Meet the Tiva™ C Series TM4C1294

# Connected LaunchPad Evaluation Kit

Part Number: EK-TM4C1294XL

Texas Instruments

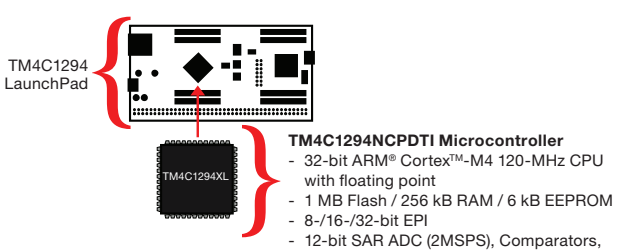
## A closer look at your new LaunchPad

**Featured microcontroller:** Tiva C Series TM4C1294

**This LaunchPad is ideal for...**

- Industrial applications, including remote monitoring, networked automation, embedded gateways, test & measurement… and more
- Beginners & experienced developers with multiple points of entry into software development (Energia for beginners & industrial-grade tools like CCS, Keil, and IAR for more advanced designers)

## What comes in the box?




**TM4C1294NCPDTI Microcontroller**
- 32-bit ARM® Cortex™-M4 120-MHz CPU with floating point
- 1 MB Flash / 256 kB RAM / 6 kB EEPROM
- 8-/16-/32-bit EPI
- 12-bit SAR ADC (2MSPS), Comparators, Timers and DMA
- Advanced connectivity integration:
  - 2 CAN Modules
  - QSSI/UART/I2C
  - Integrated Full- & Low-speed USB 2.0
  - 10/100 Ethernet MAC + PHY

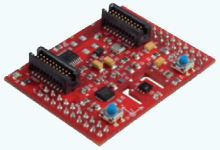

This Quick Start Guide


Micro-USB Cable


Ethernet Cable

Software can be downloaded online @ www.ti.com/tivaware

## BoosterPack Ecosystem



**Sensor Hub BoosterPack**
- InvenSense MPU-9150 9-axis MEMS motion sensor
  - 3-axis gyroscope
  - 3-axis accelerometer
  - 3-axis compass
- Bosch Sensortec BMP180 pressure sensor
- Sensirion SHT32 humidty & ambient temperature sensor
- Intersil ISL29023 light & IR sensor
- TI TMP006 contactless temp sensor

**Fuel Tank BoosterPack**
- Untether your LaunchPad projects!
- Rechargeable 4.44Wh battery
- I²C fuel gauge
- LED charge-level indicator
- Provides 5V & 3.3V sources

>> See them all @ ti.com/boosterpacks

## Software Tools


**Energia**
A simple open-source & community-driven code editor based on the Wiring framework.

Robust collection of easy-to-use function calls. APIs, and examples to get you started quickly.

>> www.energia.nu

**Professional Software tools**
LaunchPad is also supported by professional IDEs that provide industrial-grade features and full debug capability. Set breakpoints, watch variables & more with Connected LaunchPad.

Code Composer Studio™ IDE

>> www.ti.com/ccs

Third party IDE options

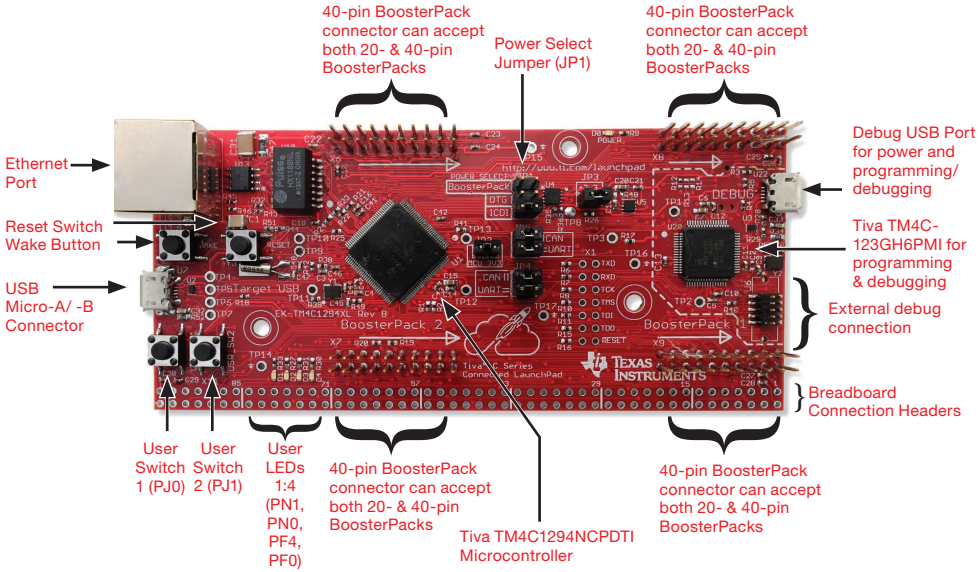
KEIL™ Tools by ARM

mentor embedded

IAR SYSTEMS



## EK-TM4C1294XL Overview

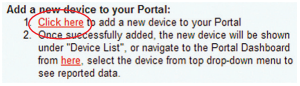


# Let's get started!

## The out-of-box demo:

The EK-TM4C1294XL Connected LaunchPad features a TM4C1294NCPDTI microcontroller device pre-programmed with an Internet of Things (IoT) quickstart application. This application records various information about the Connected LaunchPad and periodically reports it to a cloud server managed by Exosite, a third party.

1. **Register with Exosite**
   Go to ti.exosite.com and create a Portal account. After activating your account, log in and click on the circled link under "Getting Started Guide" on the Home page to add your Tiva C Series Connected LaunchPad to your Exosite Portal.




   - Setup Type: Click "Select a supported device below" and select the "EK-TM4C1294XL Connected LaunchPad" from the drop-down menu. Click continue.
   - Device Setup: Enter the device MAC address, a device name, and a device location. Click continue. The device MAC address is on a sticker on the bottom of your board.
   - Confirm: Your Connected LaunchPad is now registered with Exosite! You can see your device on the Devices tab.

2. **Connecting the Hardware**
   Connect the included Ethernet cable from the Ethernet port of a router to the Ethernet port on the Connected LaunchPad.

   Verify that the Power Select Jumper (JP1) is in the "ICDI" position. Connect the included USB cable from a Windows®-enabled PC to the "Debug" USB port (top-right corner) on the Connected LaunchPad.

   Note: If the "Found New Hardware" dialog box appears, ignore it until it is time to install the drivers.

3. **Demo Application**
   Go to the Home tab on the far left of the TI Exosite webpage. Under "Device List," click on your device to see the data dashboard. Here you can find widgets that display data and interact with your Connected LaunchPad. For more details about this quickstart application, see the readme file located at the default file path C:/ti/TivaWare_C_Series-X.X/examples/boards/ek-tm4c1294xl/qs_iot. Visit ti.exosite.com to watch the tutorial video.

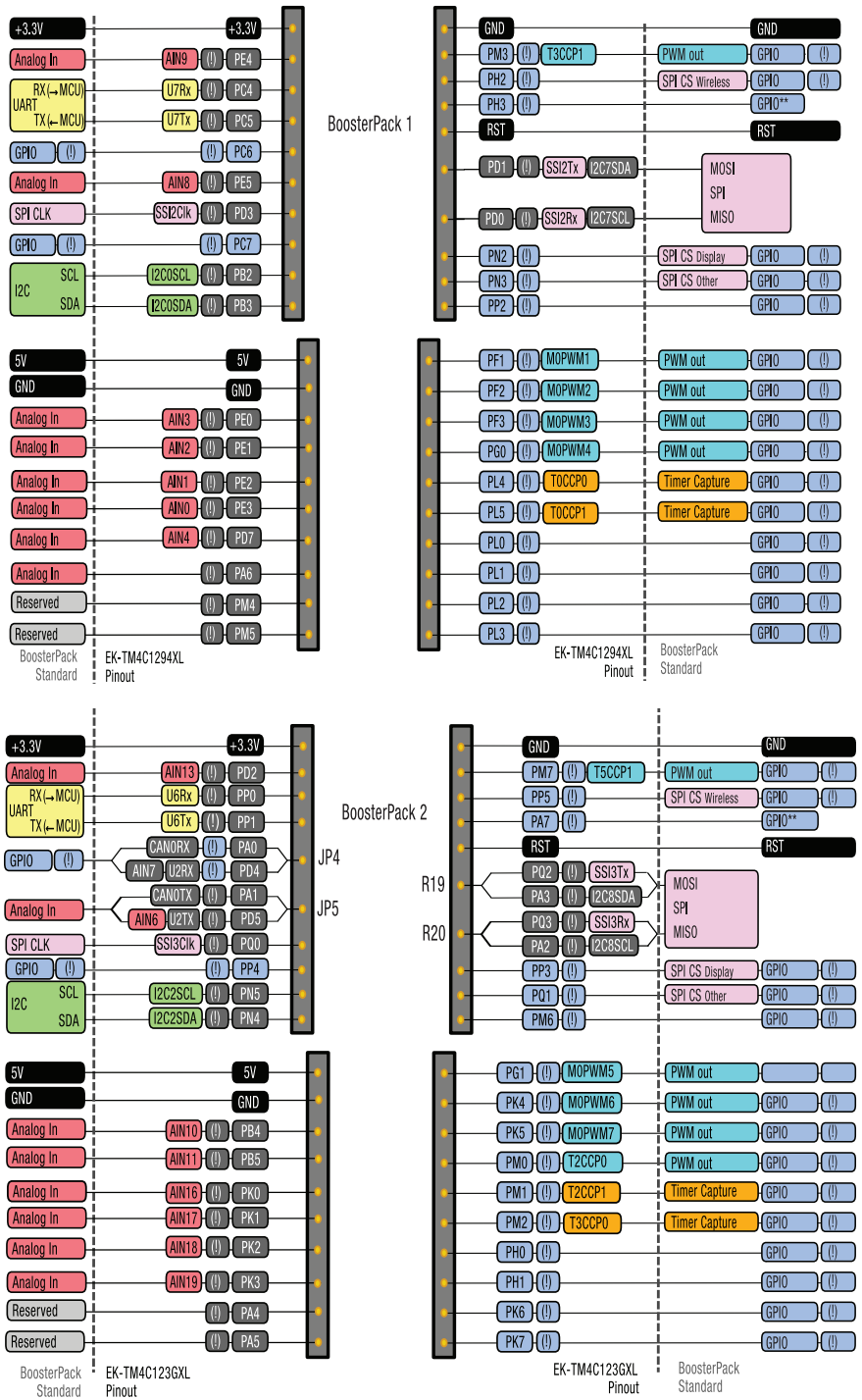
   *Troubleshooting Notes: If you have trouble connecting or firewall issues, go to exosite.com/ti-faq. If your device is behind a proxy, connect to the Virtual COM Port (see step 4 below) and type 'setproxy help' in the terminal window for configuration information.*

4. **Connecting to the Virtual COM Port**
   The Debug USB Port provides debug and Virtual COM Port connectivity via the In-Circuit Debug Interface (ICDI). To use the Virtual COM port, install the Stellaris ICDI Drivers on your PC. The drivers and driver installation instructions can be found at www.ti.com/tool/stellaris_icdi_drivers. Once installed, you can view data from the quickstart application and troubleshoot using a terminal running at 115,200 baud, 8-N-1.

# Where do I go next?

**Software, Drivers, & Documentation**
Go to www.ti.com/tool/ek-tm4c1294xl. Here you will find links to the latest TivaWare software, driver installation instructions, TM4C microcontroller-compatible compiler and debuggers, LM Flash Programmer, the PinMux Utility, a complete list of compatible devices, additional documenation including data sheets and user guides, and everything else you need to get started!

**Project 0**
When you are ready to take the next step, complete Project 0. For more information, go to www.ti.com/tiva-c-launchpad and click on the Project 0 link for the EK-TM4C1294XL.




(!) indicates a GPIO pin that is interrupt capable.
** indicates functionality that may not be present on all LaunchPads.

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265