Getting Started Guide
Get Started with Wi-SUN® Wireless MCUs and Transceivers

TEXAS INSTRUMENTS

ABSTRACT

Wi-SUN is an open-standard protocol (IEEE 802.15.4g) driving unification in the market. Texas Instruments is an active Wi-SUN® Alliance member, providing interoperable solutions, royalty-free software and standards-based multi-layer security. The Wi-SUN® protocol is ideal for applications that require long RF transmission range, high node count, and robust network performance with self-healing mesh such as connected smart meters, EV charging, and street lighting.

This getting started guide provides users with preliminary information for developing software and products with Wi-SUN® wireless MCUs and transceivers.

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Trademarks

LaunchPad™ and SimpleLink™ are trademarks of Texas Instruments.
Wi-SUN® is a registered trademark of Wi-SUN Alliance.
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1 Purchase the CC1352P7 LaunchPad™ Development Kit

Users should purchase at least two CC1352P7 LaunchPad™ Development Kits. One will be used as a router and the other will be connected to the AM64x starter kit as a border router.

Users can order from the LaunchPad™ CC1352P7 tools page here. Figure 1-1 shows an overview of the tools page.

LP-CC1352P7

CC1352P7 LaunchPad™ development kit for SimpleLink™ multi-band wireless MCU

| Overview | Order & start development | Design files | Technical documentation | Support & training |

Overview

Description & features   What's included   Supported products

This LaunchPad™ development kit speeds development on devices with integrated power amplifier and multi-band radio support for concurrent Sub-1GHz and 2.4-GHz operation. Protocols supported include *Bluetooth*® Low Energy, Sub-1 GHz, Thread, Zigbee®, 802.15.4, and proprietary RF with the compatible CC13xx-CC26xx SDK. Available variations feature different RF matching networks and power levels.

- LP-CC1352P7-1: 868/915 MHz up to 20 dBm, 2.4 GHz up to 5 dBm

- LP-CC1352P7-4: 433 MHz up to 13 dBm, 2.4 GHz up to 10 dBm

Features

- Broad band antenna support for Sub-1 GHz (868 MHz / 915 MHz / 433 MHz) and 2.4 GHz frequency bands

- On-board emulator gets you started with instant code development

- All IOs accessible on pin headers compatible with the LaunchPad development kit and BoosterPack™ plug-in module ecosystem

Figure 1-1. LaunchPad™ CC1352P7 Tool Page

2 Purchase AM64x Starter Kit

To complete the hardware setup, users should order the AM64x Starter Kit (SK-AM64).

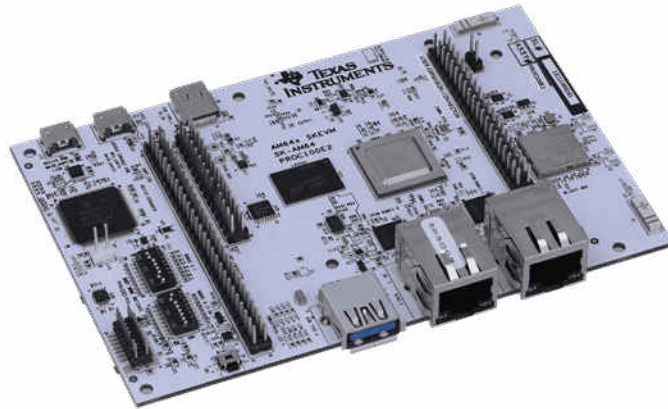Users can order from the AM64x Starter Kit tools page here.

Figure 2-1. AM64x Starter Kit EVM

The AM64x starter kit is a stand-alone test and development platform that is ideal for accelerating the prototype phase of your next design.

The starter kit includes:

*   Wired and wireless connectivity
*   Three expansion headers
*   Multiple boot options
*   Flexible debug capabilities

The starter kit is equipped with AM6442 processor from TI and an optimized feature-set to allow the user to create commercial and industrial solutions using Ethernet-based, USB, and serial wired interfaces plus 2.4-GHz and 5-GHz wireless communications. With a variety of wired serial protocols and high-speed connectivity options, this starter kit functions as communications gateway. This starter kit enables evaluation by running Linux on the Cortex A53 cores, allowing it to function as a central processing engine in a communication network. Additionally, embedded emulation logic enables connection to standard development tools, namely Code Composer Studio from TI.

Please refer to the following links for more information on the AM64x Starter Kit along with the AM64x family of devices:

*   AM64x Starter Kit Product Page
*   AM6442 Product Page
*   AM64x Starter Kit User's Guide
*   AM64x Starter Kit Blog Post

Note
Either a USB-C 5-V 3-A power supply or USB-C to USB-C cable is needed to power the starter kit.

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3 Download the Latest SimpleLink™ CC13XX, CC26XX Software Development Kit

To start working with the SDK, use TI Resource Explorer on dev.ti.com. This online tool lets users explore the contents of the SimpleLink™ CC13XX, CC26XX SDK. Users can build the examples directly using the cloud version of Code Composer Studio. If users choose the online SDK, there is no need to download the SDK to a local computer or install any tools (other than the TI Cloud Agent for first time users).

Figure 3-1 shows the TI Resource Explorer link in the download window on the SDK tool page.
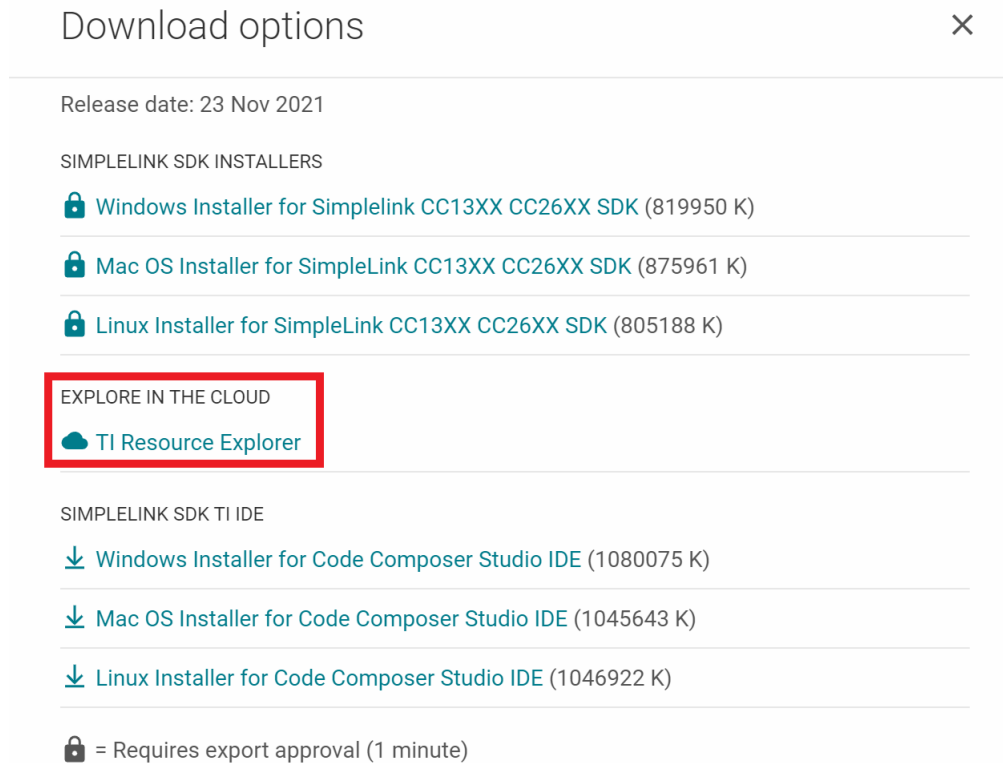
Figure 3-1. Resource Explorer Downloads

Figure 3-2 shows the "Start development" button that leads to the resource explorer on the SDK tool page.

Figure 3-2. Resource Explorer Start Development Button

Alternatively, users can download the SimpleLink™ CC13XX, CC26XX SDK through the resource explorer in Code Composer Studio. Users can also manually download the SDK from ti.com.

4 Read the Wi-SUN Quick Start Guide

The Wi-SUN Quick Start Guide can be found in the CC13XX, CC26XX SDK (docs/ti_wisunfan/html/wisun-quick-start-guide),

5 Get Support Through the E2E™ Forum

Users can find support through TI's E2E™ forums.

A support community providing answers to questions relating to TI Wi-SUN products. Users can browse questions from other developers or ask their own questions if issues arise while developing with Wi-SUN products.

When asking questions on E2E:

- Condense information and be precise
- Describe: What do you want? What did you try? What is the error?

When contacting TI customer support:

- Isolate the problem first
- Provide a minimal working example application

These steps save time for users and TI support, leading to better response times.

6 Additional Information

For additional information regarding Wi-SUN products, visit the following pages:

- Wi-SUN® Software Product Brief
- How Wi-SUN® FAN improves connected infrastructures
- 4 questions to ask before choosing a Wi-SUN stack
- TI New Product Update: Wi-SUN Certified Solutions from TI
- Webinar: Extend your wireless connectivity with mesh technologies: Wi-SUN®, Bluetooth® Mesh

7 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

DATE	REVISION	NOTES
October 15, 2021	*	Initial Release

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