ANALOG DEVICES

ADV7182

Installation Guide

Rev. A

March 2013

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INTRODUCTION TO THE ADV7182 INSTALLATION GUIDE

The ADV7182 Installation Guide describes the ADV7182 evaluation board; and provides instructions for setting up the ADV7182 evaluation board, installing the required ADV7182 software, and running the scripts needed to operate the ADV7182 evaluation board.

AUDIENCE

The ADV7182 Installation Guide is intended for the use of the person installing an ADV7182 evaluation board.

DISCLAIMER

TRADEMARK AND SERVICE MARK NOTICE

1. DESCRIPTION OF THE ADV7182 EVALUATION BOARD

The ADV7182 evaluation board consists of an ADV7182 video decoder and an ADV7391 video encoder. Analog video is fed into the analog inputs (Ain1 to Ain4). The ADV7182 evaluation board can be configured to receive many different analog video formats (refer to Table 1). The analog video from analog inputs is fed into the ADV7182 which converts it into an ITU656 digital stream.

The digital output stream of the ADV7182 is fed to headers and into the ADV7391 video encoder (refer to Figure 1). The ADV7391 converts this digital stream into an analog YPbPr output. The analog YPrPb output from the ADV7391 is fed to the Video Output header of the evaluation board.

Table 1. Acceptable Analog Video Input Formats to ADV7182 Evaluation Board

	Ain1	**Ain2**	**Ain3**	**Ain4**
Single-ended CVBS (NTSC, PAL, SECAM)	SE CVBS 1	SE CVBS 2	[1]	[1]
Differential CVBS	[2]	[2]	DIFF CVBS 1 (+)	DIFF CVBS 1 (-)
S-Video (YC)	S-Video 1 (Y)	S-Video 1 (C)	[3]	[3]
Component (YPbPr)	[4]	[4]	[4]	No

Note: The shaded areas in Table 1 indicate that modification needs to be made to the ADV7182 evaluation board before that particular video input standard can be input to that particular analog input pin.

[1] These inputs can be configured to receive single-ended CVBS, but the user needs to change some resistor values on the ADV7182 evaluation board.
[2] Ain1 and Ain2 can be configured to receive differential CVBS, but the user needs to change some resistor values on the ADV7182 evaluation board.
[3] These inputs can be configured to receive YC (S-video), but the user needs to change some resistor values on the ADV7182 evaluation board.
[4] These inputs can be configured to receive component (YPbPr), but the user needs to change some resistor values on the ADV7182 evaluation board.

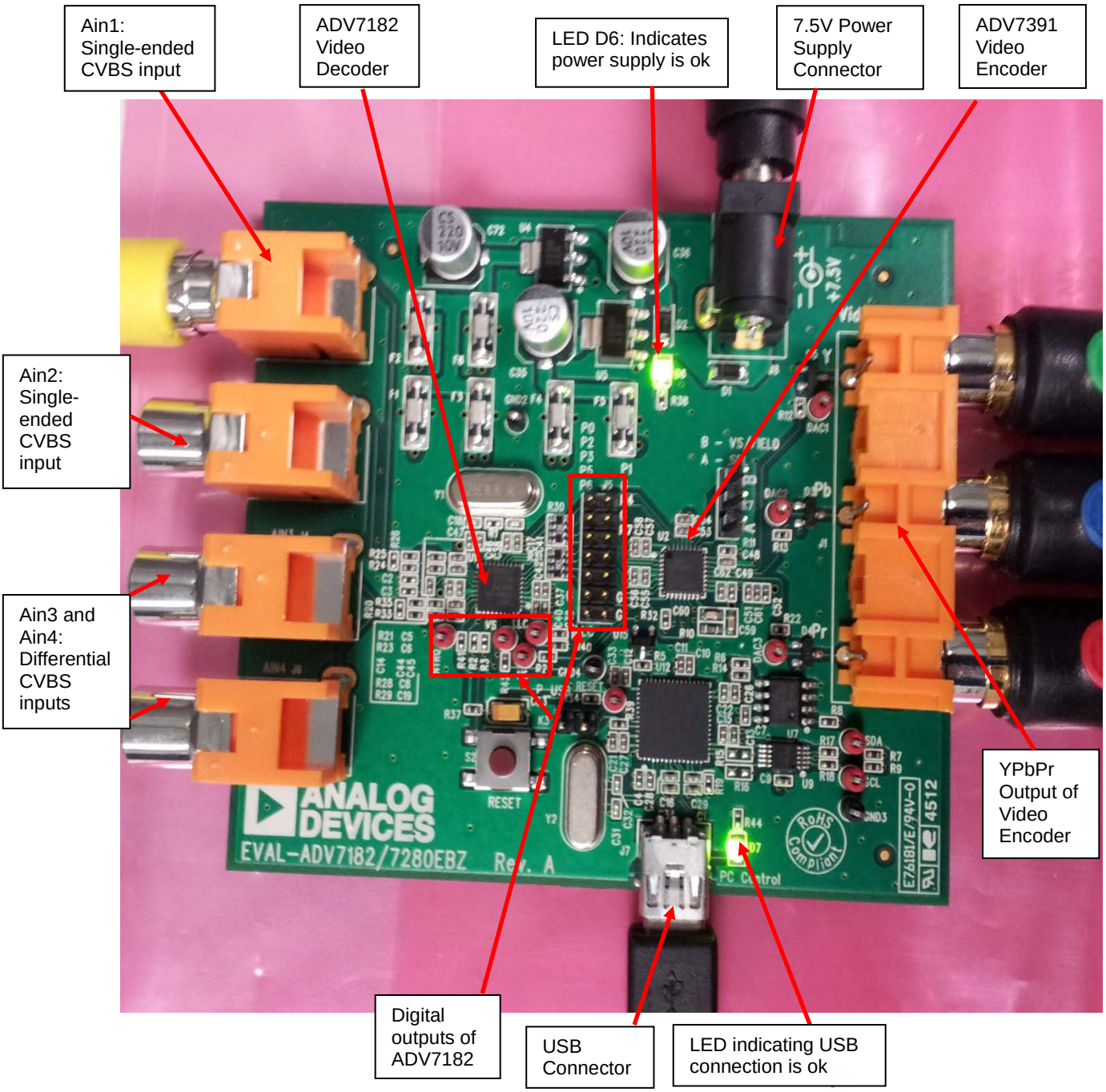

Figure 1. ADV7182 Evaluation Board

2. SETTING UP THE ADV7182 EVALUATION BOARD

The Analog Devices (ADI) DVP Eval program and ADV7182 script files are needed to operate the ADV7182 evaluation board. The DVP Eval program and ADV7182 script files are available on an ADI File Transfer Protocol (FTP) site.

The following setup process is recommended, and is described in detail in Section 2.1 to Section 2.6.

1. Download and install an FTP client.
2. Download the DVP Eval program and ADV7182 script files from the ADI FTP site.
3. Install the DVP Eval program.
4. Load the ADV7182 script files.
5. Power up the ADV7182 evaluation board.
6. Program the ADV7182 evaluation board.

2.1. DOWNLOAD AND INSTALL AN FTP CLIENT

Download and install an FTP client such as FileZilla in order to access the ADI FTP site.

1. Go to the http://filezilla-project.org/download.php?type=client website.
2. Download the FileZilla FTP client .exe installation file.
3. When the download is completed, run the .exe installation file and follow the onscreen instructions.

2.2. DOWNLOAD ADV7182 FILES FROM ADI FTP SITE

The DVP Eval program and ADV7182 script files are available on the ADI FTP site.

1. Open the FTP client, for example, FileZilla.
2. A quick connect bar appears near the top of the FileZilla client window. Enter the following information. (Note that the boxes are case sensitive.)
    a. In the **Host** box, enter **ftp.analog.com**.
    b. In the **Username** box, enter **adv7182**.
    c. In the **Password** box enter **hZ53qsC**.
    d. Leave the **Port** box blank.
3. Press the **Quickconnect** button.
   FileZilla then shows two panes (refer to Figure 2). The left pane displays the Local Site Pane (that is, your computer). The right pane displays the Remote Site Pane (that is, the ADI FTP site).

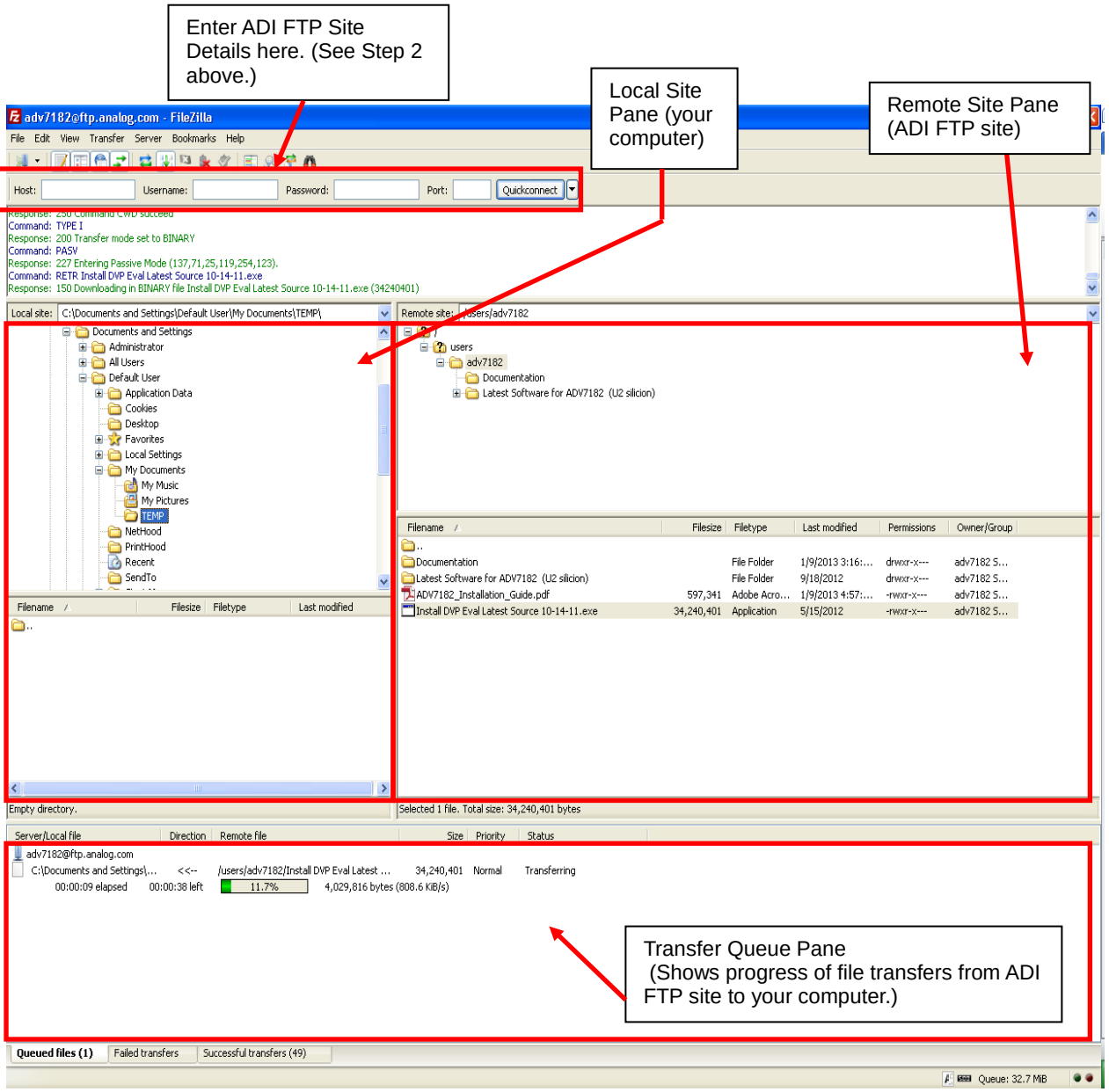

Figure 2. Image of ADI ADV7182 FTP Site

4. On the Local Site Pane, navigate to where you want to drop the ADV7182 files.
5. On the Remote Site Pane, select all the ADV7182 files and folders and drag them to the desired location in the Local Site Pane. The files and folders on the ADI FTP site then copy to your computer.
   Note: The Transfer Queue Pane shows the progress of this copying.
6. On the Remote Site Pane, select the Install DVP Eval Latest Source 10-14-11.exe and drag it to the desired location in the Local Site Pane.

2.3. INSTALL THE DVP EVAL PROGRAM

1. When the transfer from the FTP site is complete (as described in Section 2.2), double click on the Install DVP Eval Latest Source 10-14-11.exe file.
2. A window appears showing a software license agreement. After you have read the agreement, press the **I Agree** button.
3. A new window appears asking if you want to add Desktop and Start Menu shortcuts. Press the **Next** button.
4. A new window appears (refer to Figure 3), prompting you to select the installation destination folder. Press the **Install** button.
   Note: It is strongly recommended to use the default destination folder. Selecting a different folder can cause the DVP Eval program to not install correctly in some versions of Windows.

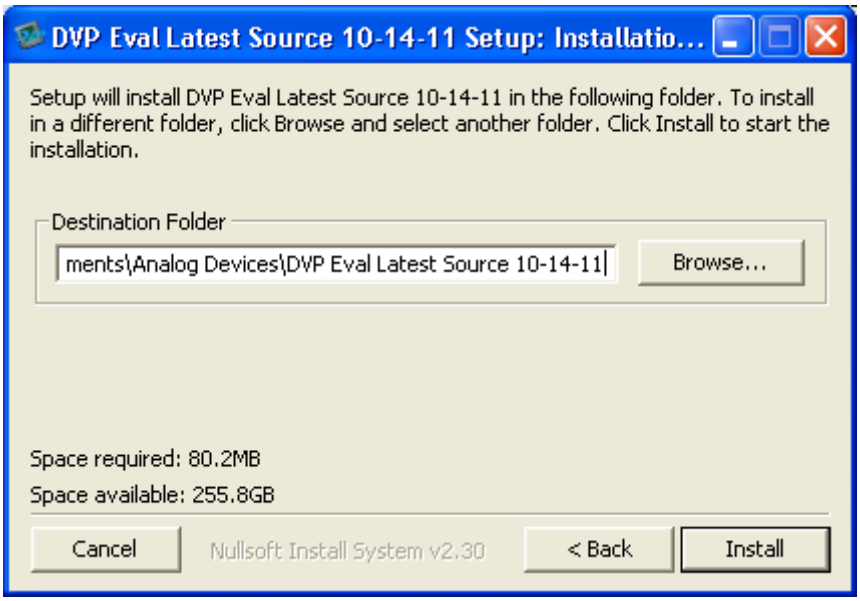

Figure 3. Installation Destination for DVP Eval Program

5. Restart your computer after the DVP Eval program is installed.

2.4. LOAD THE ADV7182 SCRIPT FILES

This section describes how to load the ADV7182 script files to the DVP Eval program.

1. Open the Latest Software for ADV7182 (U2 Silicon) folder that you downloaded from the ADI FTP site.
2. In the Latest Software for ADV7182 (U2 Silicon) folder, copy the folder called ADV7182CUST to the following directory: C:\Documents and Settings\USER_NAME\My Documents\Analog Devices\DVP Eval Latest Source 10-14-11\xml\New Boards.
   Note: This directory may be slightly different depending on where you installed the DVP Eval program.
3. To open the DVP Eval program, select Start -> Analog Devices -> DVP Eval Latest Source 10-14-11.
4. Select File -> Update Boards.

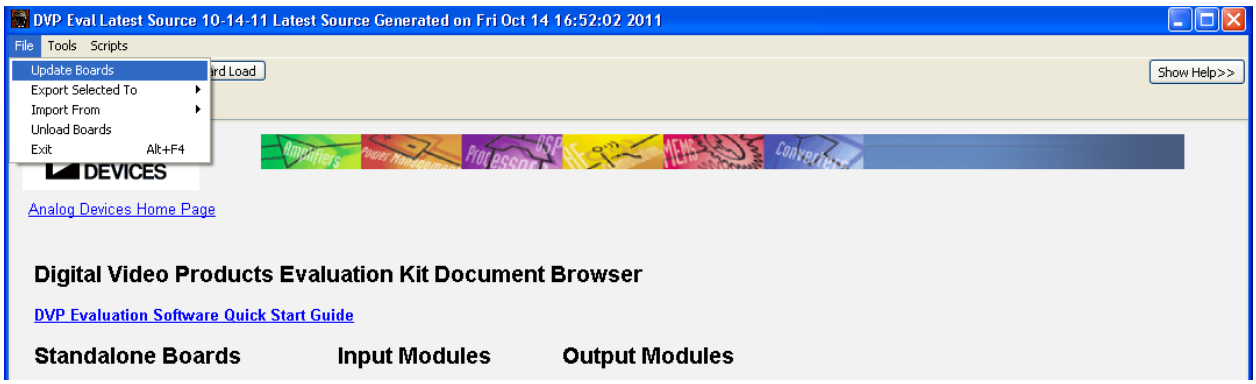

Figure 4. Update Board Files on DVP Eval Program

A number of black command prompt windows appear and then disappear. Finally, a window appears with the message "update

boards successful". Press the **OK** button.
The ADV7182 script files have been added to the DVP Eval program.

5. Exit the DVP Eval program.

2.5. POWER UP THE ADV7182 EVALUATION BOARD

1. Connect a mains cable to the 7.5 V supply cable included in the ADV7182 evaluation kit.
2. Connect the 7.5 V supply cable to Jumper J8 on the ADV7182 evaluation board. When this is done correctly, LED D6 turns on (refer to Figure 1).
3. Connect the USB cable included in the ADV7182 evaluation kit to the computer where you installed the DVP Eval program and ADV7182 script files. This cable is used to send commands from your computer to the ADV7182 evaluation board.
4. Connect the other end of the USB cable to Jumper J7 of the ADV7182 evaluation board. When this is done correctly, LED D7 turns on (refer to Figure 1).
5. Connect the analog video input(s) to the Ain inputs of the ADV7182 evaluation board. Refer to Table 1 for information on how to connect these inputs.
6. Connect a YPbPr cable to the Video Output connecter, J1, of the evaluation board. Connect the other end of this YPbPr cable to a television or other sink device.

Notes:

- The digital output of the ADV7182 can be probed with an oscilloscope or a digital grabbing device. The 8-bit pixel data is output to header J5. There are also headers for the LLC pin, HS pin and VS/Field/SFL pin. Refer to Figure 1.
- Even after the ADV7182 evaluation board is powered up, the 28.63636 MHz crystal (Y1) will not oscillate until the ADV7182 is programmed (refer to Section 2.6).

2.6. PROGRAM THE ADV7182 EVALUATION BOARD

1. To run the DVP Eval Latest Source application, select Start-> All Programs -> Analog Devices -> DVP Eval Latest Source 10-14-11.
2. Press the **Choose Board** button on the top left of the DVP Eval program window and the Board Selector window appears (refer to Figure 5).

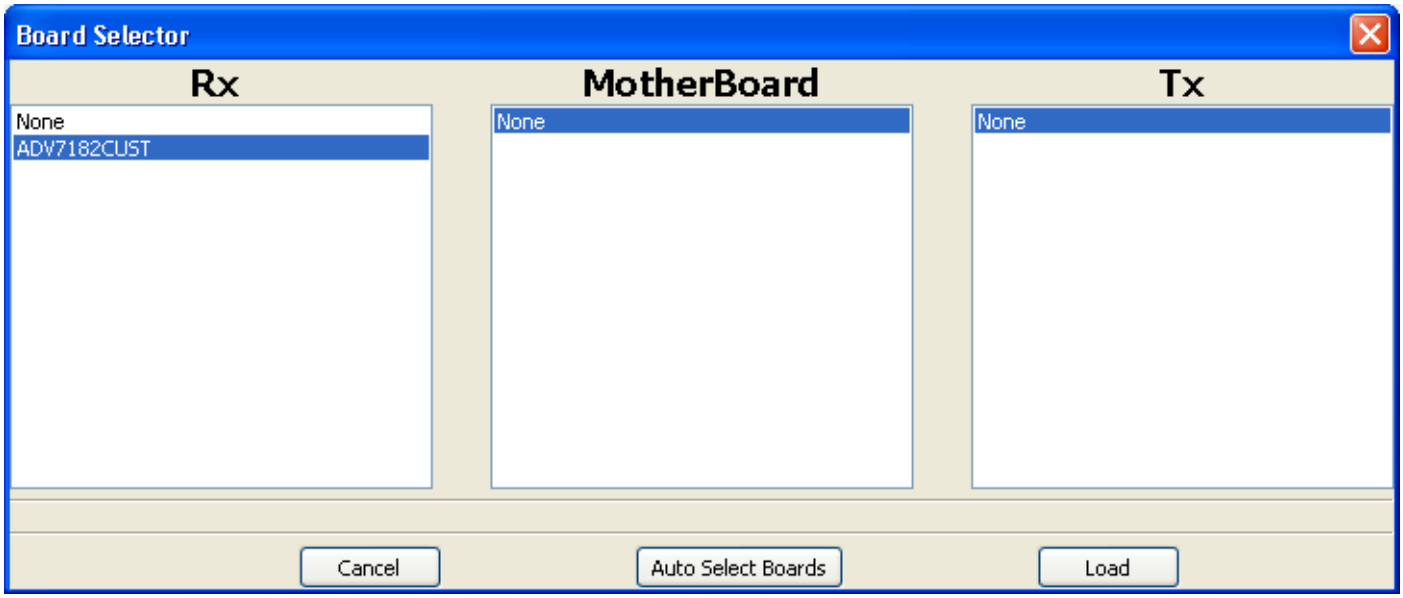

Figure 5. Board Selector Window of DVP Eval Program

3. Select ADV7182CUST in the Rx section of the Board Selector window.
4. Select None in the MotherBoard section.
5. Select None in the Tx section.
6. Press the **Load** button.

A window similar to that shown in Figure 6 appears. This window allows the user to read from/write to each register in the ADV7182 and the ADV7391.

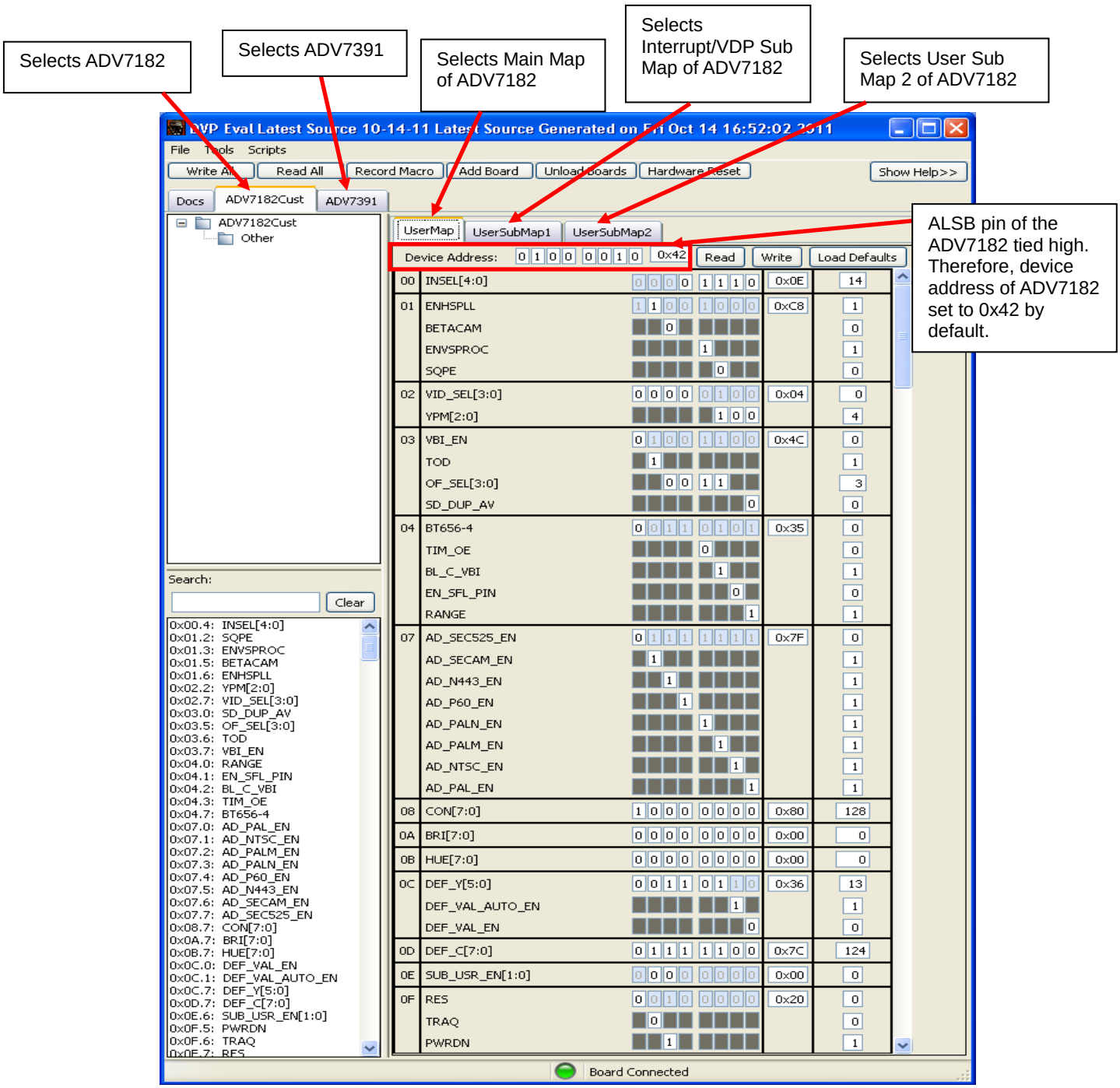

Figure 6. DVP Eval Program After Loading ADV7182 Board

7. Select Scripts-> ADV7182CUST to select the script you wish to run (refer to Figure 7).

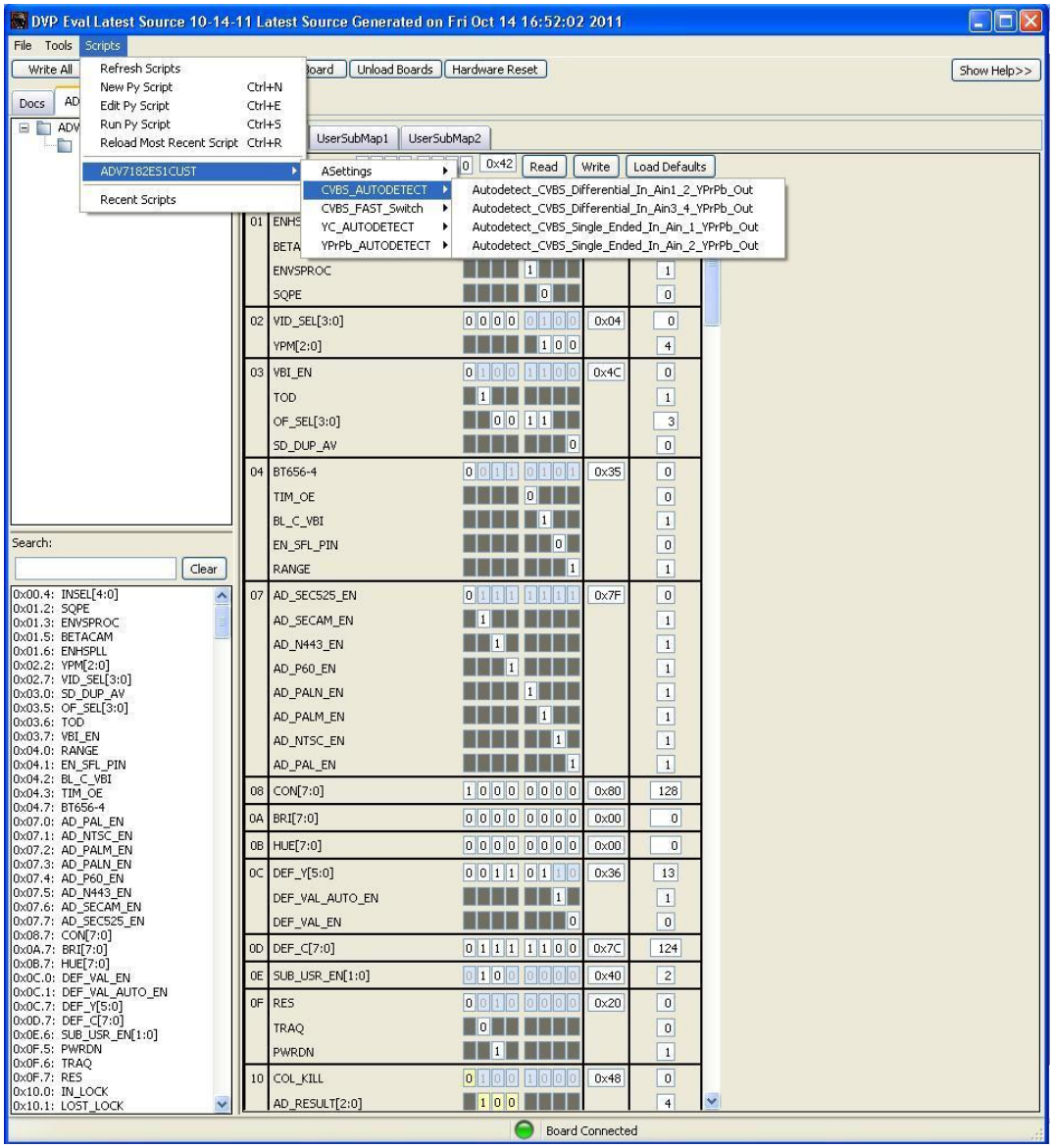

Figure 7. Running ADV7182 Script on DVP Eval Program

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REVISION HISTORY

March 2013 – Rev. A

Initial version.