TMS320C5515 Evaluation Module (EVM)

Quick Start Installation Guide
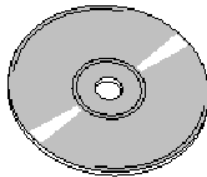
Items Required for Setup

C5515 EVM

+5V Universal Power Supply

AC Power Cords

C5515 EVM Code Composer Studio DVD

USB Cable

System Requirements

- 2 GB of free hard disk space
- Microsoft Windows™ XP/Vista
- Min 1 BG RAM, 2 BG recommended
- Min 1.5 GHz, dual core recommended
- Color Display
- Internet access
- USB port
- DVD Reader

Service and Support

Web	http://support.spectrumdigital.com
E-Mail	support@spectrumdigital.com

Description

The C5515 Evaluation Module (EVM) is an all-in-one evaluation platform for the TMS320C5515 Digital Signal Processor from Texas Instruments. It includes a target board that can be used as a reference design. Included is a board specific version of TI's flagship Code Composer Studio development tools. An on-board JTAG emulator allows debug from Code Composer Studio through your PC's USB port.
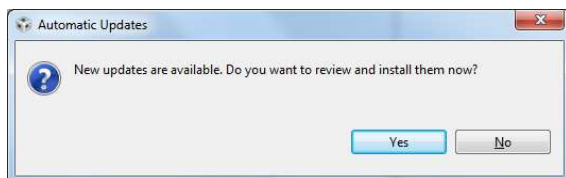
This kit contains everything you need to get started with TI DSPs. It can also be used with the full version of Code Composer Studio and an external JTAG emulator.

Install EVM Content from the CD-ROM

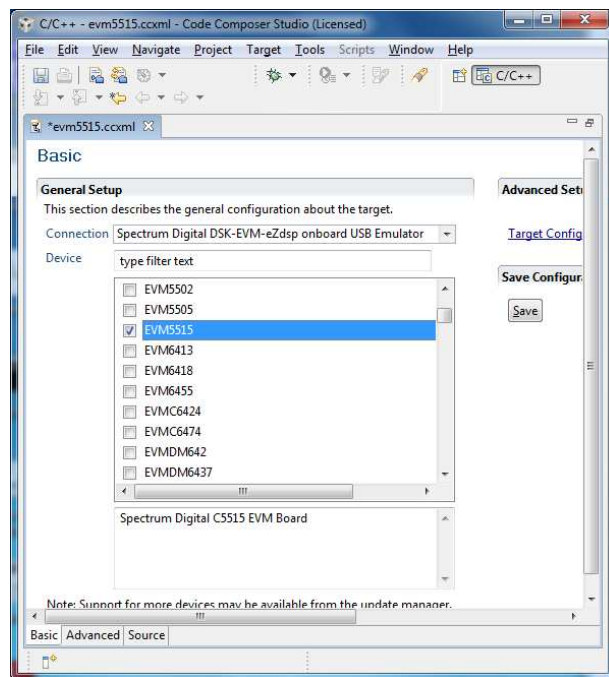**Note:** *Install **ALL** software prior to connecting the C5515 EVM to the computer !*

Note: *The user **MUST** be logged onto windows with "Administrative Rights" and any anti-virus software must be disabled during installations. Please contact your system administrator if help is needed in this area.*

1. Insert the Code Composer Studio (CCS) v4 DVD into the computer's DVD drive and wait for the auto-run application to start. The user prompts will step the user through the rest of the CCS installation. The installation will place a CCS icon on your desktop.

2. At this time plug the C5515 EVM into a USB port on your laptop or PC. Windows will recognize the new hardware connection and complete the hardware installation automatically. The C5515 EVM will enumerate as a DSK5510 as they share emulation drivers.

3. Launch CCS v4 from the shortcut icon on the desktop.

4. A prompt will appear asking for a workspace location. Each time CCS starts up the main workspace is the main working folder for CCS. The default location will be (on Windows XP) "C:\Documents and Settings\<user name>\MyDocuments\workspace". To have CCS automatically default to the specified workspace location, select the "Use this as the default and do not ask again" option.

5. Create a user license. After launching CCS, the user may be prompted to create a user license to activate the CCS software. Select the "Activate a License" option. If prompted click "Use Free Limited License". This will re-direct you to the Texas Instruments website to complete the License creation process. Alternatively, the "Activate a License" step may be bypassed temporarily and completed at a later date by clicking "Evaluate Code Composer Studio for 30 days".

6. If you receive a prompt that automatic updates are available select "NO" and proceed, You can get these updates later after successfully running a CCS session.

CCS Configuration Instructions

1. Launch CCS v4 from the shortcut on the desktop. (This was created when CCS v4 was installed).

2. The CCS v4 window will appear. Click the "Target" menu, then select "New Target Configuration File".

3. The "New Target Configuration" window will appear. Enter a file name that describes the emulator connection and/or Texas Instruments device being used and click "Finish". For example: "EVM5515".

4. The "Basic" configuration setup window will open in the CCS v4. Select "Spectrum Digital DSK-EVM-eZdsp onboard USB Emulator" from the "Connection" menu. Type "5515" in the "Device" field and select "EVM5515", from the list.

5. Click the "Save" button to save the configuration.

6. Click the "View" menu and select "Target Configurations" to expose the configuration(s) that have been built or imported. A new tab labeled "Target Configurations" will become available in the CCS window.

7. Expand the "User Defined" folder. Right-click on the new configuration that has been created and click "Launch Selected Configuration".

8. Click "View->Debug" then click "Target->Connect Target". CCS will attempt to connect to the C5515 EVM and run the GEL file. Once the connection is successful and the GEL file has finished, the console window will print a message stating "Target Connection Complete".

Running the C5515 EVM LED Blink Demonstration

1. The C5515 EVM must be connected in CCS before proceeding. If the board is not connected, please refer to section 4.0 of this guide.

2. Click "File->Import".

3. When the new window appears, expand "CCS" and select "Existing CCS/CCE Eclipse Project". Click "Next".

4. Select "Select Root Directory" and click the "Browse" button. Browse to directory path
"<Install_Dir>\ccsv4\emulation\boards\evm5515_v1\tests\led"

   The default <Install_Dir> is "C:\programfiles\Texas Instruments"

5. Highlight the "LED" folder and click "OK". Then click "finish"

6. Click "View->C/C++Projects". A new tab will appear in the CCS v4 window and there should be a LED project visible.

7. Click "Project->Build Active Project".

8. When the build is complete, a message will print in the Console Window.
9. Look in the "C\C++Projects" tab again and expand the "binaries" folder. There now should be a "led.out" file listed.

10. Right click on "led.out" and click "Load Program".

11. Click "Target->Run". The C5515 EVM "XF" LED should now blink.

SUPPORT RESOURCES

1. For additional information regarding the TMS320C5515 family of DSPs please refer to the following page on the TI web site:
   http://tiexpressdsp.com/index.php/C5000

2. Code Composer Studio support is available via a forum at:
   http://community.ti.com/forums/138.aspx

3. More information about other Spectrum Digital emulators can be found at:
   www.spectrumdigital.com

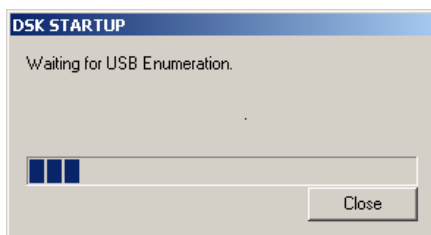## C5515 EVM Hardware Registration

The C5515 EVM hardware can be registered using the on-line registration process at www.spectrumdigital.com. Spectrum Digital, Inc. warrants the products it produces for one (1) year after the date of purchase. For a product to be considered "in warranty", Spectrum Digital must be notified of the defect within one (1) year after being purchased from Spectrum Digital or one of its authorized resellers. Spectrum Digital is not responsible for accidents, improper installation of connections, misuse, neglect or unauthorized modifications. If the product qualifies for warranty repair Spectrum Digital may repair or replace the product at its discretion.

Debug Hints and Trouble Shooting

1. If installing on Windows XP and your PC is connected to the internet through a firewall the USB install may take up to 15 minutes if you let it complete normally. The work-around for this issue is to simply disconnect your network cable during the USB hardware install.

2. Some of the Help Files are links to Adobe Acrobat PDF files. If you intend to access these files you must have Adobe Acrobat installed on your system.

3. If you want to verify a successful USB driver install, open your device manager by right clicking on the My Computer icon on your desktop and selecting Properties --> HW --> Device Manager. You should see a new class "SD USB Based Debug Tools" and one Spectrum Digital TMS320C5510 DSK installed.

4. The Embedded EMU BUSY LED (DS1) beside the USB connector comes on when power is applied to the EVM. Do not launch Code Composer until the LED is off.

Error Messages

Many of the error messages below refer to USB enumeration issues. The following window will appear when launching CCS or the Diagnostic Utility indicating the enumeration status.

1. Message:
   Failed: Requires Win98, Win2K or Win XP.
   Problem: Your operating system does not support USB.

2. Message:
   Failed: USB device is NOT enumerated or plugged in.
   Problem: Windows cannot find the EVM. Check power and USB Cable.

3. Message:
   Failed: Load USB Application.
   Problem: Loader could not download the EVM emulation application. The on-board emulation controller could be in a bad state. Cycle power on the EVM.

4. Message:
   Failed: USB Channel in use by another app.
   Problem: Another application is using the EVM USB communication channel. Only one application is allowed to communicate to the EVM over the USB channel at the same time. Check for active applications using the Windows Task Manager if open application is not obvious.

5. Message:
   Waiting for USB Enumeration.
   Status: This is a status message which indicates that Code Composer Studio is waiting for communication with the on-board JTAG emulator to be established. This should take less than 10 seconds. Do not hit the close button unless it is clear that something is wrong (the progress bar runs forever).

RESOURCES

The latest version of the Chip Support Library (CSL) for the TMS320C5515 is available at:

http://focus.ti.com/docs/toolsw/folders/print/sprc133.html

For more details, please contact you local Texas Instruments representative or send an email to:

support@ti.com