

Getting Started Guide:

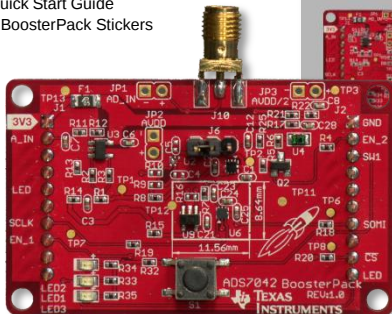
BOOST-ADS7042



The ADS7042 Ultra-Low Power Data Acquisition BoosterPack is ideal for evaluating and starting development with the ADS7042 precision analog-to-digital converter (ADC). The ADS7042 BoosterPack is compatible with the TI LaunchPad™ ecosystem. Demonstration software for the BoosterPack is available for the MSP430FR4133 microcontroller LaunchPad. The BoosterPack can also be used with other host processors via the SPI interface pins on the top of the board.

BOOST-ADS7042 Features:

- 8-pin QFN 1.5mm x 1.5mm ADS7042 12-bit, 1MSPS ADC
- OPA316 precision ADC driver
- REF3330 precision voltage reference
- LaunchPad-compatible header pins
- SMA jack for external analog input
- On-board ambient light sensor
- Quick Start Guide
- 2 BoosterPack Stickers



IMPORTANT: The BOOST-ADS7042 demonstration software is compatible with the MSP430FR4133 MCU LaunchPad. The LaunchPad may be ordered from <http://www.ti.com/tool/msp-exp430fr4133>

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1

Place the ADS7042 BoosterPack on the MSP430 LaunchPad



IMPORTANT: Make sure that the jumpers on the MSP430 LaunchPad are set as shown in the picture.



MSP430 LaunchPad



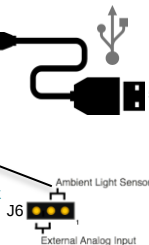
ADS7042 BoosterPack

2

Connect a micro USB cable to the LaunchPad and a PC



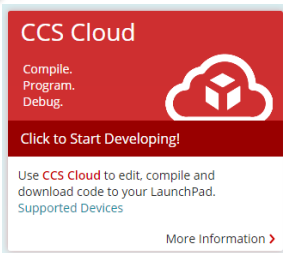
MSP430 LaunchPad & ADS7042 BoosterPack



IMPORTANT: Jumper J6 on the BoosterPack will change the ADS7042 ADC input between the on-board ambient light sensor and the external analog input SMA connector.

3

Download the ADS7042 BoosterPack software & load it into CCS Cloud



A) Go to the ADS7042 BoosterPack webpage and download the .ino file from the software section:

<http://www.ti.com/ADS7042BoosterPack>

B) Save this file to the PC.

C) Go to dev.ti.com using either Chrome or Firefox browsers.

D) Click on the CCS Cloud Logo to launch Code Composer Studio Cloud.

E) Go to File>Import Energia Sketch file and select the file you downloaded and saved.

NOTE: A myTI account is required to use CCS Cloud

4

Run the software



Load and run the Energia Sketch demo software by clicking on the green 'Run' button.

- The LCD on the MSP430 LaunchPad will display an introduction message followed by the measured power consumption of the ADC and voltage reference on the BoosterPack.
- The ADC sampling rate can be changed by pressing Switch S1 and S2 on the Launchpad.
- Switch S1 on the BoosterPack changes the display from power consumption to raw hex conversion data. This data is also transmitted to the PC on the USB cable via a virtual COM port.

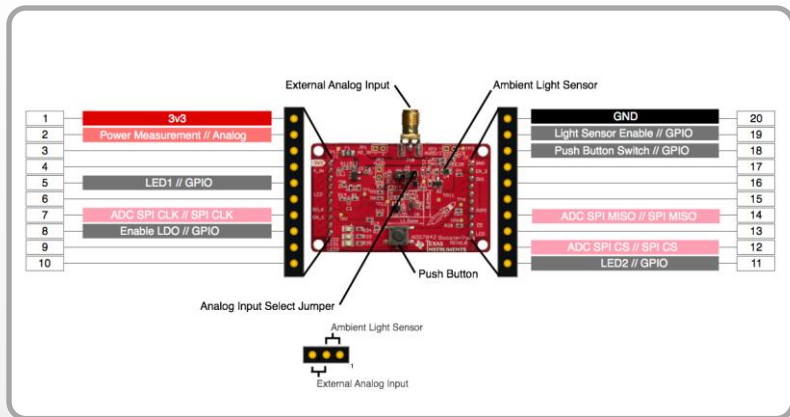
NOTE: JP1 on the LaunchPad may have to be removed to enable this feature.



TI E2E™
Community

Technical support for TI Precision ADCs can be found at <http://www.ti.com/precisionadcsupport>

BOOST-ADS7042 BoosterPack



More information about Precision Analog SAR ADCs can be found at <http://www.ti.com/precisionadc>

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