ADuCM4x50 EZ Kit ® Board Support Package Getting Started Guide

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Version 1.0.0, March 2017

Contents

Welcome to 1.0.0 Alpha release of the Analog Devices, Inc. (ADI) ADuCM4x50 EZ Kit® BSP. This BSP is validated with IAR Embedded Workbench for ARM.

This release also includes a number of example applications that work with ADuCM4050 development board, “ADuCM4050 EZ-Kit ”.

Please review both the *ADuCM4x50_EZ-KIT_BSP_for_IAR_ReleaseNotes.pdf* (located in the same place as this *Getting Started Guide*) and the *ADuCM4x50_EZ-Kit_BSP_UsersGuide.pdf* for the most recent release status, software and hardware requirements and device driver configuration details.

ADuCM4x50 EZ Kit® Board Support Package is developed and tested using IAR embedded Workbench version 7.60.2. Please visit www.iar.com for more details.

The RTOS example provided with the BSP requires Micrium uC/OS version 3.06.00 or later.

1 ADuCM4x50 EZ-Kit BSP Directory Structure

The driver package is typically installed *outside* the tool chain directory in default location “c: \Analog Devices\ADuCM4x50”.

Various toolchain-specific system support files are installed according to the toolchain hierarchy which allows the tools to configure, recognize, build and debug ADuCM4x50 projects.

The default toolchain root is:

C:\Program Files (x86)\IAR Systems\Embedded Workbench (Revision#)

NOTE: If the IAR tools are not installed, then only the device drivers will be installed.

The installer prompts for the install path of the device drivers, system startup, and examples. These must be installed in directories *outside*

of the Windows “Program Files” directory due to recent access violations imposed by Windows . With $**EWARM_ROOT**$ as the

tool chain directory root and $**ADUCM4x50_ROOT**$ as the device driver install root (default is “c:\Analog Devices\ ADuM4x50”), then the following files are installed:

1.1 $EWARM_ROOT$/arm/config

This directory contains various IAR configuration files for debugger, device database entries, flash loader files, linker description files, help files, etc.

1.2 $EWARM_ROOT$/arm/inc

This directory contains the IAR configuration file that describes device register access definitions for the debugger.

1.3 $EWARM_ROOT$/arm/src

This directory contains various the complete flash downloader source file set and build project.

1.4 $ADUCM4x50_ROOT$/Documents

This directory contains complete HTML documentation for all the ADuCM4x50 Device Drivers and API, as well as the device driver Release Notes, Getting Started Guide and Software User’s Guide.

1.5 $ADUCM4x50_ROOT$/examples

This directory contains various examples and project files, demonstrating use of the ADuCM4x50 device drivers.

1.6 $ADUCM4x50_ROOT$/Include

Contains the ADuCM4x50 Device Driver include files and default driver configuration files.

1.7 $ADUCM4x50_ROOT$/Source

This directory contains the ADuCM4x50 Device Driver source files.

1.8 $ADUCM4x50_ROOT$/tools

This directory contains ADuCM4x50 tool extensions, such as the pin multiplexing configuration utility and UartDivCalculator.exe, a utility which provides the optimum values that need to be programmed into the UART controller register for a given baud rate.

2 Documentation

The following documentation is provided for this release in the main product documentation directory:

ADuCM4x50_EZ-KIT_BSP_GettingStartedGuide.pdf (this file)

ADuCM4x50_BSP_for_IAR_Embedded_Workbench_ReleaseNotes.pdf

ADuCM4x50_EZ-KIT_BSP_UsersGuide.pdf

ADuCM4x50_EZ-KIT_BSP_Device_Drivers_UsersGuide.pdf

ADuCM4050 EZ-KITs BOMs, schematics and manual.

The *ADuCM4x50 Device Drivers API Reference Manual* is published in hyperlinked html format under the html directory.

Open the “$ADUCM4x50_ROOT$/Documents/html/index.html” file to browse the API documentation interactively.

The *ADuCM4x50 Device Drivers API Reference Manual* contains complete driver documentation, including API descriptions, data types, structures, parameters, return values, etc.

2.1 JLINK Emulator driver for programming/debugging

ADuCM4x50 EZ-Kit boards use the SEGGER J-Link LITE. The J-Link software package can be downloaded from the link below.

Please ensure to select both "Install USB Driver for J-Link" and "Install USB Driver for J-Link OB with CDC" options, as shown.

Drivers can be obtained from http://www.segger.com/jlink-software.html . Please download the J-Link software & documentation pack for Windows.

The installation will ask you to choose optional components to install. Select the components shown in the screen below.

2.2 Set-up terminal software on PC

Use Tera Term (any other terminal software connected to usb serial port can be used also) to interact with the target over UART. More information about Tera Term as well as its download address can be found in https://en.wikipedia.org/wiki/Tera_Term.

To setup a Tera Term session, configure the session on the PC as follows.

In the "New Connection" page select Serial with the appropriate communications channel COMx. You may use the Device Manager to locate the "USB Serial Port (COMx)" device under the Device Manager “Com_Ports” section, where “x” corresponds to the target communications serial Port. Then set the following attributes in the Setup->Serial Port menu:

- Baud rate : 9600
- Data : 8 bit
- Parity : none
- Stop : 1 bit
- Flow control : none

2.3 Next Steps

Refer to the examples which are located in the $ADUCM4x50_ROOT$/examples folder. In particular, the UART autobaud example can be used in conjunction with the terminal set up in the previous step.

3 Technical or Customer Support

Submit your questions online at:

http://www.analog.com/support

E-mail your Processors and DSP applications and processor questions to:

processor.support@analog.com OR

processor.china@analog.com (Greater China support)

For IAR tool chain support please visit

http://www.iar.com/support