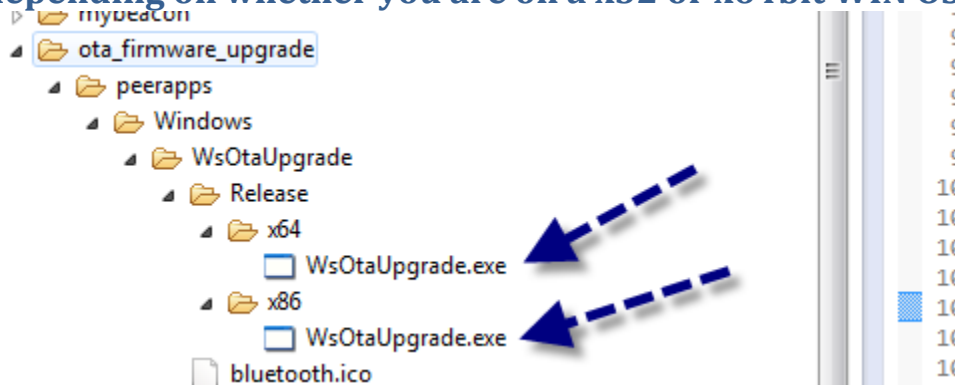# Embedded Masters

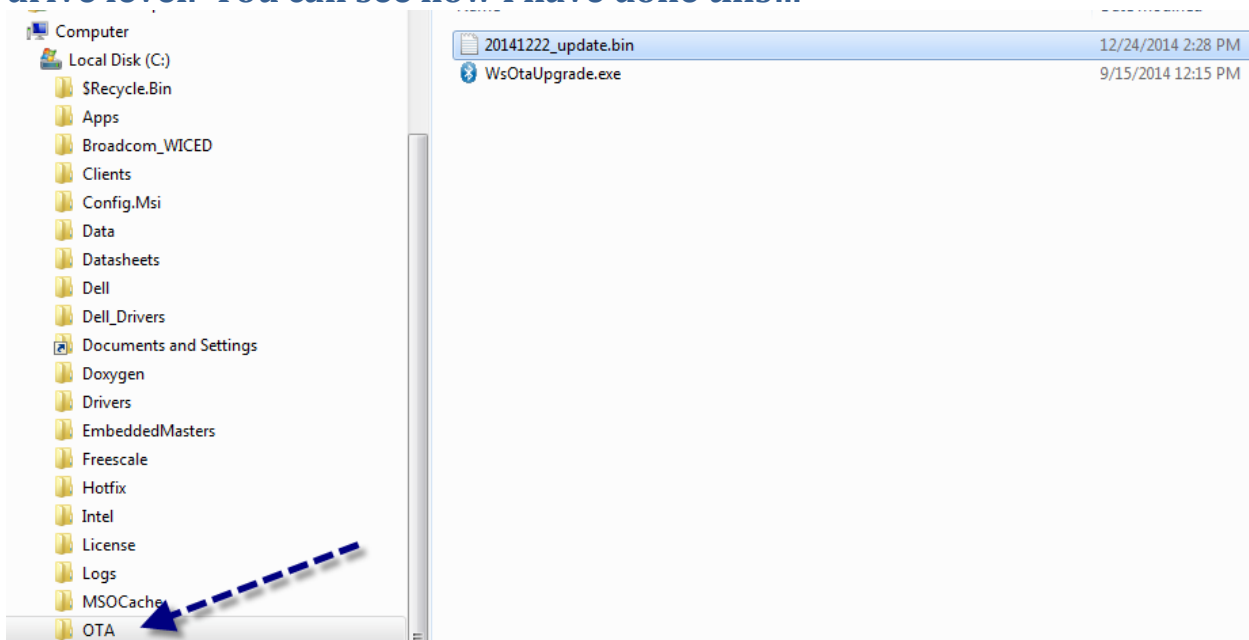## HOW TO USE Over the Air Update on the BCM2073x/BCM2073xS platform.

1) Locate the WsOtaUprade.exe in the Broadcom SDK as shown below and copy it to its own separate folder/directory. Make sure to copy the correct *.exe depending on whether you are on a x32 or x64bit WIN OS.

The folder location is in your SDK install directory at the following location…

..\WICED-Smart-SDK\Apps\ota_firmware_upgrade\peerapps\Windows\WsOtaUpgrade\Release

2) Copy either the WsOtaUpgrade.exe into its own folder typically on your C:\ drive level. You can see how I have done this…

3) Place the binary file to be used for the update into the Same folder as shown above.

4) **Open a CMD Prompt and Change directory to the folder where you placed the *exe and *.binary. Your CMD prompt window will look something like this...**
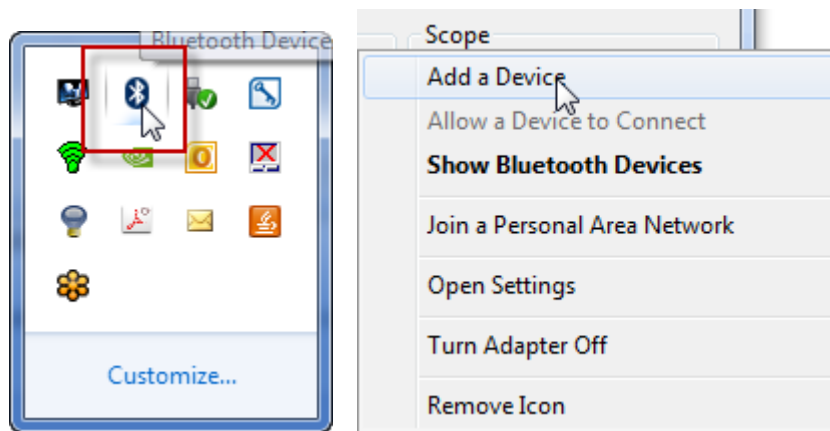

5) **If you have not already done so you will need to have your BCM2073x device connected to the PC. To do so this will require that you have a USB Dongle based on the BCM20702(Dual Mode Bluetooth module) as this will make use of the Broadcom/WIDCOMM Bluetooth Stack that is utilized in this OTA example and many other SDK PC examples. This dongle also allows a WIN7 machine to be BTLE compatible WIN7 does not support BTLE natively. To connect your device to the PC follow these simple steps...**

   a. **Go to your bottom right task bar and click on the Bluetooth ICON and choose 'Add Device'.**
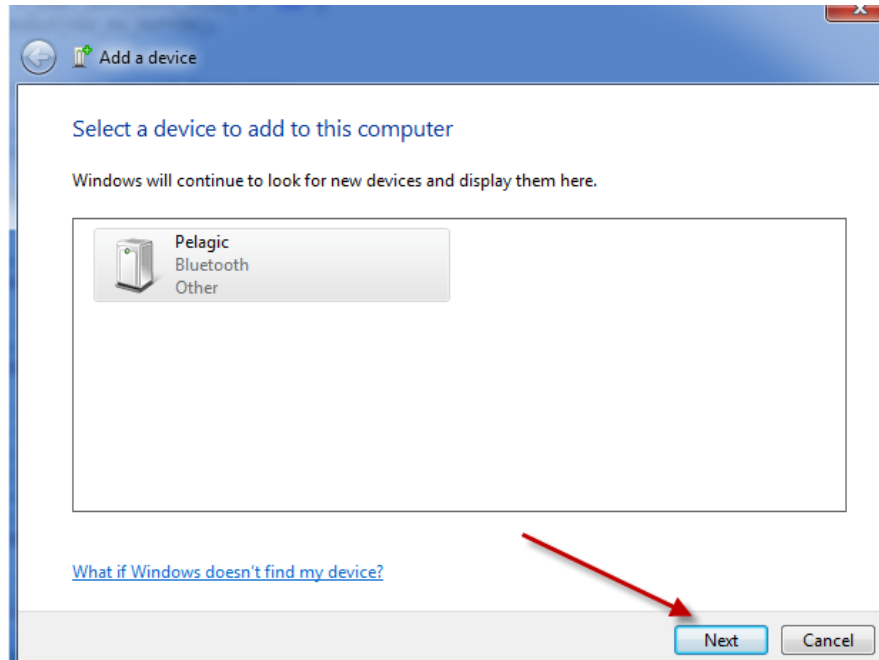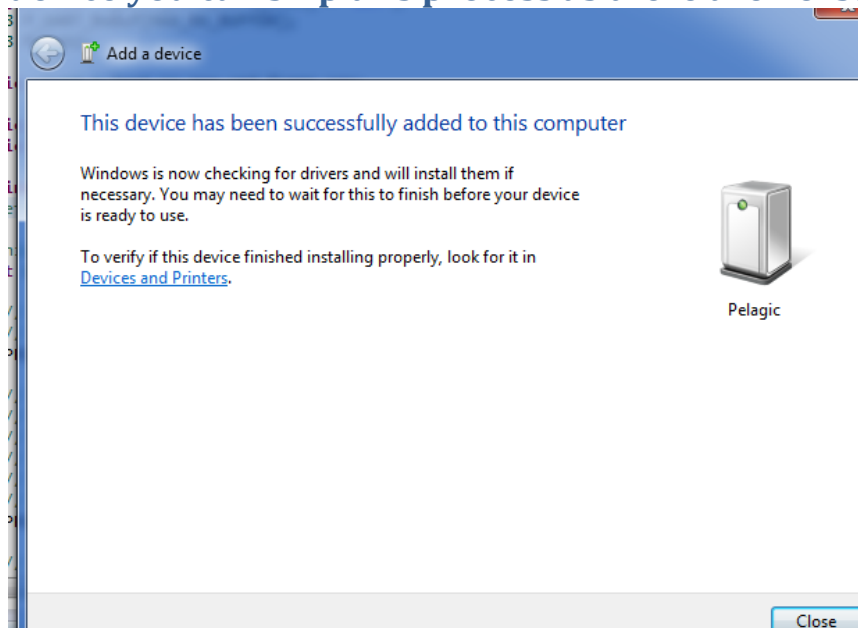   **NOTE: Ensure your device is Advertising so the PC can find it.**

b. You will see the device name for your device show up in the 'Add Device' window as shown below…

c. Click on the Device and click Next…the PC will start the connection/pairing process. After a successful pairing you will see the following window.
NOTE: Windows will be default try to find 'Windows Drivers' for the device you can skip this process as there are no 'standard drivers'.
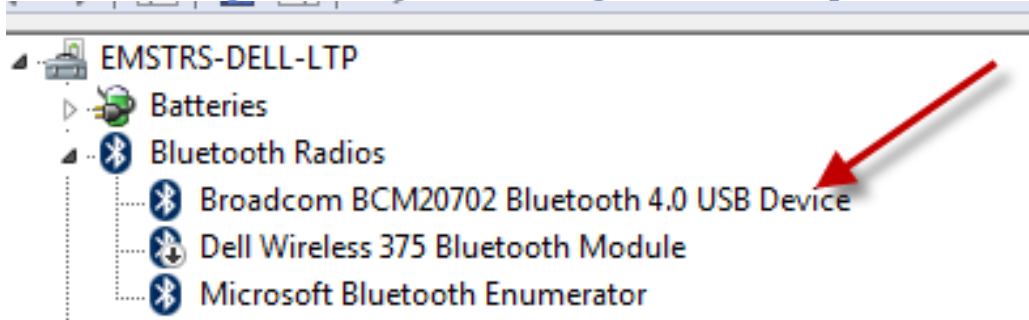

6) Now that you have connected your device to the PC we need to do one last thing before we do the OTA update. Go to your Device Manager in the Control

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panel and locate the 'Broadcom BCM20702 Bluetooth 4.0 USB Device' in the Device Manager and right-click to get to the 'Properties' of this device.
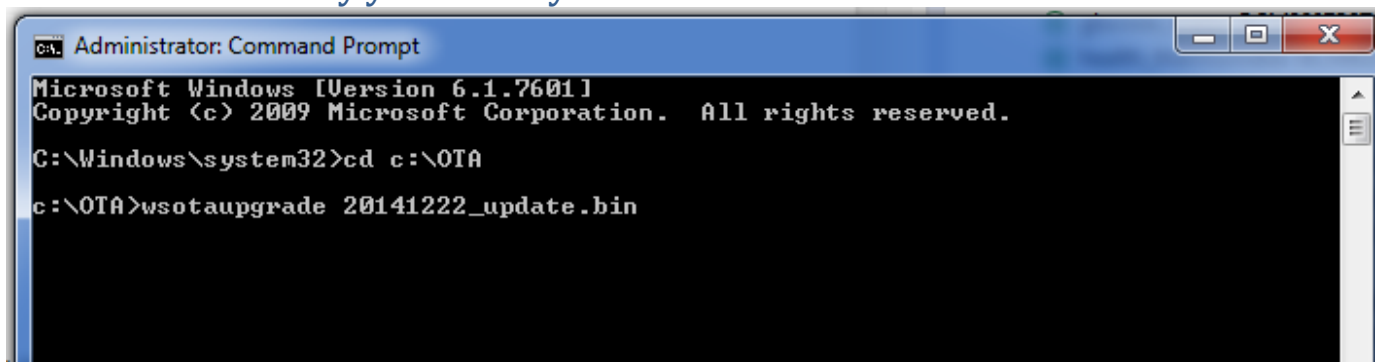

7) Go to the 'Power Management' Tab and ensure that the 'Allow the computer to turn off this device to save power' is UNCHECKED.

NOTE: If this is left checked you will most likely encounter the OTA process halting occasionally as the PC will attempt to power down the device during the OTA process.
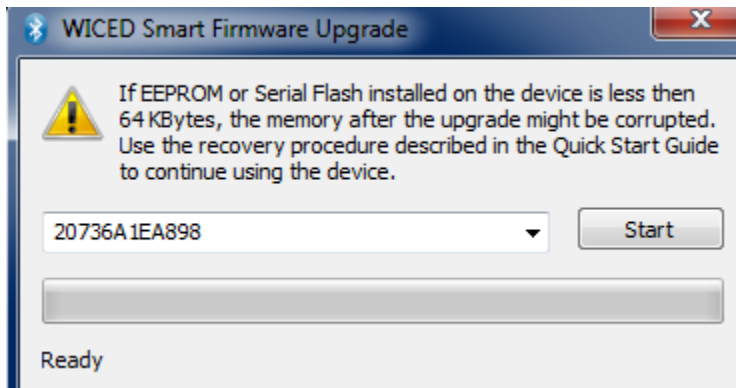
8) Now we can execute the OTA process. Go back to the CMD Prompt ensuring you are in the same folder location as the WsOtaUpgrade.exe and the binary file you want to upgrade and simply type in the command line the executable name followed by your binary file name and hit 'enter' as shown below...
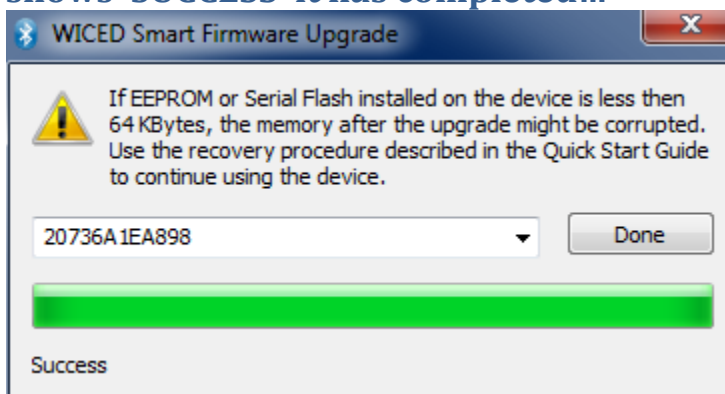
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9) You will see a GUI appear that shows the BT Address that is connected to the PC. This should be the address of your device/peripheral.

10) Now simply click 'Start'...

11) You will see a progress bar appear as shown below. At the end when it shows 'SUCCESS' it has completed...

12) One thing that can be done to secondarily validate if the OTA has actually occurred is to place a simple ble_trace0 printf statement inside of the create() function or somewhere in your code that will print out indicating the Update has occurred. Similar to what is shown below...

```
#ifdef UPDATED
        ble_trace0("OTA update successful!!\n");
#endif
```