

C2000Ware DigitalPower SDK

The DigitalPower SDK for C2000™ microcontrollers (MCU) is a cohesive set of software infrastructure, tools, and documentation designed to minimize C2000 MCU-based digital power system development time targeted for various AC-DC, DC-DC and DC-AC power supply applications. The software includes firmware that runs on C2000 digital power evaluation modules (EVMs) and TI designs (TIDs), which are targeted for solar, telecom, server, electric vehicle chargers and industrial power delivery applications. A copy of C2000Ware is provided as part of the SDK and offers device-specific drivers and support software to complete examples in sophisticated system applications. The DigitalPower SDK provides all of the needed resources at every stage of development and evaluation in a digital power application.

The [powerSUITE](#) package is installed as part of the DigitalPower SDK. In order to utilize the powerSUITE graphical user interfaces (GUIs) and toolset, you need to install this package within your Code Composer Studio™ (CCS) installation.

DigitalPower SDK requires:

- CCS v7.4.0 or newer
- C2000 Compiler v16.9.0 or newer

Contents

1	Package Structure	1
2	DigitalPower SDK GUI	2
3	Updating DigitalPower SDK	2
4	Code Composer Studio	2

Trademarks

C2000, Code Composer Studio are trademarks of Texas Instruments.
 All other trademarks are the property of their respective owners.

1 Package Structure

The C2000Ware DigitalPower SDK software package is organized into the directory structure shown in [Table 1](#).

Table 1. DigitalPower SDK Root Directories

Directory Name	Description
.metadata	Contains the DigitalPower SDK resource explorer GUI files (Do not modify)
c2000ware	Contains the C2000Ware development software and documentation
docs	Contains the DigitalPower SDK package user guides and a document HTML page
libraries	Contains libraries with algorithm modules specific to digital power applications
solutions	Contains the development kits solutions for the C2000 devices targeting different application areas
uninstallers	Contains the DigitalPower SDK uninstaller

1.1 Documentation

Within DigitalPower SDK, there is an extensive amount of development documentation ranging from development kit hardware documentation to library user's guides. To assist with locating the necessary documentation, an HTML page is provided that contains a full list of all the docs in the DigitalPower SDK package. Locate this page in the “docs” directory.

1.2 C2000Ware

DigitalPower SDK contains the necessary software and support for C2000 microcontrollers. C2000Ware is a cohesive set of development software and documentation designed to minimize software development time. From device-specific drivers and libraries to device peripheral examples, C2000Ware provides a solid foundation to begin development and evaluation of your product.

To learn more about C2000Ware, visit www.ti.com/tool/c2000ware.

1.3 Libraries

The libraries included in DigitalPower SDK range from ramp generator and power measurement libraries to specialized software phase lock loop libraries as well as the SFRA library. The libraries directory includes documentation and examples when applicable.

2 DigitalPower SDK GUI

DigitalPower SDK provides a graphical user interface (GUI) for intuitive navigation of software, libraries, user's guides, and other package content. The GUI is integrated into Code Composer Studio (CCS) upon installation. Within Code Composer Studio™ (CCS) v 7.4.0 and newer, go to "View → Resource Explorer" to locate the C2000Ware DigitalPower SDK GUI explorer.

DigitalPower SDK uses the new online Resource Explorer, which includes many updated features. This includes full package navigation on the web or in CCS without requiring installation of DigitalPower SDK.

View DigitalPower SDK Resource Explorer on the web: <http://dev.ti.com/tirex/#/>

The DigitalPower SDK Standalone GUI (without requiring CCS) is currently in development.

3 Updating DigitalPower SDK

Within the DigitalPower SDK installation directory, an update checking application, "DigitalPowerSDKUpdater.exe", is provided to check for a newer version of the DigitalPower SDK. When the updater is run, a window is displayed in order to state that the current version installed is the newest version or that a newer version is available for download. When a new version is available, the option is given to download and install the new version. The application proceeds to download the latest DigitalPower SDK installer to the specified download directory. Upon completing the download, the installer automatically runs and continues with the standard installer steps.

4 Code Composer Studio

Code Composer Studio is an integrated development environment (IDE) that supports TI's Microcontroller and Embedded Processors portfolio. Code Composer Studio comprises a suite of tools used to develop and debug embedded applications. The latest version of Code Composer Studio can be obtained at the following link: <http://www.ti.com/ccstudio>.

All projects and examples in the DigitalPower SDK are built for and tested with TI's Code Composer Studio. Although Code Composer Studio is not included with the DigitalPower SDK installer, it is easily obtainable in a variety of versions.

NOTE: CCS version 7.4 is the minimum required version to use the DigitalPower SDK. Free licenses are available for download.

IMPORTANT NOTICE FOR TI DESIGN INFORMATION AND RESOURCES

Texas Instruments Incorporated ("TI") technical, application or other design advice, services or information, including, but not limited to, reference designs and materials relating to evaluation modules, (collectively, "TI Resources") are intended to assist designers who are developing applications that incorporate TI products; by downloading, accessing or using any particular TI Resource in any way, you (individually or, if you are acting on behalf of a company, your company) agree to use it solely for this purpose and subject to the terms of this Notice.

TI's provision of TI Resources does not expand or otherwise alter TI's applicable published warranties or warranty disclaimers for TI products, and no additional obligations or liabilities arise from TI providing such TI Resources. TI reserves the right to make corrections, enhancements, improvements and other changes to its TI Resources.

You understand and agree that you remain responsible for using your independent analysis, evaluation and judgment in designing your applications and that you have full and exclusive responsibility to assure the safety of your applications and compliance of your applications (and of all TI products used in or for your applications) with all applicable regulations, laws and other applicable requirements. You represent that, with respect to your applications, you have all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. You agree that prior to using or distributing any applications that include TI products, you will thoroughly test such applications and the functionality of such TI products as used in such applications. TI has not conducted any testing other than that specifically described in the published documentation for a particular TI Resource.

You are authorized to use, copy and modify any individual TI Resource only in connection with the development of applications that include the TI product(s) identified in such TI Resource. NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT OF TI OR ANY THIRD PARTY IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information regarding or referencing third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of TI Resources may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI RESOURCES ARE PROVIDED "AS IS" AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING TI RESOURCES OR USE THEREOF, INCLUDING BUT NOT LIMITED TO ACCURACY OR COMPLETENESS, TITLE, ANY EPIDEMIC FAILURE WARRANTY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY YOU AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS EVEN IF DESCRIBED IN TI RESOURCES OR OTHERWISE. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, DIRECT, SPECIAL, COLLATERAL, INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF TI RESOURCES OR USE THEREOF, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

You agree to fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of your non-compliance with the terms and provisions of this Notice.

This Notice applies to TI Resources. Additional terms apply to the use and purchase of certain types of materials, TI products and services. These include; without limitation, TI's standard terms for semiconductor products (<http://www.ti.com/sc/docs/stdterms.htm>), [evaluation modules](#), and [samples](http://www.ti.com/sc/docs/sampterm.htm) (<http://www.ti.com/sc/docs/sampterm.htm>).

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2018, Texas Instruments Incorporated