

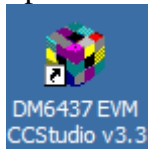
Flashing the DM6437 EVM NOR Device for Booting in NOR FastBoot AIS mode

Pre-requisites

1. Install CCS 3.3.38.2 from the Spectrum Digital CD included in the DVDP.
2. Install the EVM Target and Drivers Content from the Spectrum Digital CD included in the DVDP.
3. Do NOT install any FlashBurn utility from the Spectrum Digital CD. Instead, visit <http://www.softwaredesignsolutions.com/flashburn.aspx> and download the free FlashBurn DSK utility (registration required). Install the FlashBurn DSK.
4. Install the DVDP's DVSDK, provided by TI. Within the main install directory, there is a directory called FlashBurn_Files, which contains all the needed files referenced in these instructions.

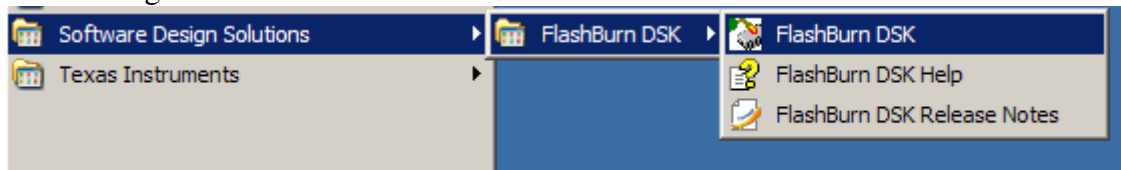
Instructions

1. Connect the EVM to the PC via the supplied USB cable to use the board's embedded emulation support.
2. Apply power to the EVM
3. Start DM6437 EVM CCStudio v3.3 by clicking on the icon (installed from the Spectrum Digital CD included in the DVDP package).



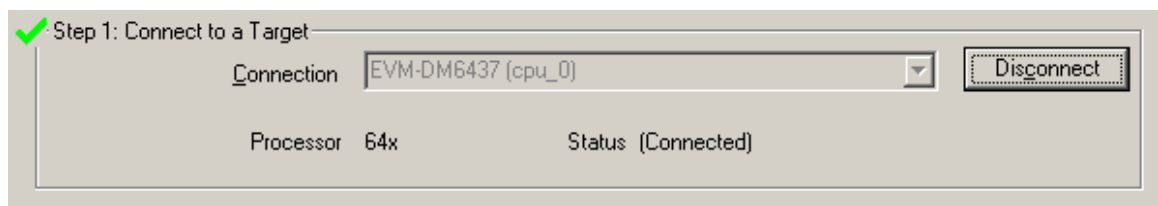
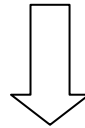
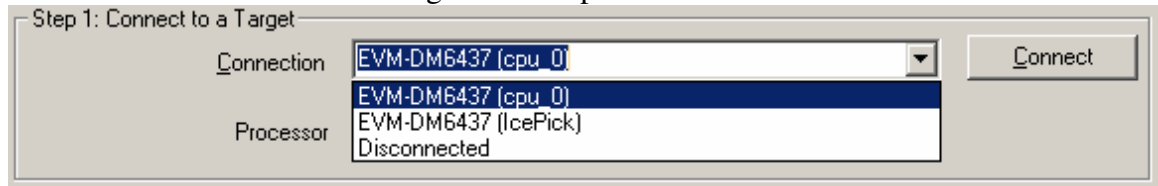
Using this icon, CCS is setup for the proper board connection and the EVM's GEL file is automatically loaded.

4. Make sure that the JP2 jumper is set to "Flash". If not, shutdown CCS, power off the board, change the jumper, and start over at step 1 of these instructions.
5. Connect to the target EVM by hitting ALT+C in CCS.
6. Open the FlashBurn DSK Utility by going to
Start->All Programs->Software Design Solution->FlashBurn DSK
and running "FlashBurn DSK".

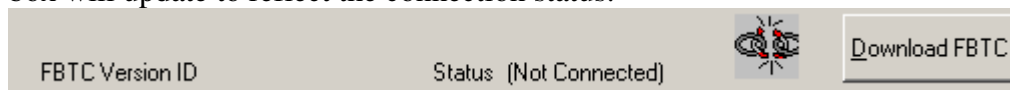


7. If asked, choose to "Create a New FlashBurn configuration". Otherwise, within the FlashBurn Utility, go to File->New to start a new configuration file (cdd file).

8. In Step 1 of the FlashBurn DSK dialog box, connect to the target by clicking on the dropdown selection box and choosing “EVM-DM6437 (cpu_0)”, then clicking the “Connect” button. The dialog box will update to reflect the connection status.



9. In Step 2, click on the Browse button  following the “FBTC Program File” field to locate and select the provided FlashBurn Target Component (FBTC), “FBTCEVMDM6437.out”. It can be found in the FlashBurn_Files directory of the DVSDK installation. Then Click the “Download FBTC” button. The dialog box will update to reflect the connection status.

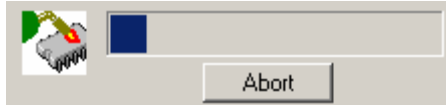


10. Prepare the application to be flashed to the EVM. The file should be in hexadecimal format (Motorola S-record or ASCII hex). A CCS COFF file (the .out file) can be converted to proper hex format using the provided hexAIS tool, found in “<DM6437_install_dir>\FlashBurn_Files\hexAIS”. (Note that the hexAIS tool is a .NET application and requires the Microsoft .NET Framework v2.0 or higher to be installed. See the readme.txt file for more details.) Or the genAIS perl script (supplied with SPRAAG0) can be used to generate a binary AIS file and the hexAIS utility can then convert this to the hex format.
 - a. Example: Run ‘hexAIS a.out’ to produce the file ‘a.hex’, which can be flashed to the NOR flash of the EVM. This procedure uses the included file, DM643x.ini, to provide information on basic initialization of the system PLLs, DDR interface, and EMIFA interface

- b. Example: Use the genAIS perl script (from SPRAAG0) to generate a binary AIS file (this utility provides more options, but is also more complex to use). Then run 'hexAIS -ais2hex a.ais' to generate the file 'a.hex', which can be flashed to the NOR flash. See SPRAAG0 for more info about the genAIS tool and the AIS format.
11. (Optional) Do a global erase of the NOR flash to prepare for writing, by clicking the "Erase Flash" button in Step 3 of the FlashBurn DSK dialog.
12. In Step 3, browse for the File to burn to the NOR flash. The file should be in hexadecimal format as described above. Leave all other settings at their default.

Click the Burn icon  or select Program->Program Flash from the menu.

13. A status bar will show the progress of the operation.



14. The results of the flashing operation will appear in the status bar of the FlashBurn window.

FlashBurn of 31040 bytes is complete. Time: 6699 mSec.

15. If the burn fails, do a complete erase of the NOR region, and then try again.
16. Close FlashBurn (optionally saving the configuration file). From within CCS, hit ALT+C to disconnect from the board. Close CCS. Power off the board.
17. Set the SW1 and SW2 switches as follows:
 - SW2-1: Off
 - SW2-2: Off
 - SW2-3: On
 - SW2-4: On

 - SW1-1: Off
 - SW1-2: Off
 - SW1-3: On
 - SW1-4: Off
 - SW1-5: On
 - SW1-6: Off
 - SW1-7: Off
 - SW1-8: Off

18. Turn on the board and your application should start. Note that currently the AIS image format can only initialize the DDR memory (and the associated PLL2), the system PLL (PLL1), the AEMIF interface, and the PINMUX registers. Other required initializations (such as turning on needed power domains) must currently take place in the user application.