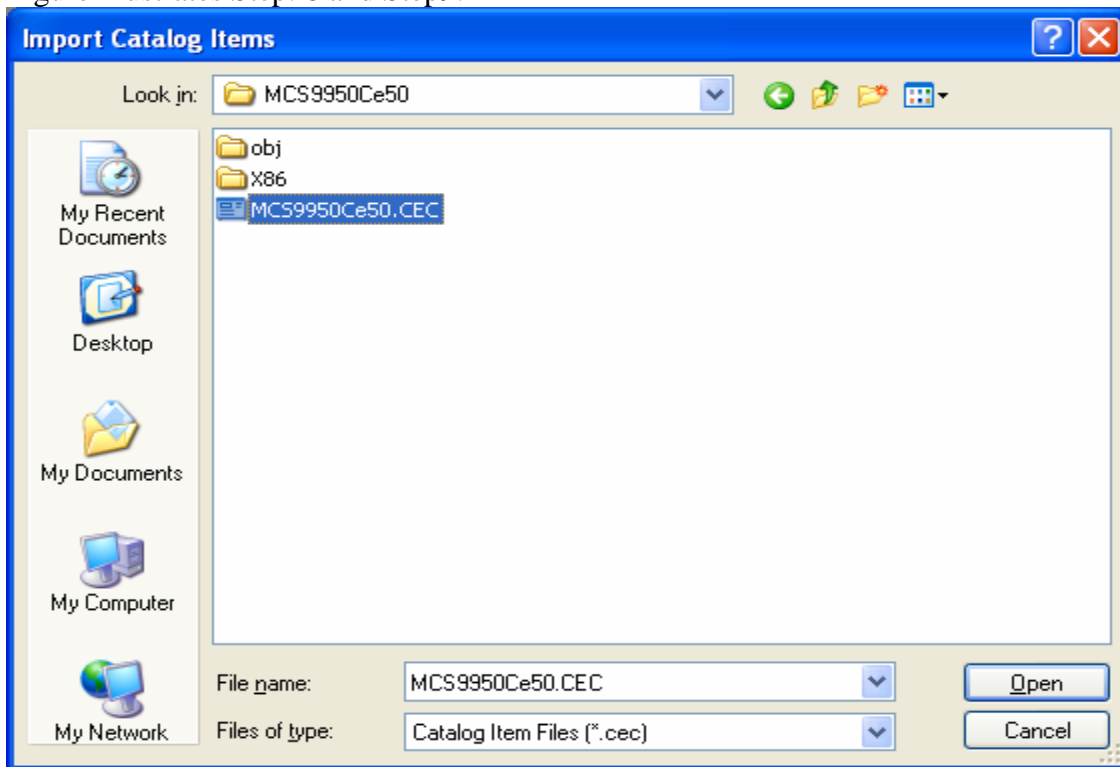
Figure illustrates Step: 7



8) Browse for the CEC file in the project (eg: MCS9950Ce50.CEC)

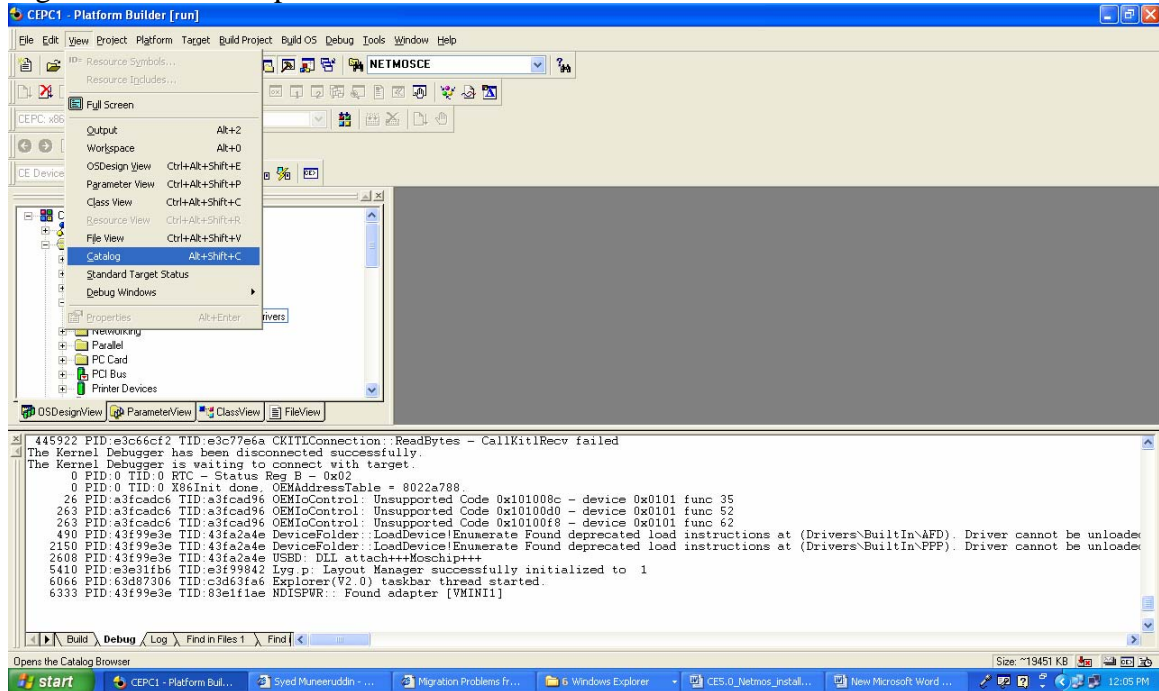
9) Click Open

Figure illustrates Step: 8 and Step9:

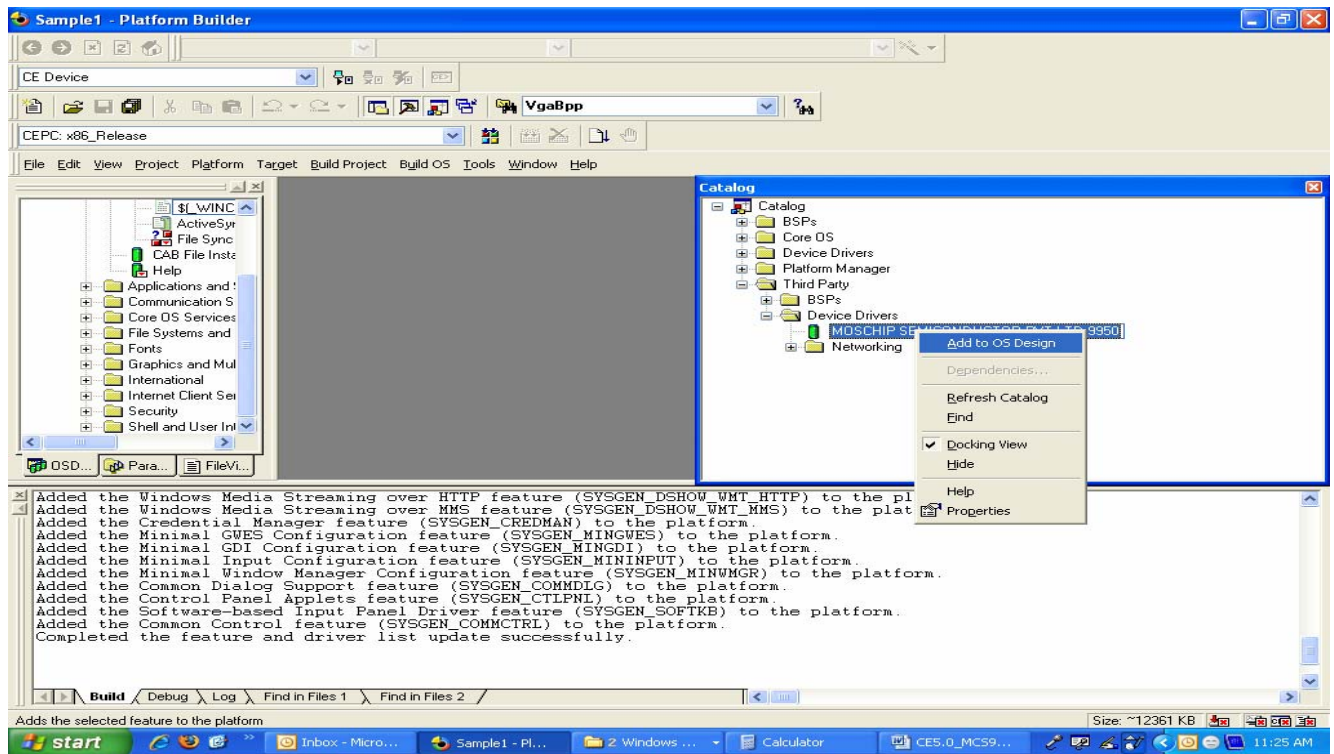


10) View ->Catalog

Figure illustrates Step: 10



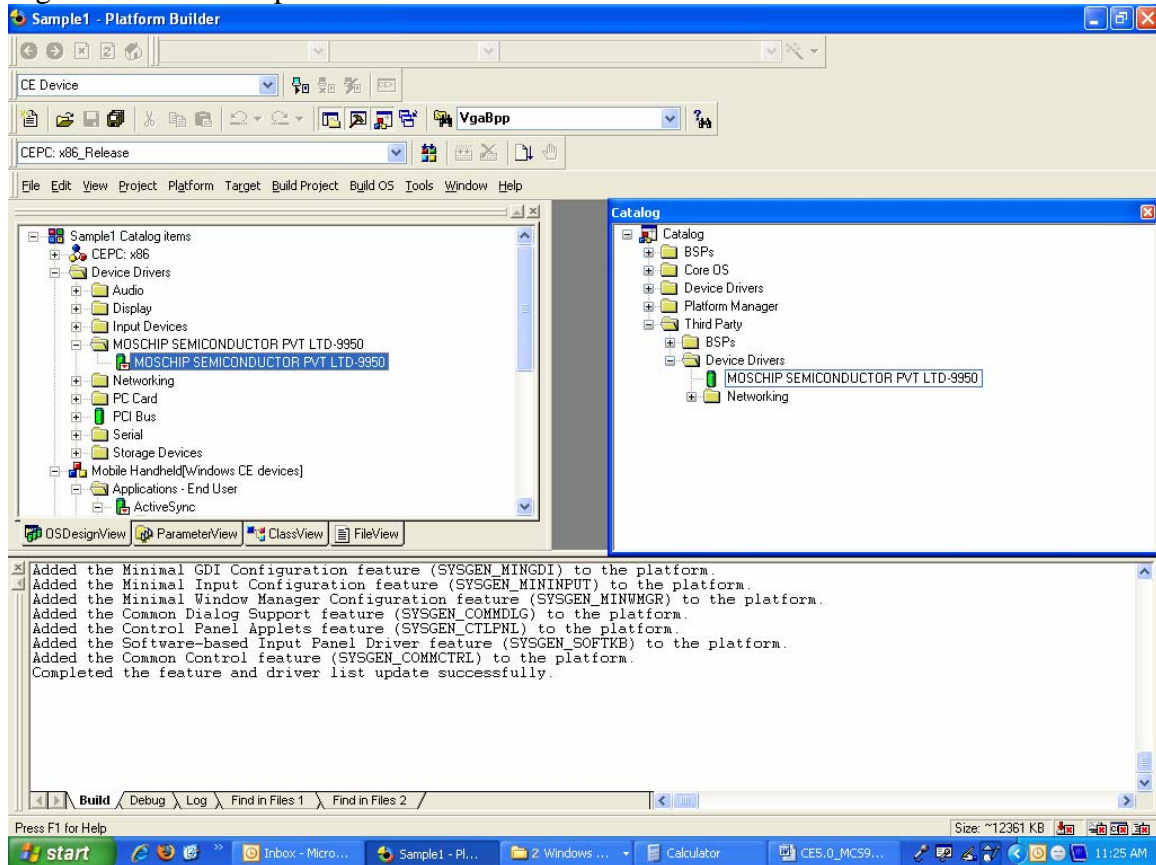
11) In the third party->Device Drivers->Add to OS Design
Figure illustrates Step: 11



12) Make Sure in Workspace by clicking tab->OSDesignView->Expand Device Drivers
You can see the added mcs9950 driver.

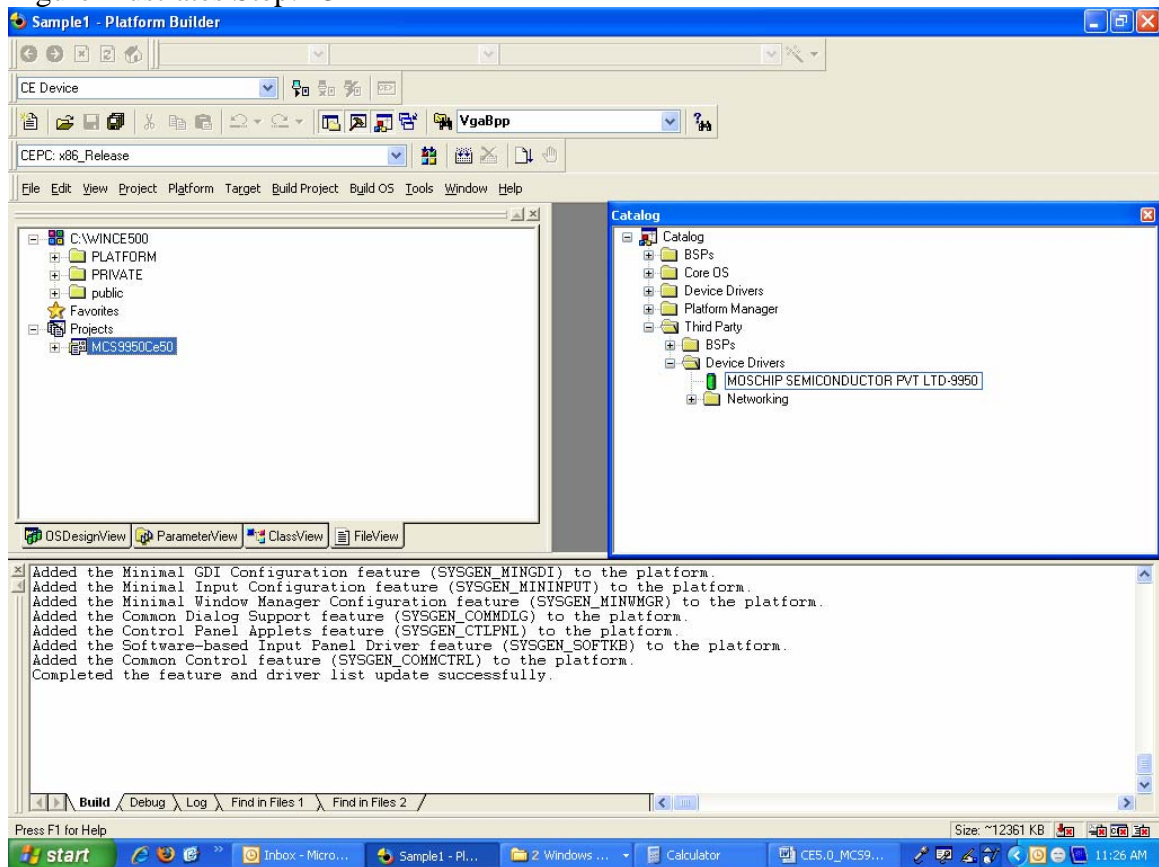
****Note:** Make sure that it has the “red arrow down” as in the figure, it means that it is included in the image.

Figure illustrates Step: 12



13) Make sure you see the Project included automatically in the Project's tab as shown in figure below.

Figure illustrates Step: 13



III) Reserving memory of 3MB in DRAM

14. In ParameterView->CEPC->Hardware Specific Files->Click “config.bib”

Add this line:

Before adding this line in “config.bib”

```
#elif defined IMGRAM32
; 32 MB of RAM (note: AUTOSIZE will adjust boundary)
NK      80220000  009E0000  RAMIMAGE
RAM     80C00000  01400000  RAM
```

After adding this line in “config.bib”

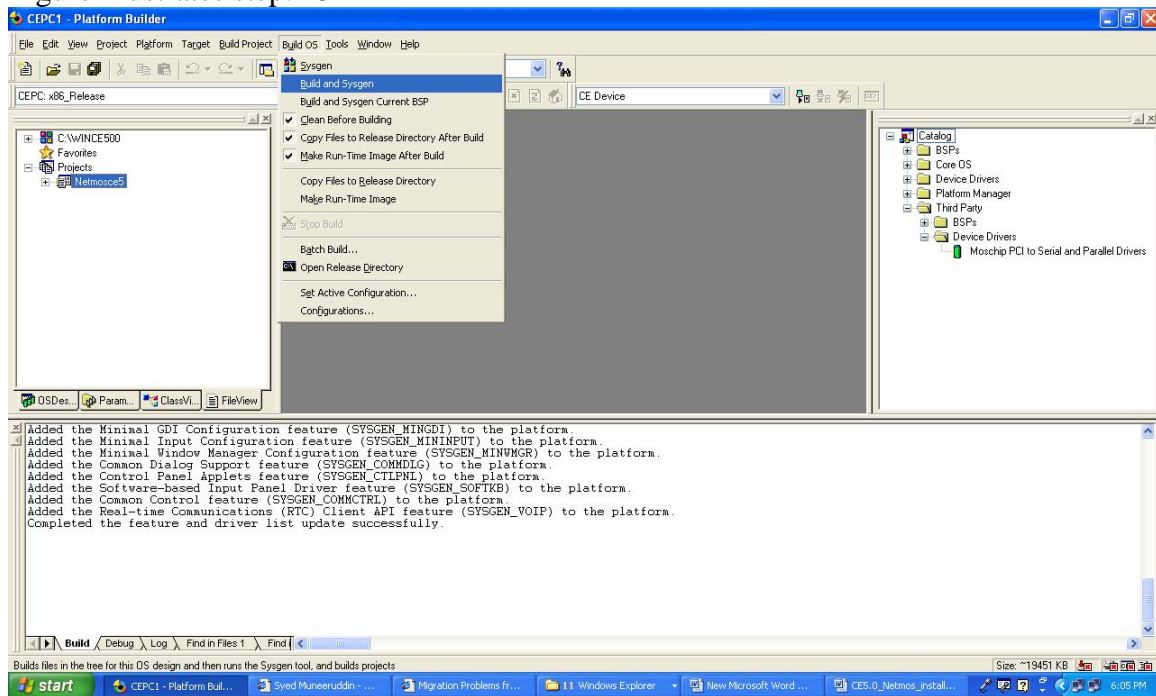
```
#elif defined IMGRAM32
; 32 MB of RAM (note: AUTOSIZE will adjust boundary)
NK      80220000  009E0000  RAMIMAGE
RAM     80C00000  01400000  RAM
DISP_BUFF  9F100000  00300000  RESERVED; 497MB to 500 MB
```

We define “9F100000” as RAM offset for display buffer for DMA operations of Display driver.

Note: Now we are done with all the three stages.

15) Now we are ready to build the image. Click “Build OS”->”Build and Sysgen”

Figure illustrates step: 15



16) Ensure that we get zero errors; transfer the image to the CE device

Note: If one has the Image already built then they need to follow the steps
From Step: 5 to step: 16