# Quick start ADC1453D, ADC1159D evaluation board

Rev. 01 — 14 Nov 2013

**Quick start** 

Document information		
Info	Content	
Keywords	ADC1453D, ADC1159D, ADC1453DxxxW1-DB, evaluation board, ADC, Converter, JESD204B, BSX0254.	
Abstract	This document describes how to use the evaluation board for the dual channel analog-to-digital converters ADC1453D and ADC1159D with JESD204B output interface.	
Overview		

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# Revision history

Rev	Date	Description
1	14 November 2013	Initial version



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## 2. Switch and Jumpers default state

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### 3. Typical test configuration:





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### 4. ADC acquisition tool

### 4.1 Software start-up

To install the software, please refer to appendix A 'Software and drivers install'.

Run the application "HSDC\_SW\_ADC\_4.exe". This application will allow:

- the user to control features through the SPI;
- as well as performing any online data acquisition to evaluate the performances.





### 4.3 Read / Write Registers

- Load the SPI registers settings file.
   Please contact your IDT Sales/FAE representatives to get access to SPI settings files for ADC1443D or ADC1453D or ADC1159D250devices. 3 SPI registers settings files are available:
  - ADC1453D160 SPI.txt
  - ADC1453D250\_SPI.txt
  - ADC1159D250\_SPI.txt



### 4.4 Functional Registers





In case of bad acquisition or when changing the sampling frequency, take care to reset the FPGA by pushing on-board button PB3.

### 5. Software and drivers install

### 5.1 Labview Runtime 2010 install

1	Go to National Instruments web	ational Instruments web page <a href="http://joule.ni.com/nidu/cds/view/p/id/2087/lang/en">http://joule.ni.com/nidu/cds/view/p/id/2087/lang/en</a>		
2	Download 'LVRTE2010std.exe'	Lowendates in the region 2010: (12-bit Standard RTI) - Windows 777 45 bit/Server 2003 R2 (12-bit - Windows Inter		
3	Save	File Download - Security Warning       Image: Security Warning         Do you want to run or save this file?         Image: LVRTE2010std.exe         Type: Application, 171MB         From: download.ni.com         Image: Bun       Save         Cancel         Image: While files from the Intermet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the not?		
4	Run the application 'LVRTE201	I Ostd.exe'		
5	ОК	LabVIEW 2010 Standard Run-Time Engine         This self-extracting archive will create an installation image on your hard drive and launch the installation.         After installation completes, you may delete the installation image to recover disk space. You should not delete the installation image if you wish to be able to modify or repair the installation in the future.         OK       Annuler		
6	Unzip	WinZip Self-Extractor - LVRTE2010std.exe       Image: Comparison of the specified folder press the Unzip button.         Unzip to folder:       Image: Comparison of the specified folder press the Unzip button.         Unzip to folder:       Run WinZip         Image: Comparison of the specified folder press the Unzip button.       Close         Image: Comparison of the specified folder press the unzip button.       Close         Image: Comparison of the specified folder press the unzip button.       Close         Image: Comparison of the specified folder press the unzip button.       Close         Image: Comparison of the specified folder press the unzip button.       Close         Image: Comparison of the specified folder press the unzip button.       Engine 4.2010 State the specified folder press.         Image: Comparison of the unzip button.       Image: Comparison of the specified folder press.       Image: Comparison of the specified folder press.         Image: Comparison of the unzip button.       Image: Comparison of the specified folder press.       Image: Comparison of the specified folder press.         Image: Comparison of the unzip press.       Image: Comparison of the unzip press.       Image: Comparison of the unzip press.         Image: Comparison of the unzip press.       Image: Comparison of the unzip press.       Image: Comparison of the unzip press.         Image: Comparison of the unzip press.       Image: Comparison of the uze press.       Image: Comparison of		

7	ОК	WinZip Self-Extractor     X       240 file(s) unzipped successfully     OK
8	Next	Image: Nillabylew Run-Time Engine 2010   Ini.com/labylew Nillabylew Run-Time Engine 2010 Image: Nillabylew Run-Tim
9	Next	

40	Next		
10	Next	Features	
		Select the features to install.	INSTRUMENTS
		NI LabVIEW Run-Time Engine 2010     NI Variable Engine     DataSocket     NI LabVIEW 2010 Deployable License     IISI	Libraries and other files necessary to execute LabVIEW 2010-built applications and shared libraries. Includes NI Reports, 3D graph support, and a browser judgin that allows clients to view and control front panels remotely using a browser.
			This feature will be installed on the local hard drive.
			This feature and its selected subcomponents may require up to 95 MB of disk space.
		Directory for NI LabVIEW Run-Time Engine 2010	Browse
		Restore Feature Defaults	Next>>>         Cancel
11	Select 'I accept the License	🦉 NI LabVIEW Run-Time Engine 2010	
	Agreement'	License Agreement You must accept the license(s) displayed below	to proceed.
	Next	NATIONAL INSTRUMENTS SOF	
		INSTALLATION NOTICE: THIS IS A CONTRACT, BEF AND/OR COMPLETE THE INSTALLATION PROCESS DOWNLOADING THE SOFTWARE AND/OR CLICKIN COMPLETE THE INSTALLATION PROCESS, YOU C AGREEMENT AND YOU AGREE TO BE BOUND BY BECOME A PARTY TO THIS AGREEMENT AND BE E CONDITIONS, CLICK THE APPROPRIATE BUTTON DO NOT INSTALL OR USE THE SOFTWARE, AND F (30) DAYS OF RECEIPT OF THE SOFTWARE (WITH ALONG WITH THEIR CONTAINERS) TO THE PLACE SHALL BE SUBJECT TO NI'S THEN CURRENT RET	ORE YOU DOWNLOAD THE SOFTWARE         S, CAREFULLY READ THIS AGREEMENT. BY         IG THE APPLICABLE BUTTON TO         ONSENT TO THE TERMS OF THIS         THIS AGREEMENT. IF YOU DO NOT WISH TO         IOUND BY ALL OF ITS TERMS AND         TO CANCEL THE INSTALLATION PROCESS,         ETURN THE SOFTWARE WITHIN THIRTY         ALL ACCOMPANYING WRITTEN MATERIALS,         YOU OBTAINED THEM. ALL RETURNS         URN POLICY.         I do not accept the License Agreement.         <
12	Next	🦉 NI LabVIEW Run-Time Engine 2010	
		Start Installation Review the following summary before continuing	INSTRUMENTS
		Adding or Changing • NI LabVIEW Run-Time Engine 2010 • NI Variable Engine • DataSocket • NI LabVIEW 2010 Deployable License • USI Click the Next button to begin installation. Click the Back bu	ton to change the installation settings.
		Save File	Kext >>         Lancel

13	Finish	蟶 NI LabVIEW Run-Time Engine 2010	
		Installation Complete	<b>MATIONAL</b> INSTRUMENTS
		The NI LabVIEW Run-Time Engine 2010 installation is complete.	lext >> <u>Finish</u>
14	Restart	NI LabVIEW Run-Time Engine 2010       X         You must restart your computer to complete this operation.       If you need to install hardware now, shut down the computer. If you choose to restart later, restart your computer before running any of this software.         Bestart       Shut Down       Restart Later	

### 5.2 Demoboard - USB-SPI driver install

1	Plug the USB cable in the demoboard USB connector		
2	The wizard will help to install the USB Serial Converter A		
3	Select 'Install from a list or specific location' Next	Found New Hardware Wizard         Welcome to the Found New Hardware Wizard         Use Serial Converter A         Use Serial Converter A         Image: Serial Converter A<	

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4	Select 'Search for the best	Browse For Folder
	driver in these locations'	Select the folder that contains drivers for your hardware.
	Select 'Include this location in the search'	Found New Hardware Wizard       Image: State of the stat
	Browse	Search for the best driver in these locations Use the check boxes below to limit or expand the default search, which paths and removable media. The best driver found will be installed. To view any subfolders, click a plus sign above.
	Select the folder 'CDM2.08.12'	Search removable media (floppy, CD-ROM)       OK       Cancel         ✓ Include this lgcation in the search:           F:\offlines_files\NXP\2011\11-TUCANA\S&A_Softw:<       Browse
	Next	O Don't search. I will choose the driver to install. Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
		< Back Next > Cancel
5	Continue Anyway (Windows XP only)	Hardware Installation         Image: A software you are installing for this hardware:         USB Serial Converter A         has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)         Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.         Continue Anyway       STOP Installation
6	Browse	Files Needed
	Select the file ' <b>ftdibus.sys</b> ' in the folder ' <b>CDM2.08.12\i386</b> ' OK	Year International System F101 OSb Drivers Lisk is     OK       Cancel       Type the path where the file is located, and then click       OK       Capy files from:       [1]\114ucana\s&a_tools\ftdi driver\windows       Prowse

7	Finish	Found New Hardware Wizard         Image: Completing the Found New Lardware Wizard         Image: Completing the software for:         Image: USB Serial Converter A         USB Serial Converter A         Click Finish to close the wizard.         Image: Click Finish to close the wizard.
8	The wizard will help to install the USB Serial Converter B (same as USB Serial Converter A)	
9	The wizard will help to install the USB serial port The file ' <b>ftser2k.sys</b> ' is in the folder ' <b>CDM2.08.12\i386</b> '	

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