

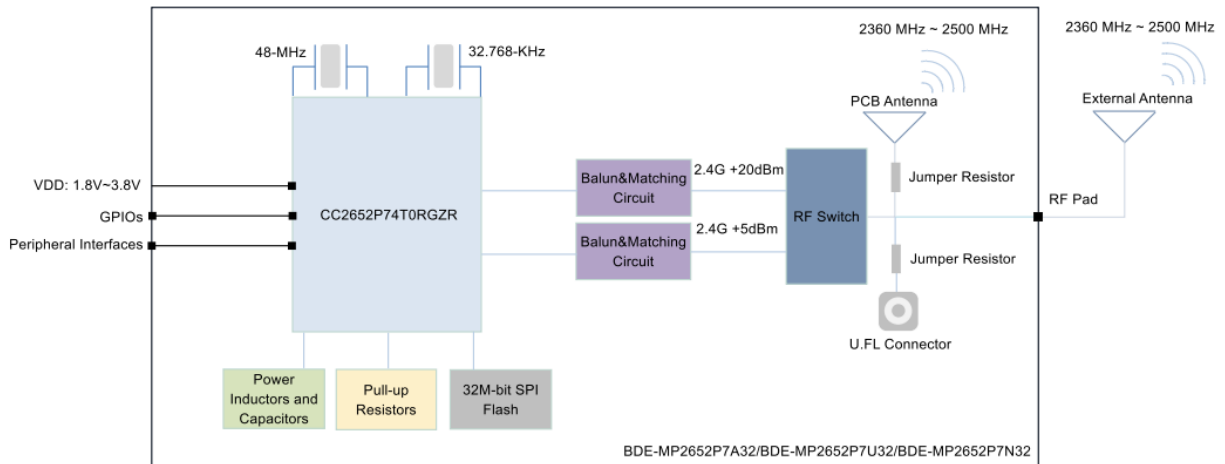
BDE-MP2652P7 USER GUIDE

Introduction

This user guide is for BDE-MP2652P7, a Wireless Module based on TI CC2652P7. It is a quick start guide for how to connect the module with the evaluation board BDE-EVB07 or with the TI launchpad, and how to build the first application. It also shows a demo for how BDE-MP2652P7 receives a data packet that is sent from the mobile terminal.

Hardware Diagram

A. Block Diagram



B. RF Switch True Table

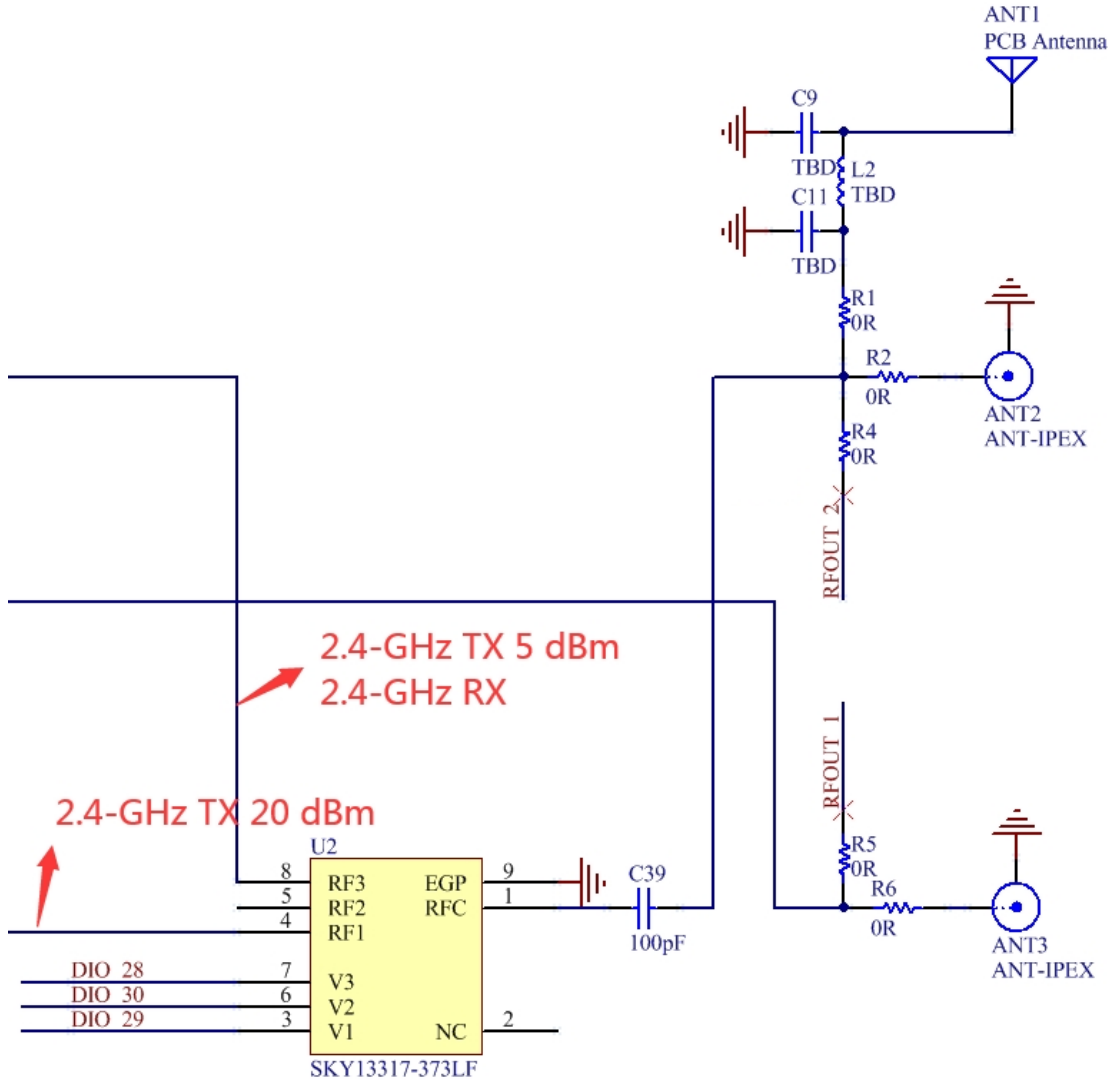
Table 4. SKY13317-373LF Truth Table

Low Insertion Loss Path	V1 (Pin 3)	V2 (Pin 6)	V3 (Pin 7)
RFC to RF1	High	Low	Low
RFC to RF2	Low	High	Low
RFC to RF3	Low	Low	High

Note: "High" = 1.8 to 5.0 V. "Low" = 0 to 0.25 V. Any state other than described in this Table places the switch into an undefined state. An undefined state will not damage the device.

C. Antenna Selection Schematic

The module is using the switch to select 5 dBm or 20 dBm TX power and also the RX path for the 2.4-GHz band. Sub-1GHz band is standalone for having its own antenna.



Get Ready

The following tools are recommended to develop with BDE-MP2652P7.

Hardware tools:

- BDE-MP2652P7 [BDE-MP2652P7-BDE Technology Inc. \(bdecomm.com\)](http://www.bdecomm.com)
- Two BDE-ADP208 V1.0 (adaptor board)
- PC or Laptop
- A BDE-EVB07 ([BDE-EVB07-BDE Technology Inc. \(bdecomm.com\)](http://www.bdecomm.com))
- USB cable for power supply and debugging

Software tools:

- Terminal software such as CCS, IAR.

Wireless Module

- [CCS download](#)
- [Software Development Kit \(SDK\)](#)
- [Lightblue](#)

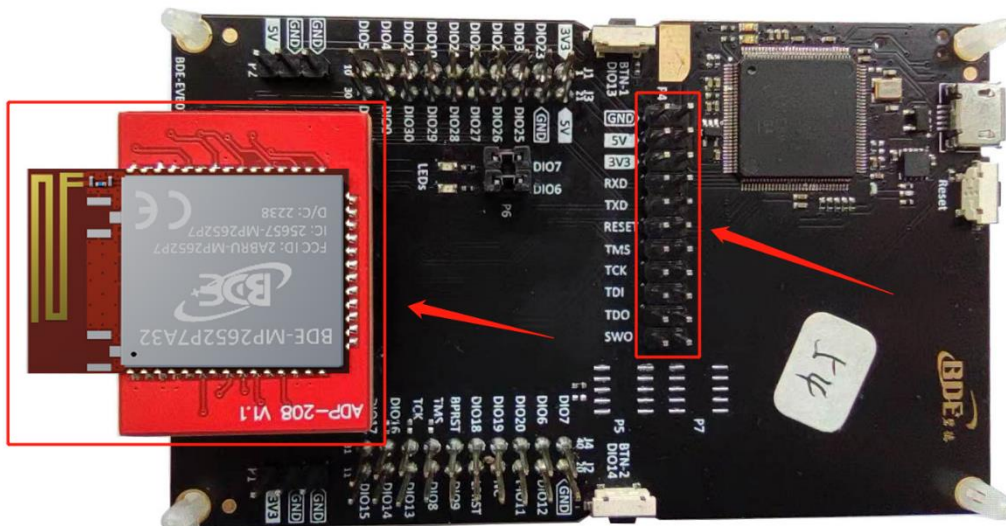
Build Your First Application

Once have the Hardware and Software tools in place, please following the following steps:

A. Connect the Hardware

If chose EVB07:

Use USB cable to connect EVB07 and PC or laptop. Plug BDE-MP2652P7 with the adaptor board into the dev board and connect all the pins with Jumpers as the following picture shows.



B. Build the Application

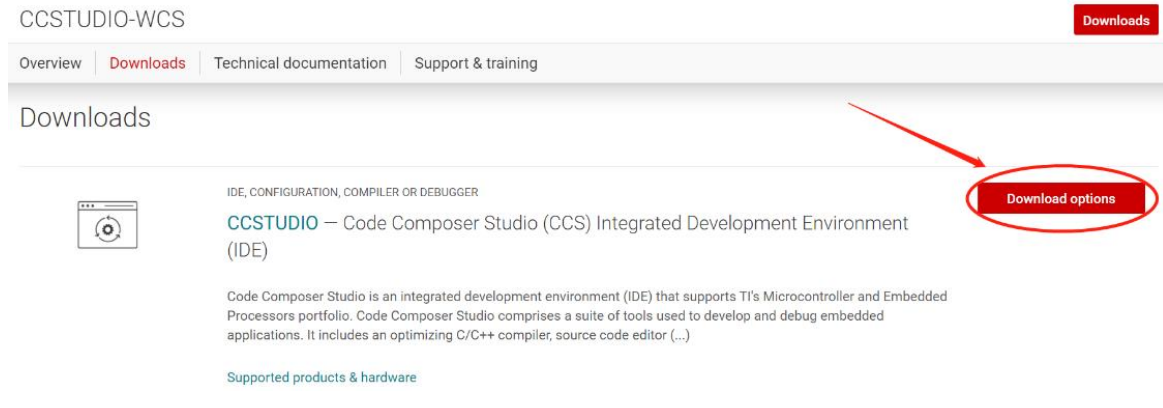
■ Download and install the CCS and SDK

From the above links, follow the instructions in the following steps to download and install the CCS and SDK.

■ CCS Installation

Wireless Module

1. Click on this option



CCSTUDIO-WCS Downloads

Overview | Downloads | Technical documentation | Support & training

Downloads

IDE, CONFIGURATION, COMPILER OR DEBUGGER

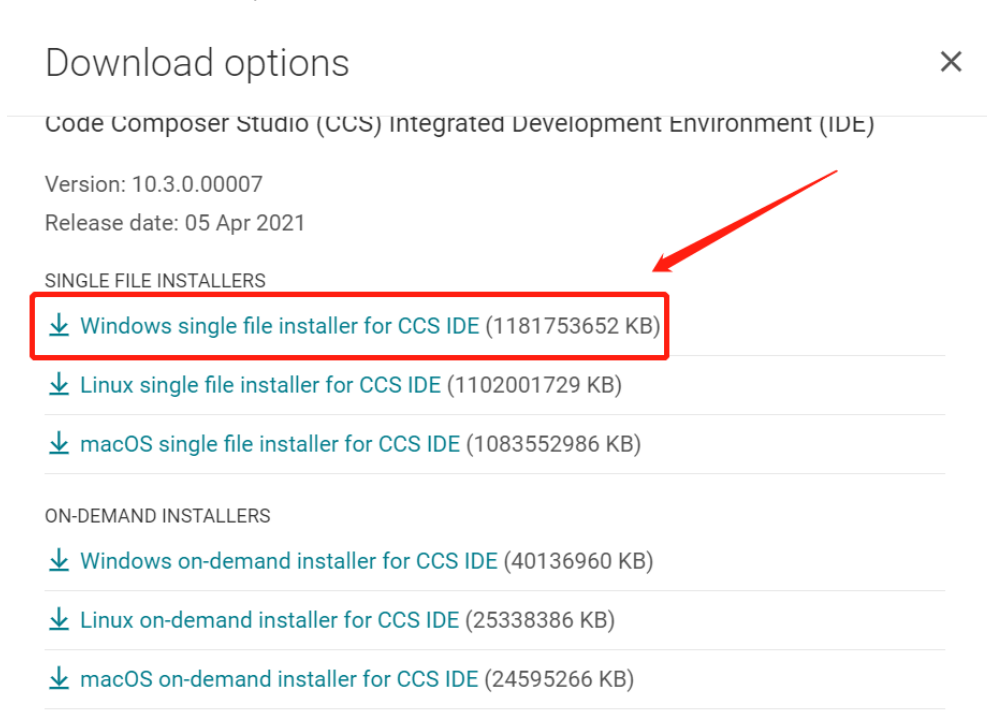
CCSTUDIO – Code Composer Studio (CCS) Integrated Development Environment (IDE)

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. It includes an optimizing C/C++ compiler, source code editor (...)

[Supported products & hardware](#)

Download options

2. Select an option to download CCS



Download options

Code Composer Studio (CCS) Integrated Development Environment (IDE)

Version: 10.3.0.00007
Release date: 05 Apr 2021

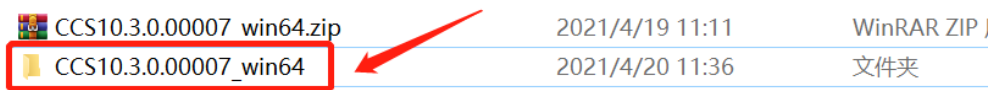
SINGLE FILE INSTALLERS



- [Windows single file installer for CCS IDE \(1181753652 KB\)](#)
- [Linux single file installer for CCS IDE \(1102001729 KB\)](#)
- [macOS single file installer for CCS IDE \(1083552986 KB\)](#)

ON-DEMAND INSTALLERS

- [Windows on-demand installer for CCS IDE \(40136960 KB\)](#)
- [Linux on-demand installer for CCS IDE \(25338386 KB\)](#)
- [macOS on-demand installer for CCS IDE \(24595266 KB\)](#)

3. Unzip the package to a local disc



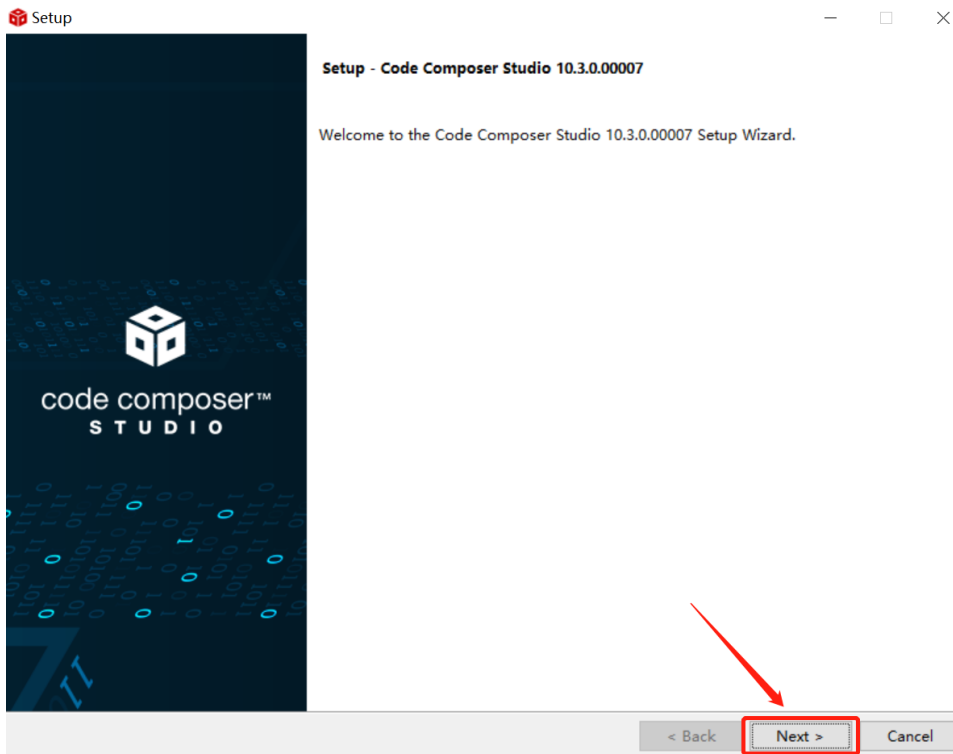
 CCS10.3.0.00007_win64.zip	2021/4/19 11:11	WinRAR ZIP
 CCS10.3.0.00007_win64	2021/4/20 11:36	文件夹

4. Click the setup of CCS

Wireless Module

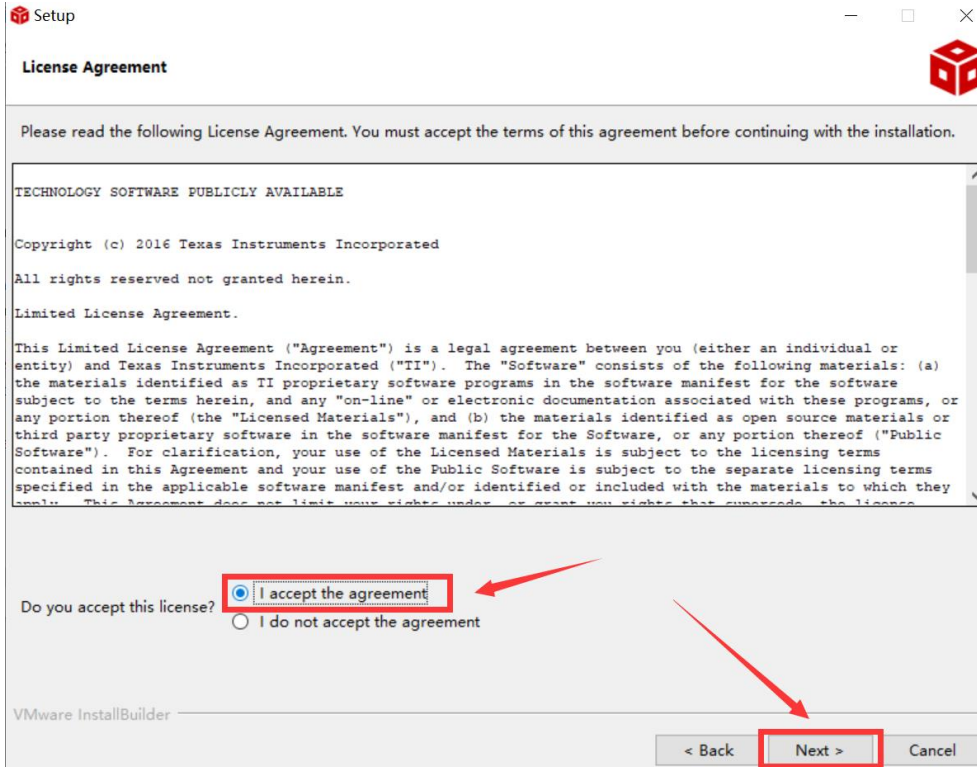


5. Click "Next"

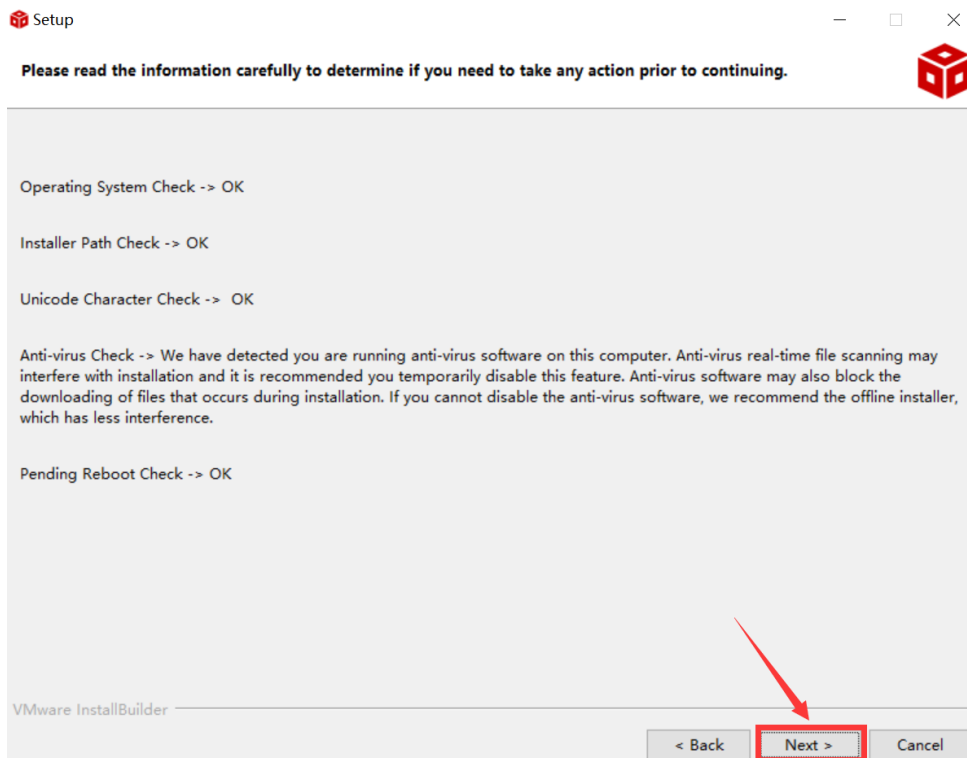


6. Select the default option

Wireless Module

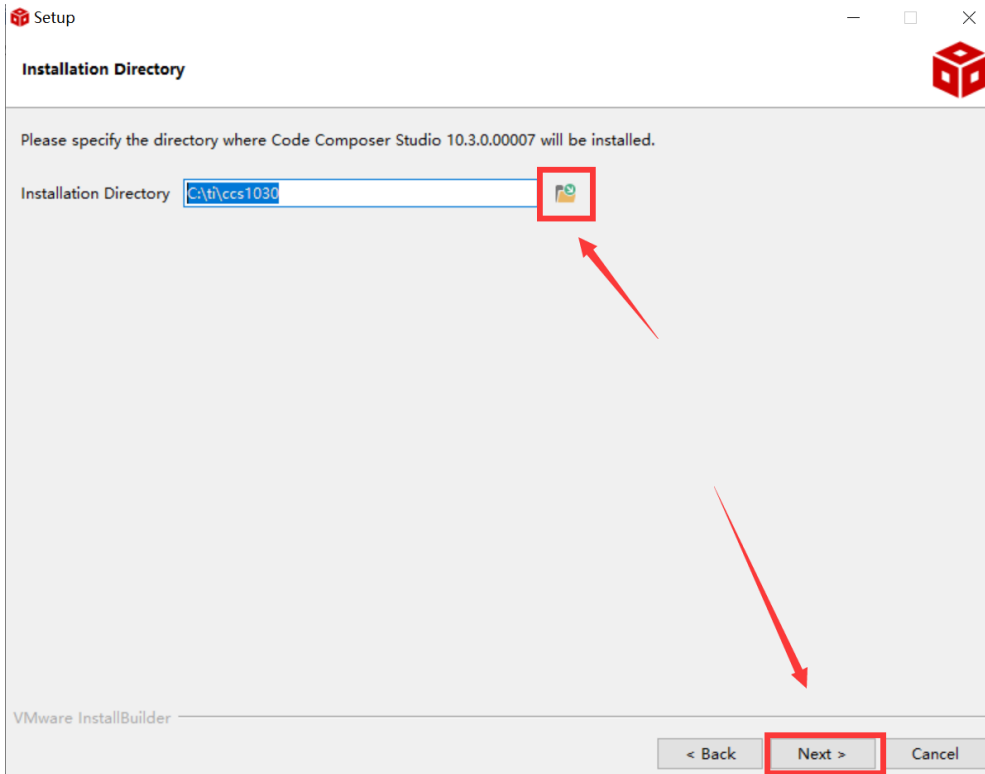


7. Click "Next"

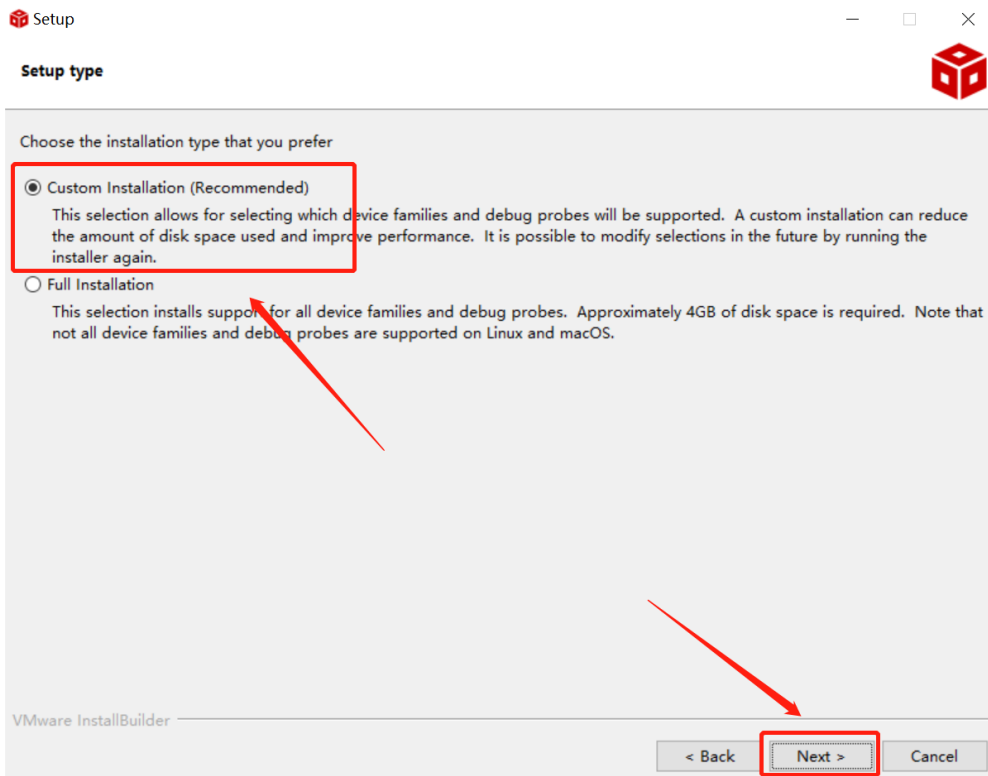


Wireless Module

8. Select the Installation Directory

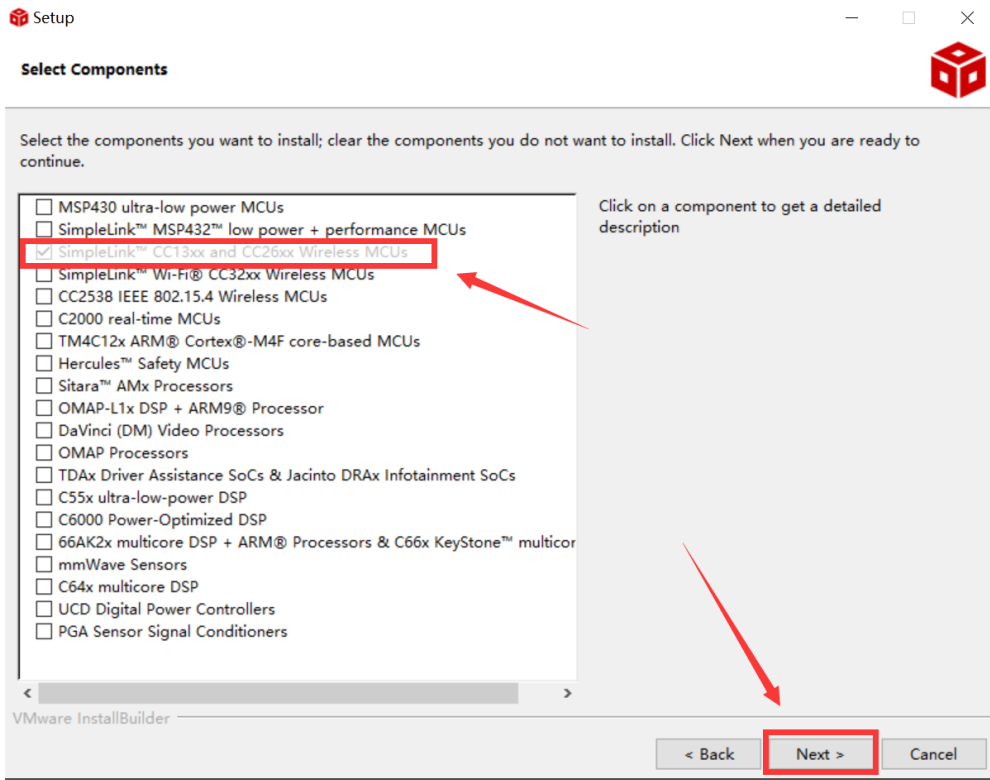


9. Select the default option

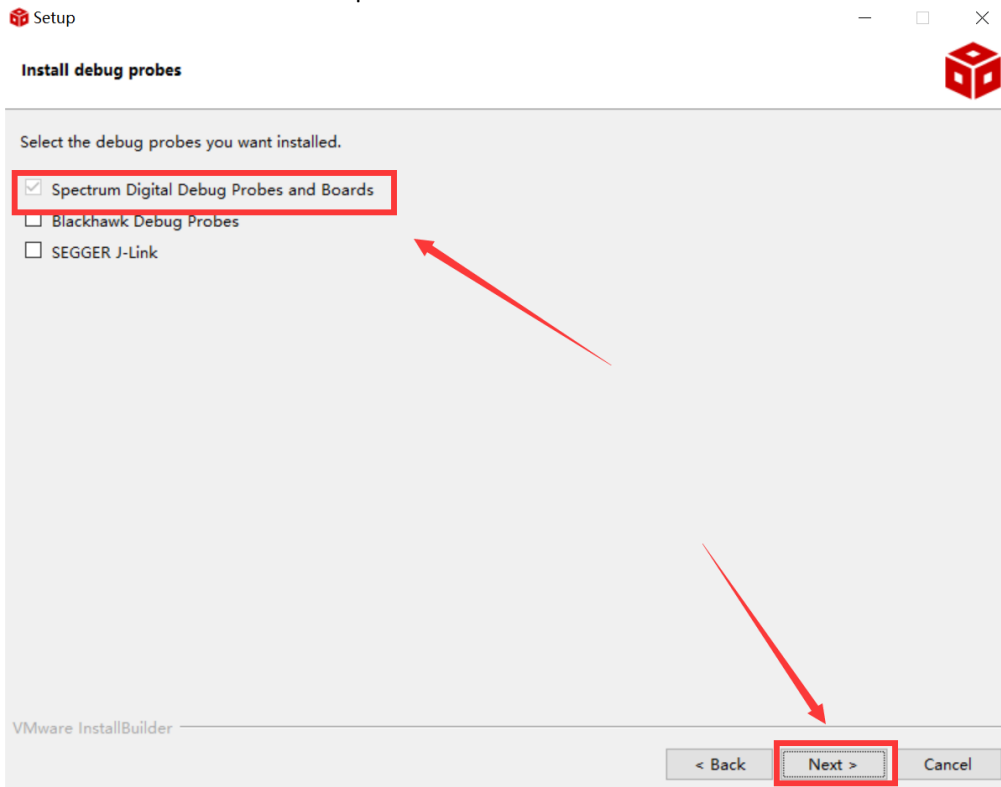


Wireless Module

10. Select the component

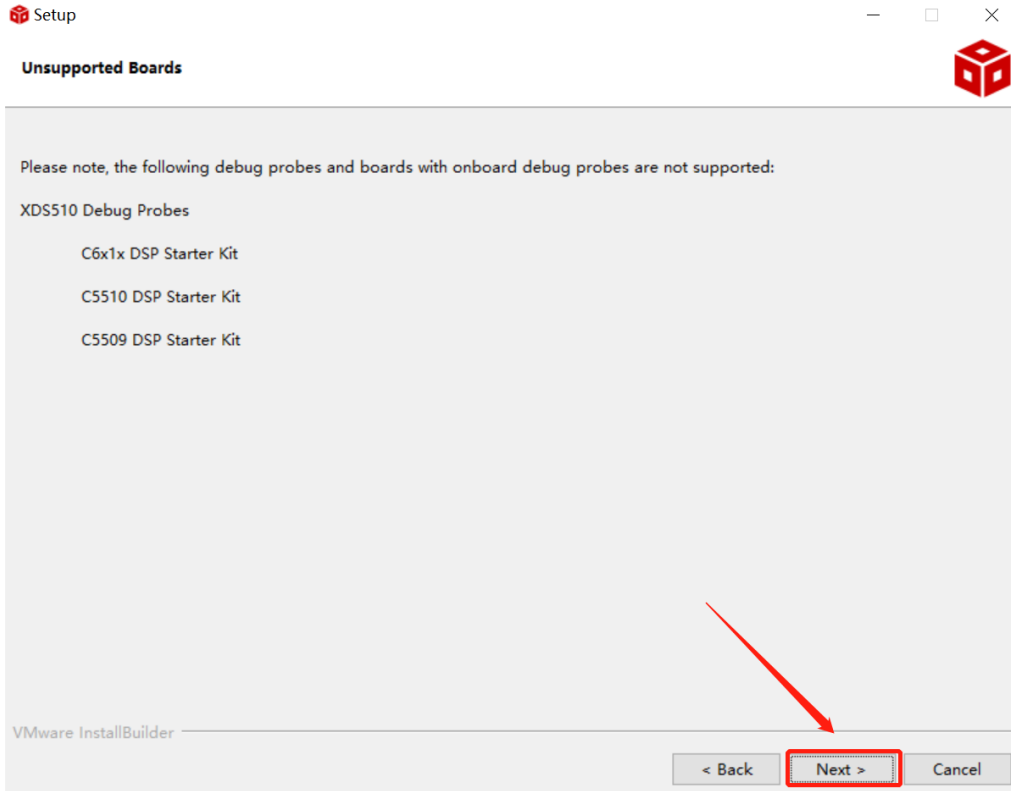


11. Select the default option

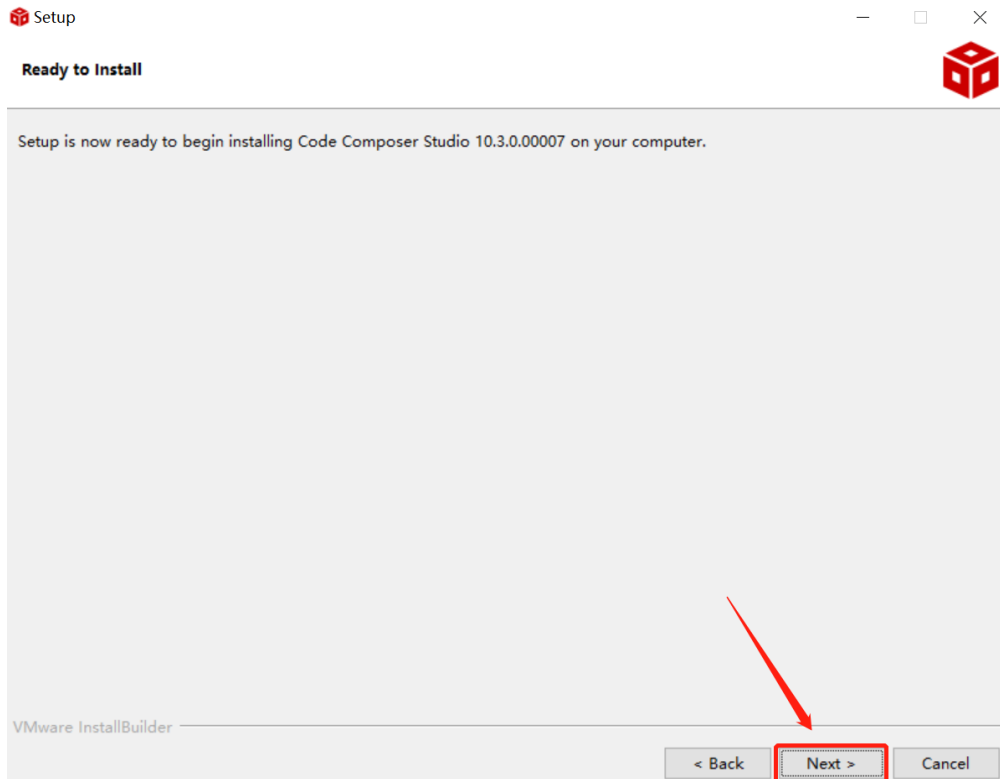


Wireless Module

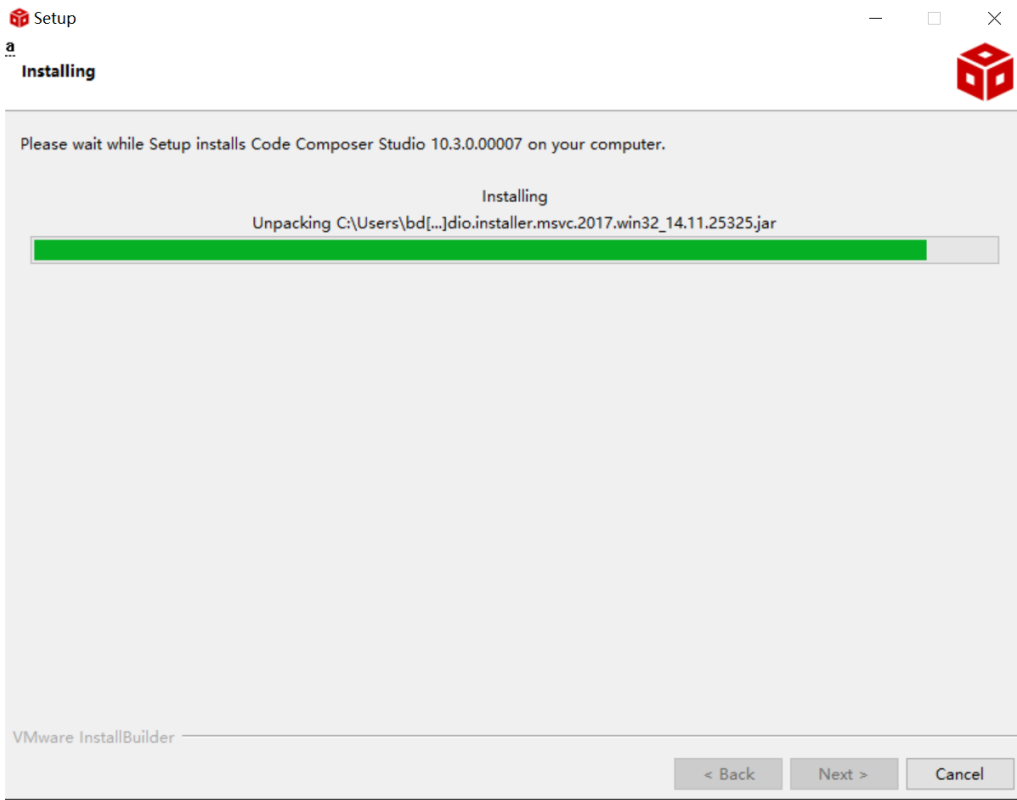
12. Click "Next"



13. Click "Next"



14. Waiting for installation to complete



■ Software Development Kit (SDK) installation

1. Click on this option

CC2652P7 ACTIVE Data sheet Order now


Product details | Technical documentation | **Design & development** | Ordering & quality | Support & training

Technical article | [Your microcontroller deserves a nap – designing "sleepy" wireless applications](#) | 28 Mar 2018

Design & development

For additional terms or required resources, click any title below to view the detail page where available.

All | Hardware development | **Software development** | Design tools & simulation | CAD/CAE symbols



SOFTWARE DEVELOPMENT KIT (SDK)
SIMPLELINK-CC13XX-CC26XX-SDK | SimpleLink™ CC13xx and CC26xx software development kit (SDK)

The SimpleLink™ CC13xx and CC26xx software development kit (SDK) provides a comprehensive software package for the development of Sub-1 GHz and 2.4 GHz applications including support for *Bluetooth*® Low Energy, Mesh, Zigbee®, Matter, Thread, 802.15.4-based, proprietary, and multiprotocol (...)

[Supported products & hardware](#)

Evaluate in the cloud
Download options

Wireless Module

2. Select an option you need to download SDK







Download options

SIMPLELINK-CC13XX-CC26XX-SDK – SimpleLink™ CC13xx and CC26xx software development kit (SDK)

Latest version Version: 6.40.00.13 Release date: 19 Dec 2022

[Release notes](#) [View all versions](#)

Downloads Supported products & hardware

 Windows Installer for SimpleLink CC13XX CC26XX SDK – 838130 K	Checksum 68753d7c2c0ce364993b5562c78e00e7 
 Linux Installer for SimpleLink CC13XX CC26XX SDK – 835066 K	Checksum 36bface6193296352c32d45577ab7ee1 
 Mac OS Installer for SimpleLink CC13XX CC26XX SDK – 830397 K	Checksum ef17961f4f605ff827887e9df26990d 

3. Log in to your TI account, if you are a new user, register a TI account first

myTI account

[myTI FAQ](#)

Existing myTI user?

Your email address

Your myTI password

Remember me

Login

[Forgot your password?](#)

By logging in, you agree to
[TI's Terms of use & Privacy policy.](#)

Wireless Module

- 4. Select "civil" if your application is for civil use

ort
ll
e will
d 1-

U.S. Government export approval:

All fields are Required. Incomplete information will be DENIED.

First name:

Last name:

Your email address:

Your full company/university name:

Country this file will be used in:

What end-equipment/application will you use this file for:

Military

Civil

I certify that the following is true:

- 5. Select "Yes" and submit

compliance with any such import, use, or export restrictions.

- I / We hereby certify that we will adhere to the conditions above.
- I / We do not know of any additional facts different from the above.
- I / We take responsibility to comply with these terms.
- I / We understand we are responsible to abide by the most current. versions of the Export Administration Regulations and other U.S. export and sanctions laws.

I CERTIFY ALL THE ABOVE IS TRUE:

Yes No

Thank you,
Texas Instruments

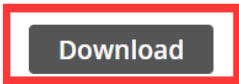
- 6. Download SDK

TI Home

TI Request

You have been approved to receive this file.
Click "Download" to proceed.

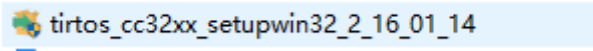
In a few moments, you will also receive an email with the link to this file.



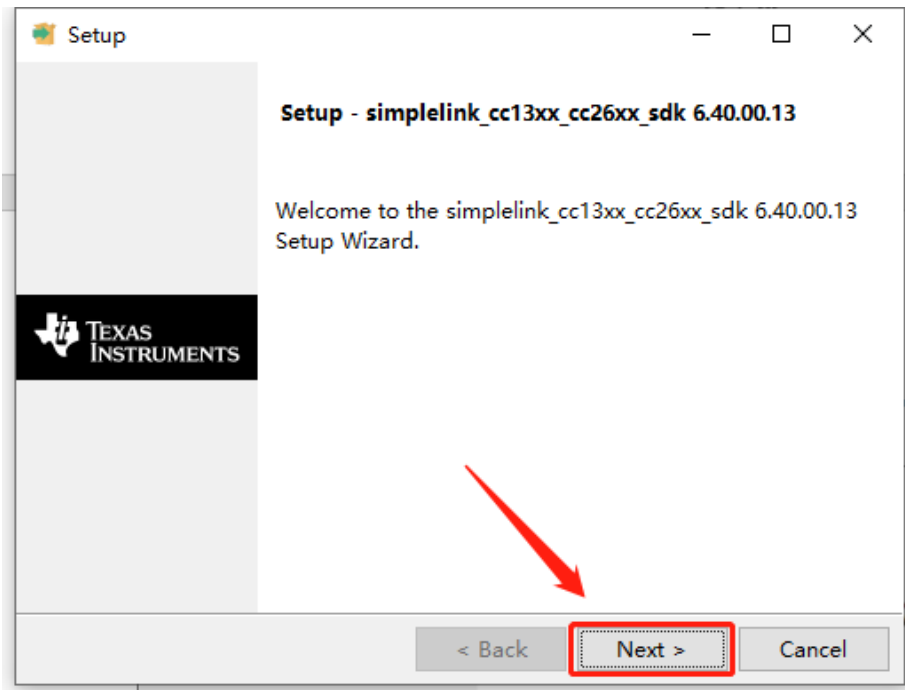
Having trouble downloading? Try www.ti.com/software-help

Thank you,
Texas Instruments

7. Installation



8. Click "Next"

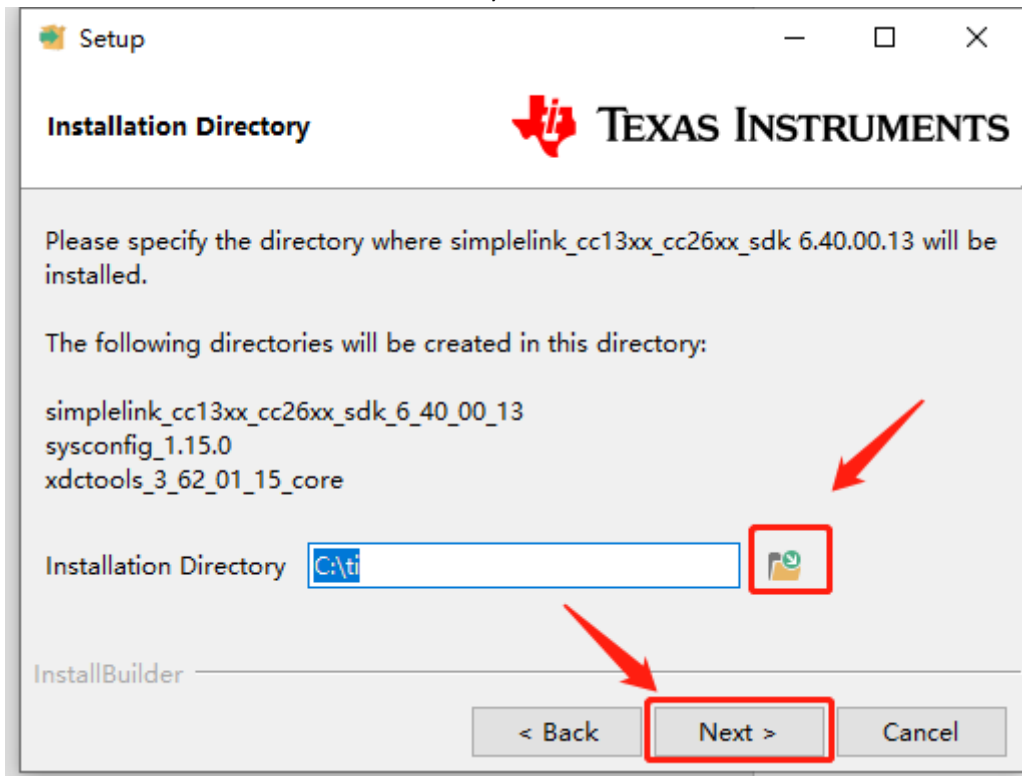


Wireless Module

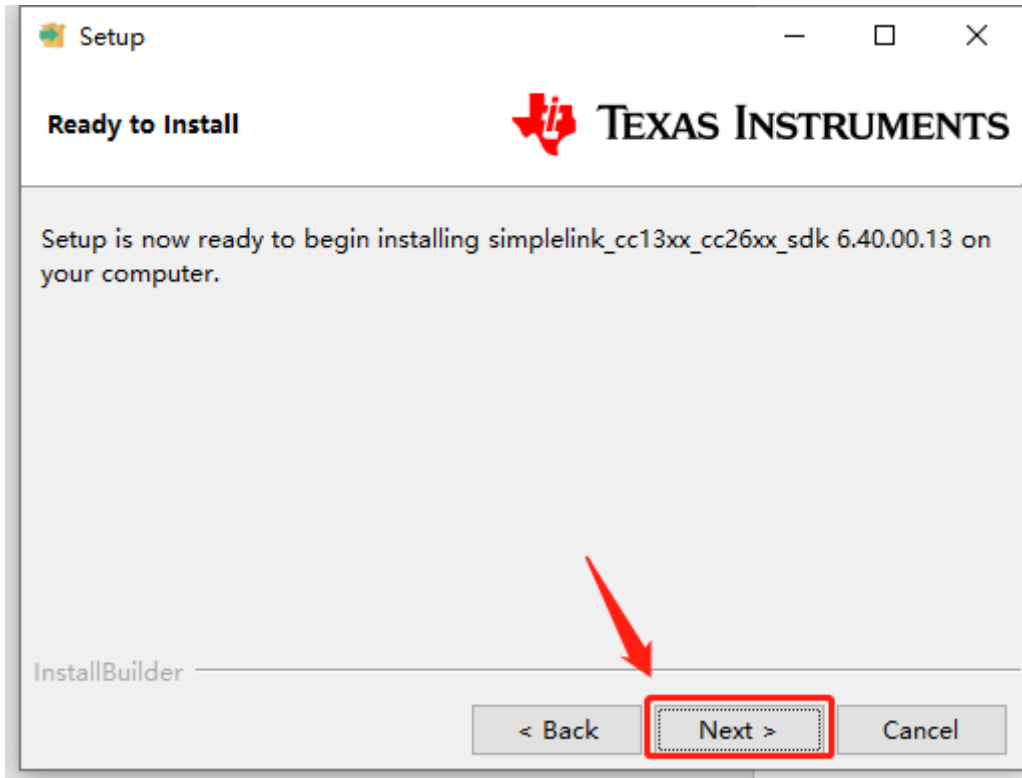
9. Select the default option



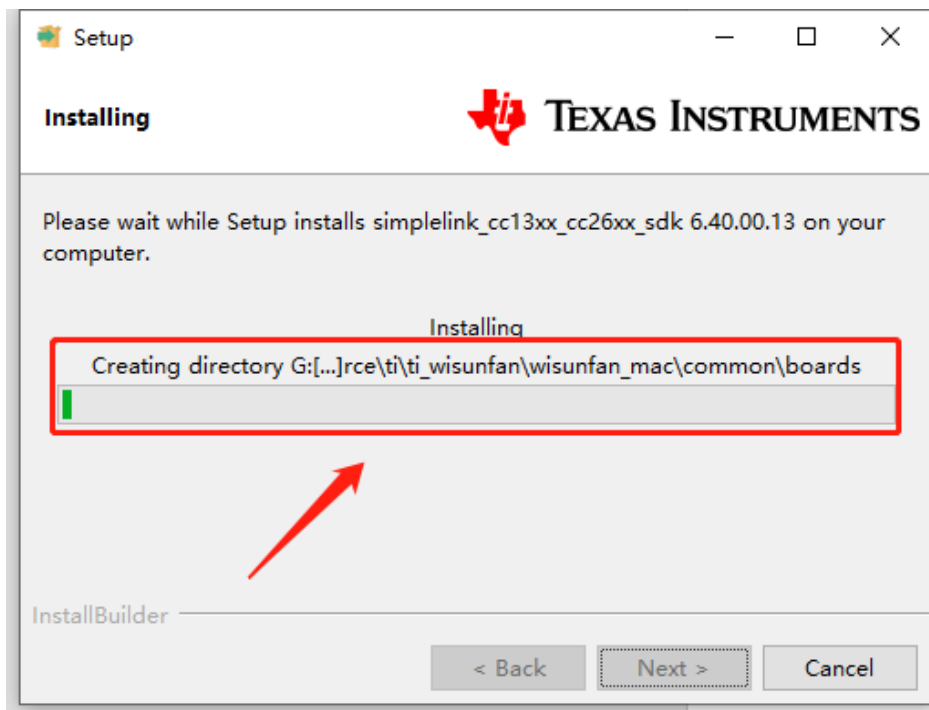
10. Select the Installation directory



11. Click "Next"



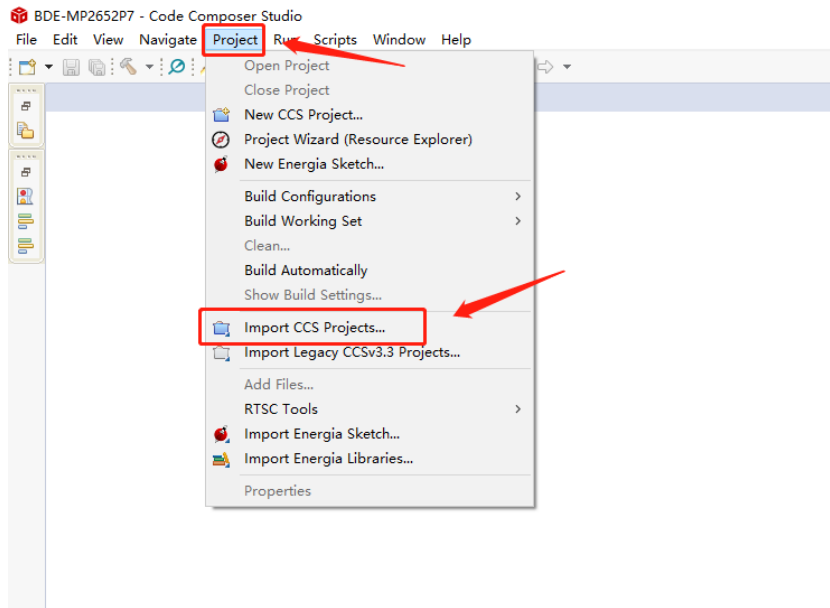
12. Waiting for installation to complete



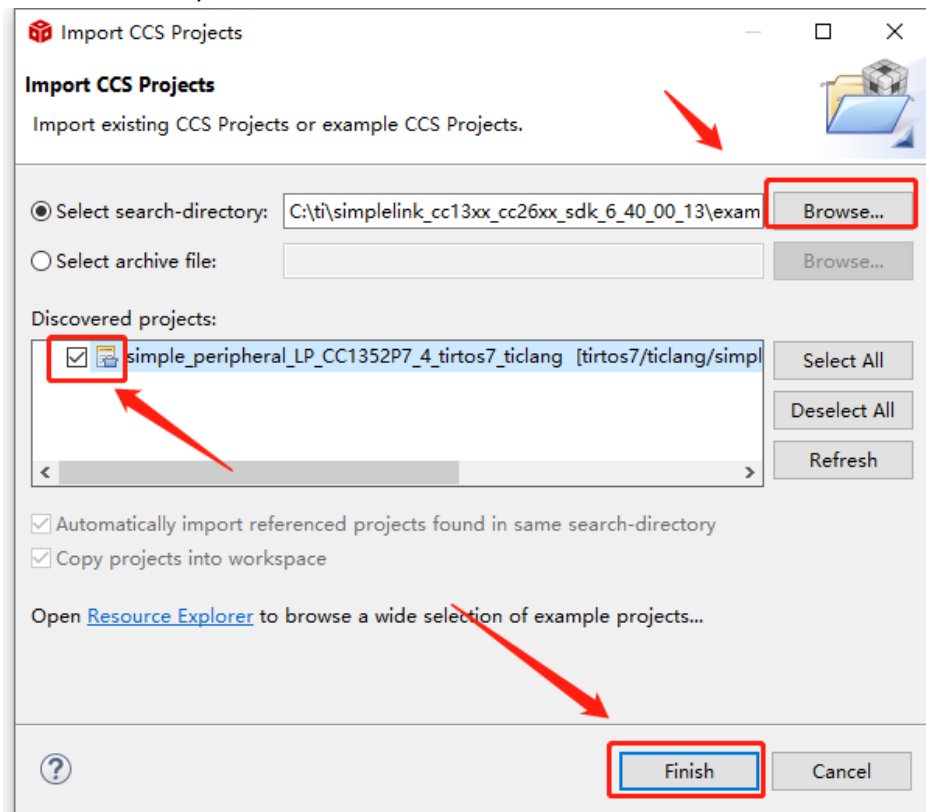
Wireless Module

- Run an example/demo code

- For the first module, find the option named "Import CCS project..."

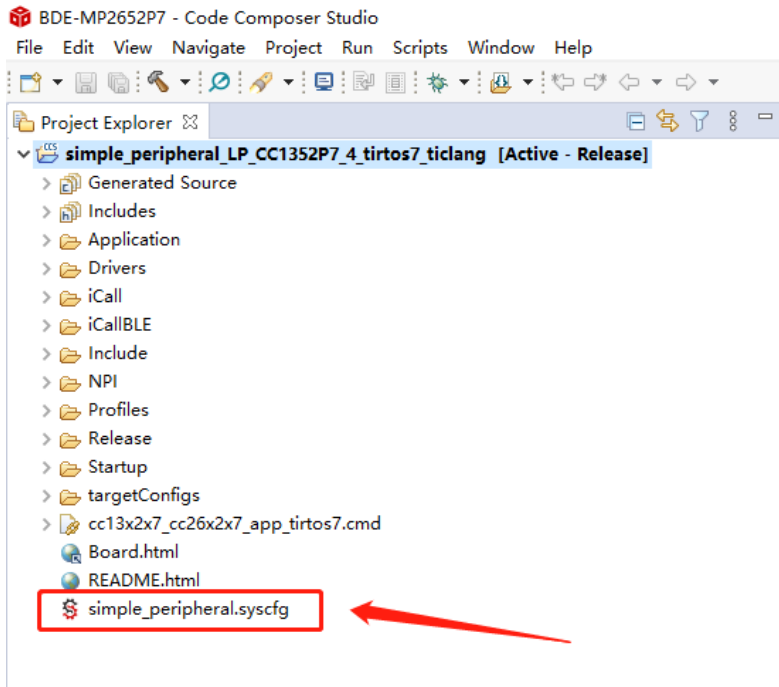


- According to the following path to find the sending end project:
ti\simplelink_cc13xx_cc26xx_sdk_6_40_00_13\examples\rtos\LP_CC1352P7_4\ble5stack\simple_peripheral
(Since TI does not have a dedicated SDK for CC2652P7, we use LP_CC1352P7_4 instead, which can also run normally on CC2652P7 devices)

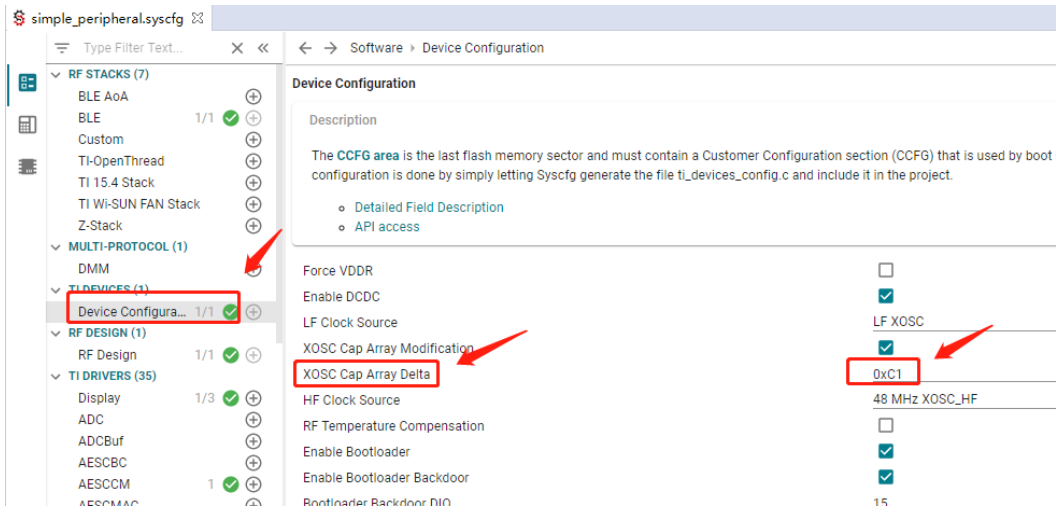


Wireless Module

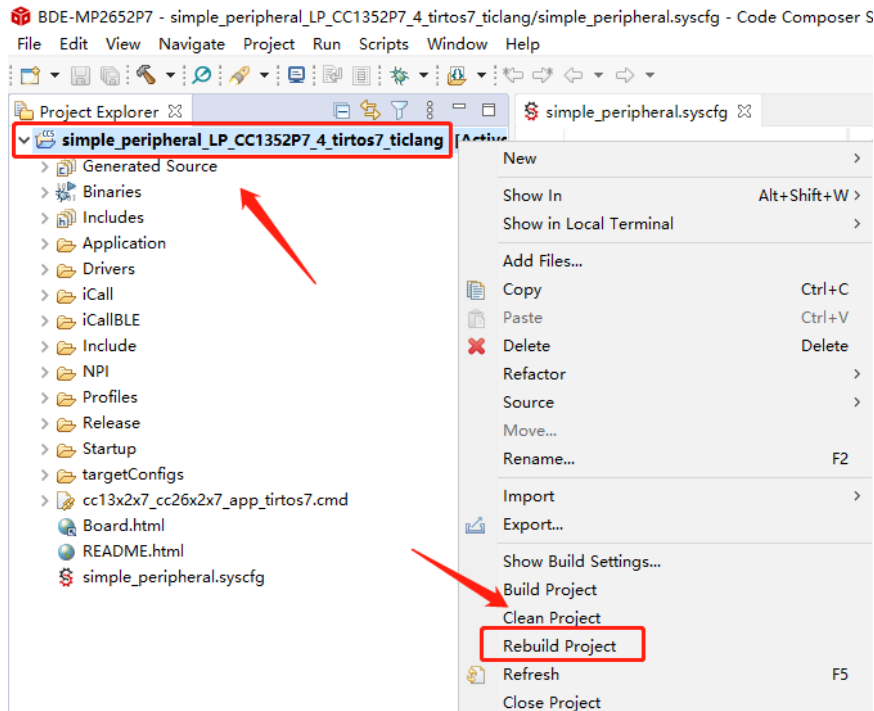
- 3. Open the file: simple_peripheral.syscfg



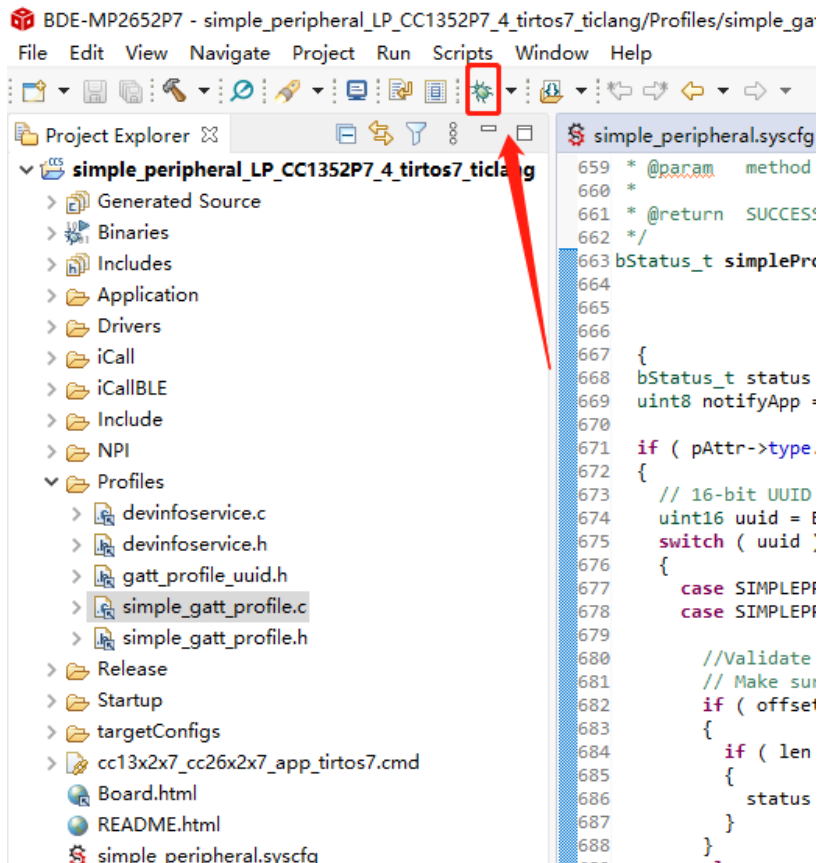
- 4. Change the "0xC1" to "0x00".



- 5. Right Click the project to build the receiving end project



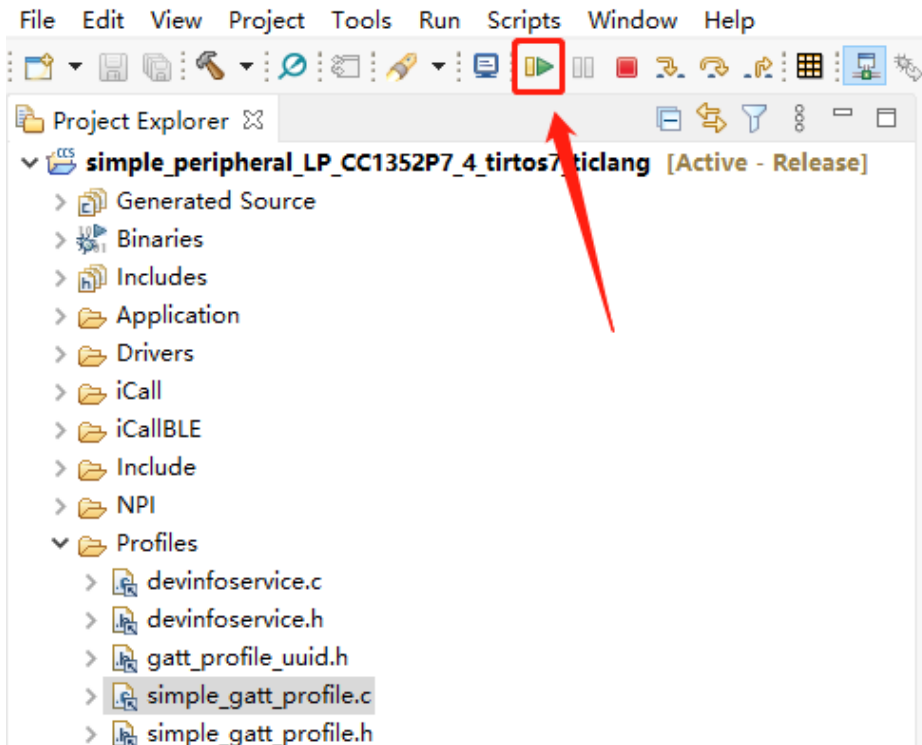
6. Click this bug icon (means download and debugging)



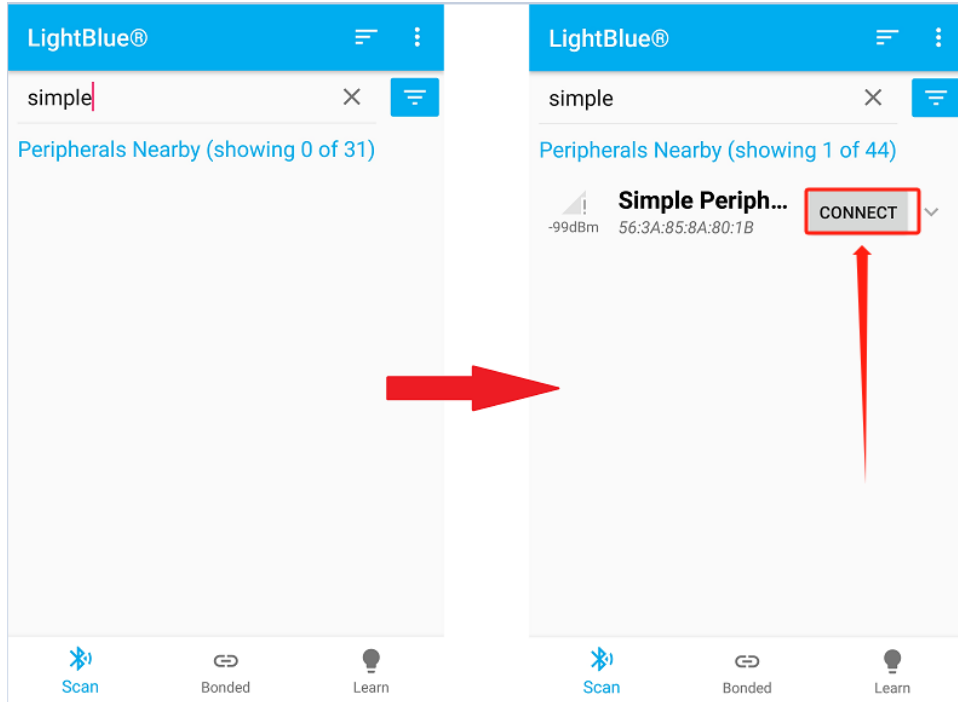
Wireless Module

7. Click on this option to start debugging

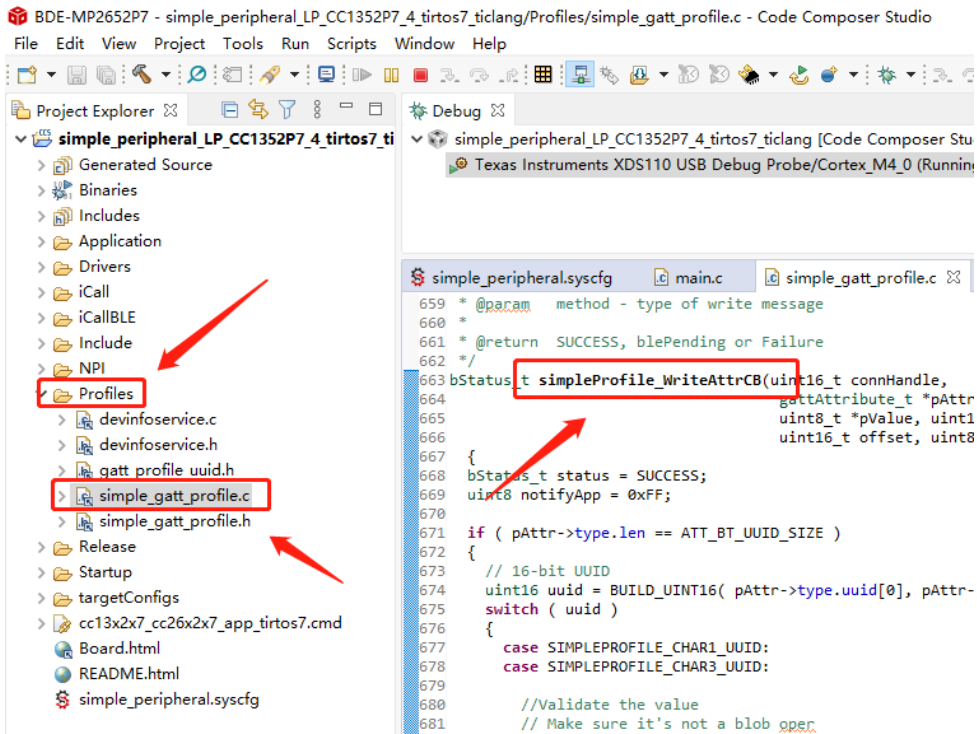
BDE-MP2652P7 - simple_peripheral_LP_CC1352P7_4_tirtos7_ticlang/Startup/main



8. [Download and start Lightblue](#) (an APP on your mobile device)
9. BDE-MP2652P7 is advertising, you can receive the signal on Lightblue, then click "connect" to connect the mobile phone and the BDE-MP2652P7.



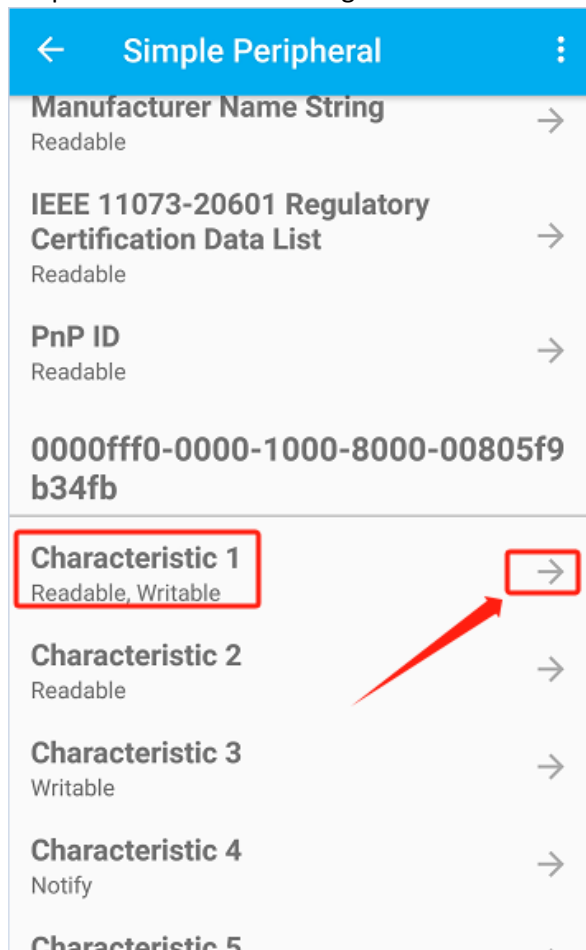
10. Find the file which is named “simple_gatt_profile.c” and the function which is named “simpleProfile_WriteAttrCB”



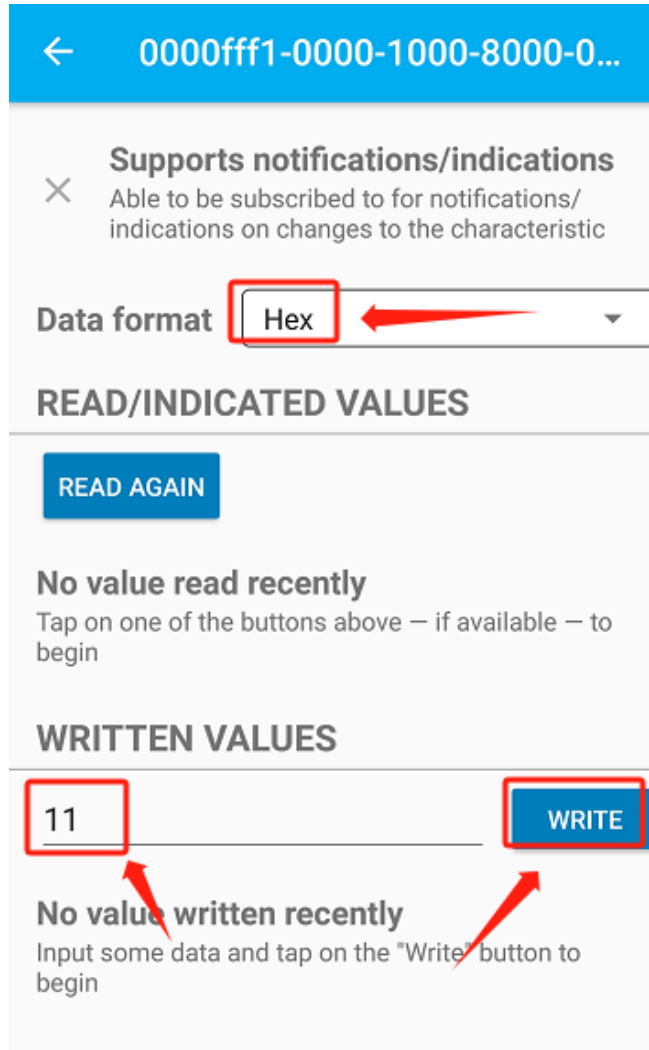
11. Find “pValue” in the function and set a breakpoint at the same line

```
simple_peripheral.syscfg | main.c | simple_gatt_profile.c ✕
692     }
693
694     //Write the value
695     if ( status == SUCCESS )
696     {
697         uint8 *pCurValue = (uint8 *)pAttr->pValue;
698         *pCurValue = pValue[0];
699
700         if( pAttr->pValue == &simpleProfileChar1 )
701         {
702             notifyApp = SIMPLEPROFILE_CHAR1;
703         }
704         else
705         {
706             notifyApp = SIMPLEPROFILE_CHAR3;
707         }
708     }
709
710     . . .
```

12. Click the up arrow to send a message to the BDE-MP2652P7

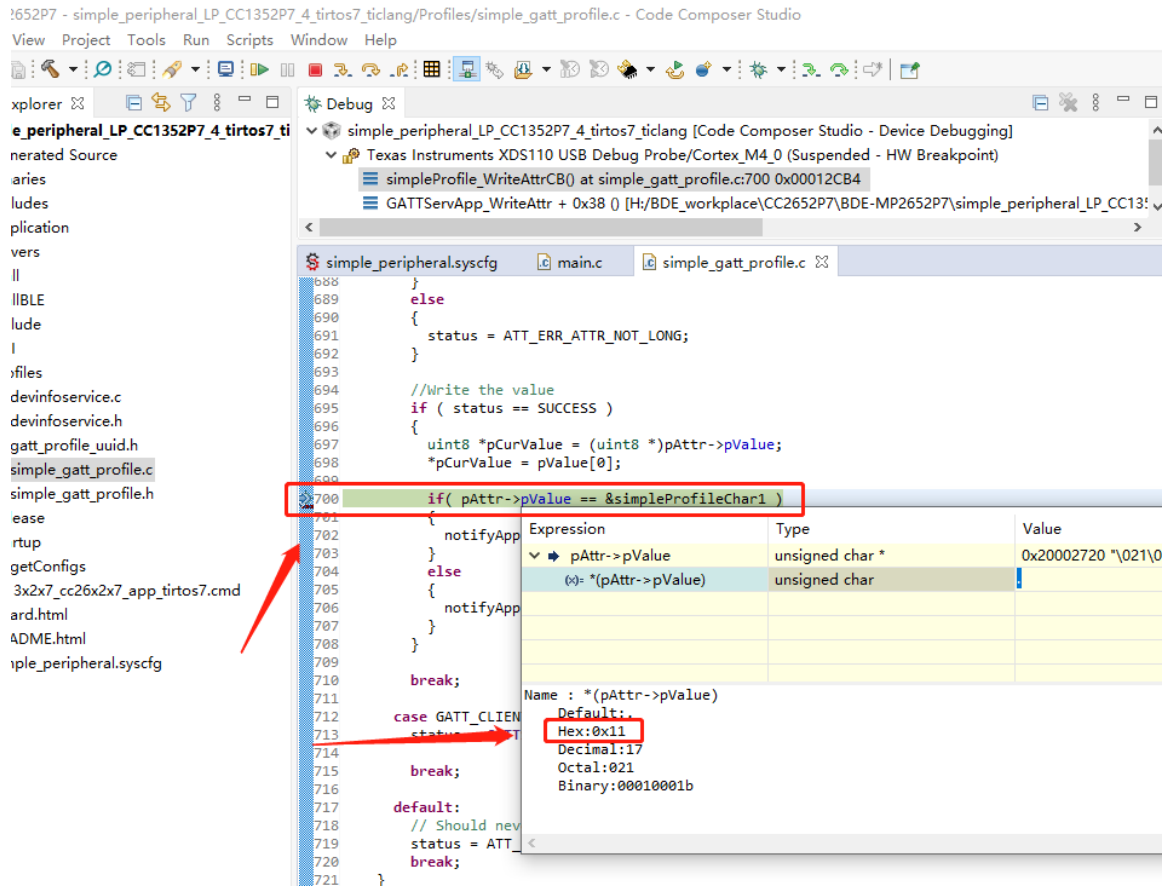


13. Send 0x11 to the BDE-MP2652P7



14. The program stops at the breakpoint, the value received is 0x11

Wireless Module



By far you should've built your first application successfully.

For further development, please check out the [CC2652P7 datasheet, product information and support | TI.com page](#) and [download the User guide](#)

Other Resources

[Windows Installer for SimpleLink CC13XX CC26XX SDK](#)

[Linux Installer for SimpleLink CC13XX CC26XX SDK](#)

[Mac OS Installer for Code Composer Studio IDE](#)

[Linux Installer for Code Composer Studio IDE](#)

[Windows Installer for SmartRF Flash Programmer 2](#)

More Questions:

Please search existing answers on [TI E2E support forums](#)

Wireless Module

Contact your local TI sales representative.

Or

Contact BDE Technology, Inc.

China:

B2-403, 162 Science Ave, Huangpu District, Guangzhou, 510663

Tel: +86-020-28065335

Website: <http://www.bdecomm.com/cn/> Email: shu@bdecomm.com

USA:

67 E Madison St, #1603A, Chicago, IL 60603

Tel: +1-312-379-9589

Website: <http://www.bdecomm.com/> Email: info@bdecomm.com