DDC2256A EVM Introduction User Guide

This user's guide provides an introduction to the evaluation module (EVM) for the DDC2256A from Texas Instruments.

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1 DDC2256A EVM Kit Contents

This evaluation module (EVM) is an evaluation kit for evaluating the DDC2256A, a 256-channel, current input, 24-bit analog-to-digital (A/D) converter. The EVM kit, comprised of a DUT board and a capture board, contains two DDC2256A devices, an FPGA for device communication/configuration, 36MB of memory for temporary data storage, and a USB interface for connection to a PC. The EVM contains all necessary control signals and on-board power generation which greatly reduces the need for external equipment. Finally, the evaluation system also includes easy-to-use software for Microsoft® Windows®.

The DDC2256A EVM kit contains the following:

- One DDC2256A EVM DUT board
- One DDC2256A Capture board
- One USB 2.0 cable
- Three banana-jack power supply cables

The DDC2256A EVM is shown in Figure 1.

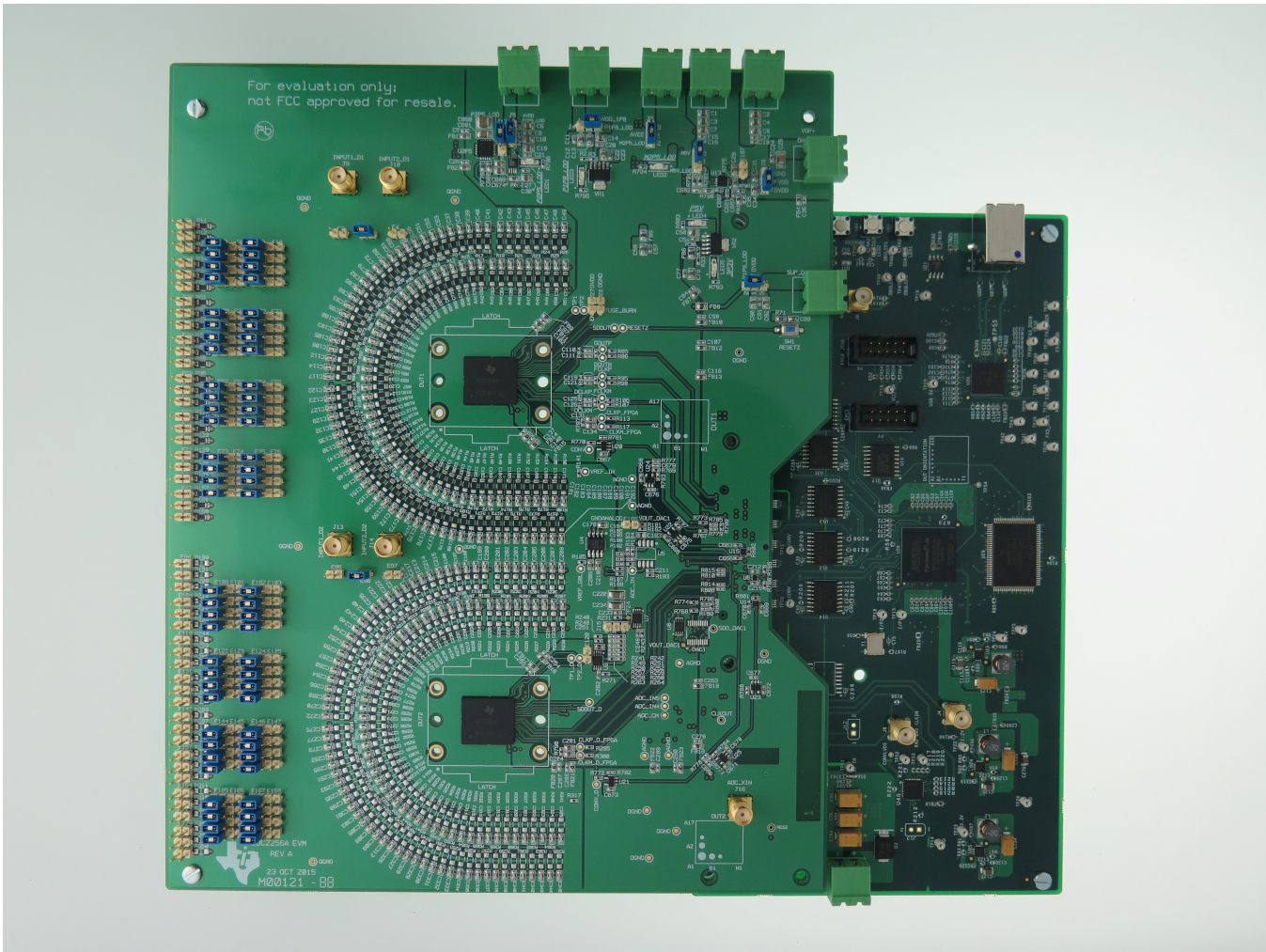

Figure 1. DDC2256A EVM

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2 DDC2256A EVM Hardware Features

The DDC2256AEVM kit is comprised of two boards, a DUT board that contains two DDC2256A devices with related components, and a Capture board that contains all necessary capture circuitry. The DUT board contains a 2.048-V reference, 256 high accuracy input resistors, all necessary DDC2256A power generation circuitry, and multiple input configuration options. The board also provides clock buffering and LVDS-to-CMOS conversion/termination for appropriate signals between the DDC2256A devices and the Capture board.

The Capture board of the DDC2256AEVM contains voltage regulators, oscillators, a USB interface, an Altera Cyclone®-IV FPGA, and 36MB of Cypress® SRAM memory. The FPGA generates all the timing signals that are sent to the DDC2256A devices as well as handles the communication of data between the DDC2256As and the PC. The software GUI is used to quickly configure the various modes, clocking, and data capture from the DUT, to the Capture board, and then to the PC.

3 DDC2256A EVM Software Features

The GUI available for the EVM provides an easy interface to evaluate the DDC2256A. The onboard FPGA can be directly controlled with the GUI and used to configure the DDC2256A as well as analyze the DDC2256A output data. Several representations of the captured data can be selected in the GUI options so that different qualities can be evaluated. For further analysis and evaluation, the GUI can be used to save the DDC2256A data in text format for offline analysis. The GUI also offers limited scripting ability for fast evaluation of several device modes, operations, and configurations.

4 DDC2256A EVM Documentation

Complete EVM kit schematics are available. The user guide provided with the kit explains a step-by-step installation procedure for the device drivers and evaluation system. Full features and modes available are also explained in the user guide.

Therefore, the DDC2256A EVM is a complete evaluation setup for the DDC2256A. For more information on the EVM, or to order the EVM, please request at the DDC2256A product folder.

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      CAUTION

      This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

      Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*

3.2 *Canada*

3.2.1 *For EVMs issued with an Industry Canada Certificate of Conformance to RSS-210*

Concerning EVMs Including Radio Transmitters:

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication. This radio transmitter has been approved by Industry Canada to operate with the antenna types listed in the user guide with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Concernant les EVMs avec antennes détachables

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http://www.tij.co.jp/lsds/ti_ja/general/eStore/notice_01.page

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2. Use EVMs only after User obtains the license of Test Radio Station as provided in Radio Law of Japan with respect to EVMs, or
3. Use of EVMs only after User obtains the Technical Regulations Conformity Certification as provided in Radio Law of Japan with respect to EVMs. Also, do not transfer EVMs, unless User gives the same notice above to the transferee. Please note that if User does not follow the instructions above, User will be subject to penalties of Radio Law of Japan.

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