OMAP-L137 EVM Hardware Setup

Contents

IMPORTANT

By default, DA830/OMAP-L137/AM17xx EVM comes up with CPU operating at 300MHz. UBL has to be re-built to boot at a higher CPU frequency.

NOTE

When powering up EVM for the first time with a freshly installed Linux filesystem, be sure to have the UI card connected so that devices on that card can be detected as well. On first time boot-up, a cache of device nodes is prepared and stored in `/etc/dev.tar`. Devices which are not detected will not be made part of this cache. To rescan the devices at a later point of time, remove the `/etc/dev.tar` file from the filesystem and issue `reboot` from the Linux shell prompt.

Setting up the Hardware (For Linux)

Follow the steps below to setup the hardware and enable communication with the EVM.

NOTE The EVM is sensitive to static discharges. Use a grounding strap or other device to prevent damaging the board. Be sure to connect communication cables before applying power to any equipment.

- Verify that the EVM board's SW2 (Boot) switch is correctly set. The setting to boot from SPI0 Flash are:

Pin #	7	2	1	0	3
Position	0	1	0	1	X

- If you want to use networking, connect the Ethernet cable to one of the Ethernet ports on the EVM board and to an Ethernet network port.
- Connect the USB cable provided in the kit to the on-board emulation USB port on the board (EMBED USB). Connect the other end to a computer with CCS installed.
- If you plan to use UART port for a console window, connect the RS-232 null modem cable to the EVM UART port and to the COM port of your host workstation.
- Connect the power cable to the EVM power jack on the board. To be ESD safe, plug in the other end of the power cable only after you have connected the power cord to the board.

Connecting to a Console Window

You can open a console window that allows you to watch boot and serial console messages by following these steps:

1. Connect a serial cable between the serial port on the EVM and the serial port (for example COM1) on a PC.
2. Run a terminal session (such as Minicom on Linux or TeraTerm on Windows) on the workstation and configure it to connect to that serial port with the following characteristics:

   Bits per Second: 115200
   Data Bits: 8
   Parity: None
   Stop Bits: 1
   Flow Control: None
   Transmit delay: 0 msec/char, 100 msec/line

For Linux

1. When you power on the EVM, you will see boot sequence messages (If you have a boot loader in flash. If you do not have a boot loader in flash see the Restoring/Flashing Bootloaders section). You can press a key to interrupt the boot sequence and type commands in the U-Boot command shell.

Connecting to CCS

Target Configuration

- Open CCS and select New->Target Configuration File.
- Specify a file name or use default.
- Select "Spectrum Digital XDS510USB Emulator" as Connection

- Check "OMAPL137" or "C6747" as Device and save.
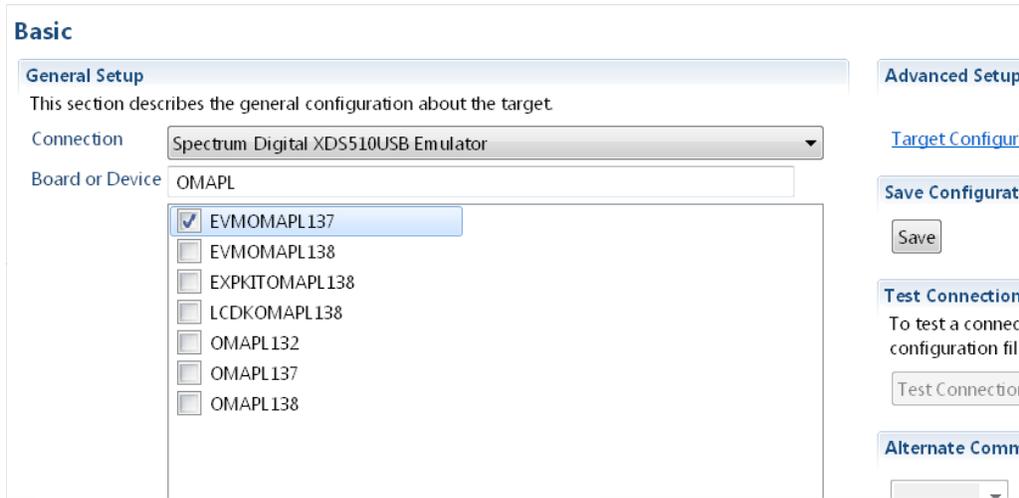
Useful Tip

If you don't see "OMAPL137", ensure that you have installed CCS and selected Single Core DSP devices in the installation

- Open Target Configuration view in CCS by selecting "Window -> Show view -> Target Configurations" from menu.
- Select newly created configuration, right-click on it and set it as default.

- Launch Target configuration file
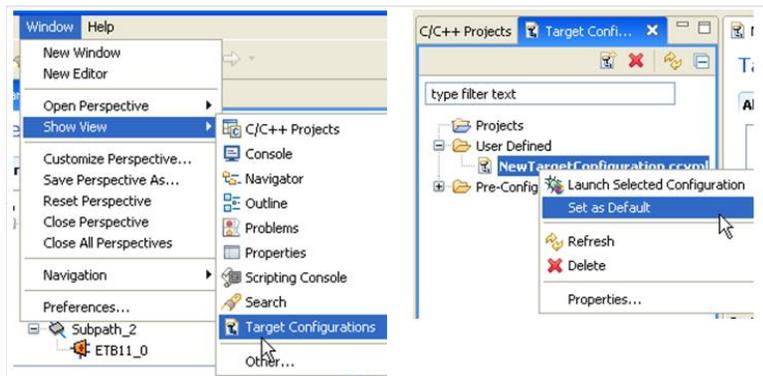
Connect Target and Load/Run Program

- Connecting Target
    - Select "View -> Debug" from menu to start a debug session.
    - CCS will switch to Debug perspective with devices DSP and ARM .
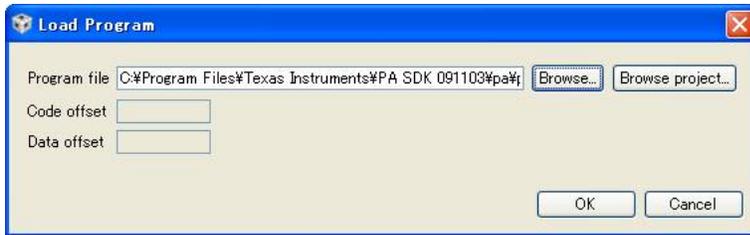   - Select device to connect and then go to "Run -> Connect Target" from menu.

NOTE

OMAPL137 is a DSP boot master device. Hence to connect to the ARM, you need to connect the DSP first (even if you do not load anything to DSP), then connect ARM (Reason: DSP's GEL file enables and wakes up the ARM)
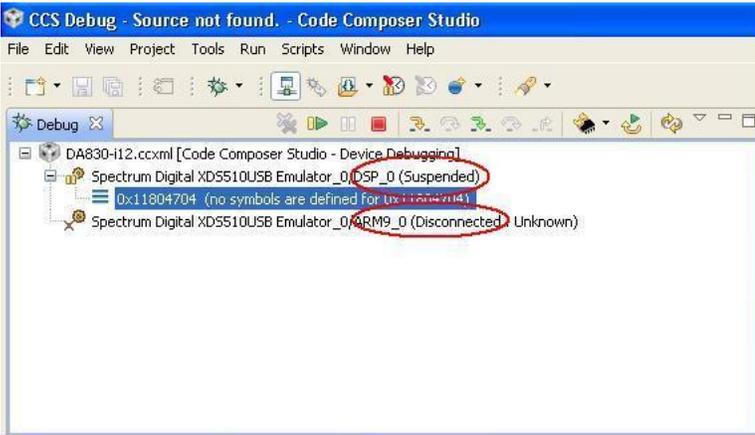
Loading Program

- Choose desired device (DSP or ARM)
- Go to "Run -> Load -> Load Program" from menu.
- Click "Browse" to choose a prebuilt *.out or click "Browse project.." to choose *.out of the open projects.
- Choose desired *.out and click OK.

- Running Program

  - Go to "Run -> Resume"

{{ 1. switchcategory:MultiCore= For technical support on MultiCore devices, please post your questions in the C6000 MultiCore Forum For questions related to the BIOS MultiCore SDK (MCSDK), please use the BIOS Forum Please post only comments related to the article **OMAP-L137 EVM Hardware Setup** here.	Keystone= For technical support on MultiCore devices, please post your questions in the C6000 MultiCore Forum For questions related to the BIOS MultiCore SDK (MCSDK), please use the BIOS Forum Please post only comments related to the article **OMAP-L137 EVM Hardware Setup** here.	C2000=*For technical support on the C2000 please post your questions on The C2000 Forum. Please post only comments about the article* **OMAP-L137 EVM Hardware Setup** *here.*	DaVinci=*For technical support on DaVincopleease post your questions on The DaVinci Forum. Please post only comments about the article* **OMAP-L137 EVM Hardware Setup** *here.*	MSP430=*For technical support on MSP430 please post your questions on The MSP430 Forum. Please post only comments about the article* **OMAP-L137 EVM Hardware Setup** *here.*	OMAP35x=*For technical support on OMAP please post your questions on The OMAP Forum. Please post only comments about the article* **OMAP-L137 EVM Hardware Setup** *here.*	OMAPL1=*For technical support on OMAP please post your questions on The OMAP Forum. Please post only comments about the article* **OMAP-L137 EVM Hardware Setup** *here.*	MAVRK=*For technical support on MAVRK please post your questions on The MAVRK Toolbox Forum. Please post only comments about the article* **OMAP-L137 EVM Hardware Setup** *here.*	*For technical su please post you questions at http://e2e.ti.com Please post on comments abo article* **OMAP-L EVM Hardware Setup** *here.* }}

Links

Amplifiers & Linear	DLP & MEMS	Processors	Switches & Multiplexers
Audio	High-Reliability		Temperature Sensors & Control ICs
Broadband RF/IF & Digital Radio	Interface	ARM Processors	Wireless Connectivity
Clocks & Timers	Logic	Digital Signal Processors (DSP)	
Data Converters	Power Management	Microcontrollers (MCU)	
		OMAP Applications Processors	

This page was last edited on 29 March 2017, at 16:30.