



BDE Technology Inc BDE-MP2652P7 Wireless Module User Guide

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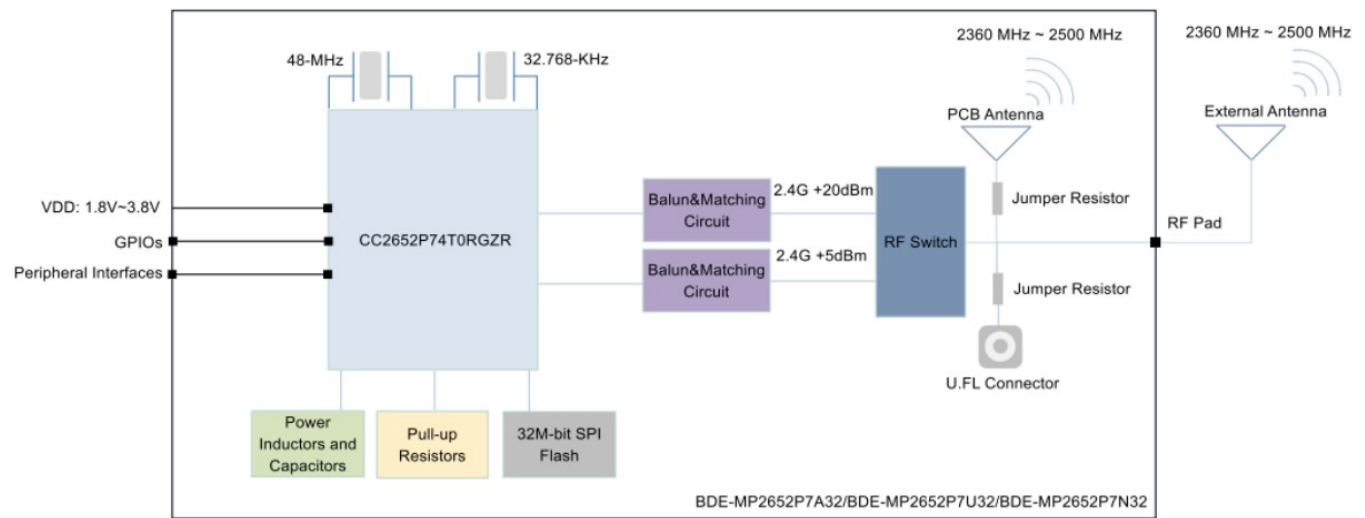
BDE-MP2652P7 USER GUIDE
Wireless Module
User Guide
BDE-MP2652P7 USER GUIDE

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 BDEMP2652P7 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

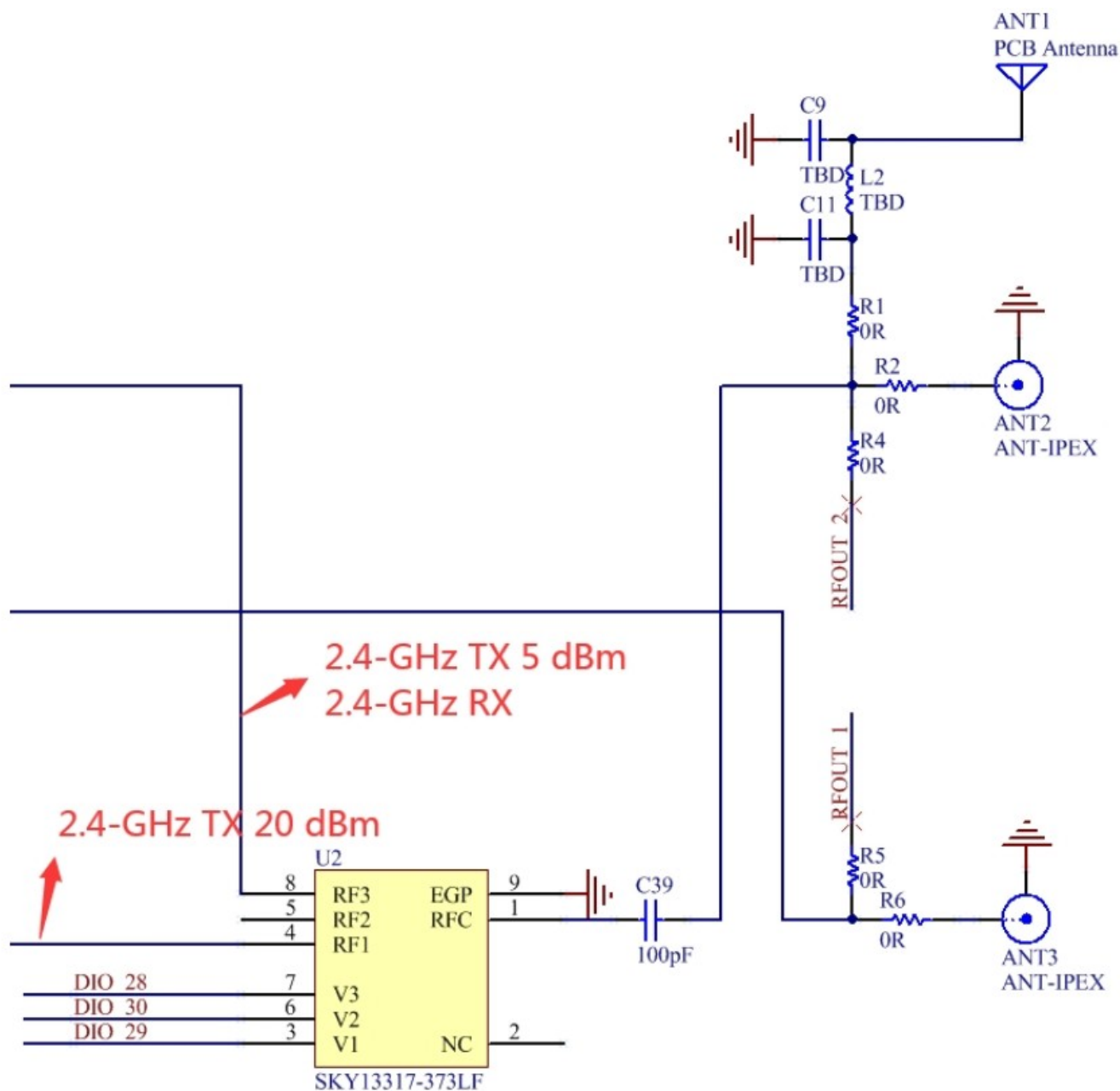
Low Insertion Loss Path	V1 (Pin 3)	V2 (Pin 6)	V3 (Pin 7)
RFC to RF1	High	Low	Low
RFC to RF2	Low	High	Low
RFC to RF3	Low	Low	High

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.

Wireless Module



Get Ready

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

Hardware tools:

- BDE-MP2652P7 BDE-MP2652P7-BDE Technology Inc. (bdecomm.com)
- Two BDE-ADP208 V1.0 (adaptor board)
- PC or Laptop
- A BDE-EVB07 (BDE-EVB07-BDE Technology Inc. (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)
- nRF Connect

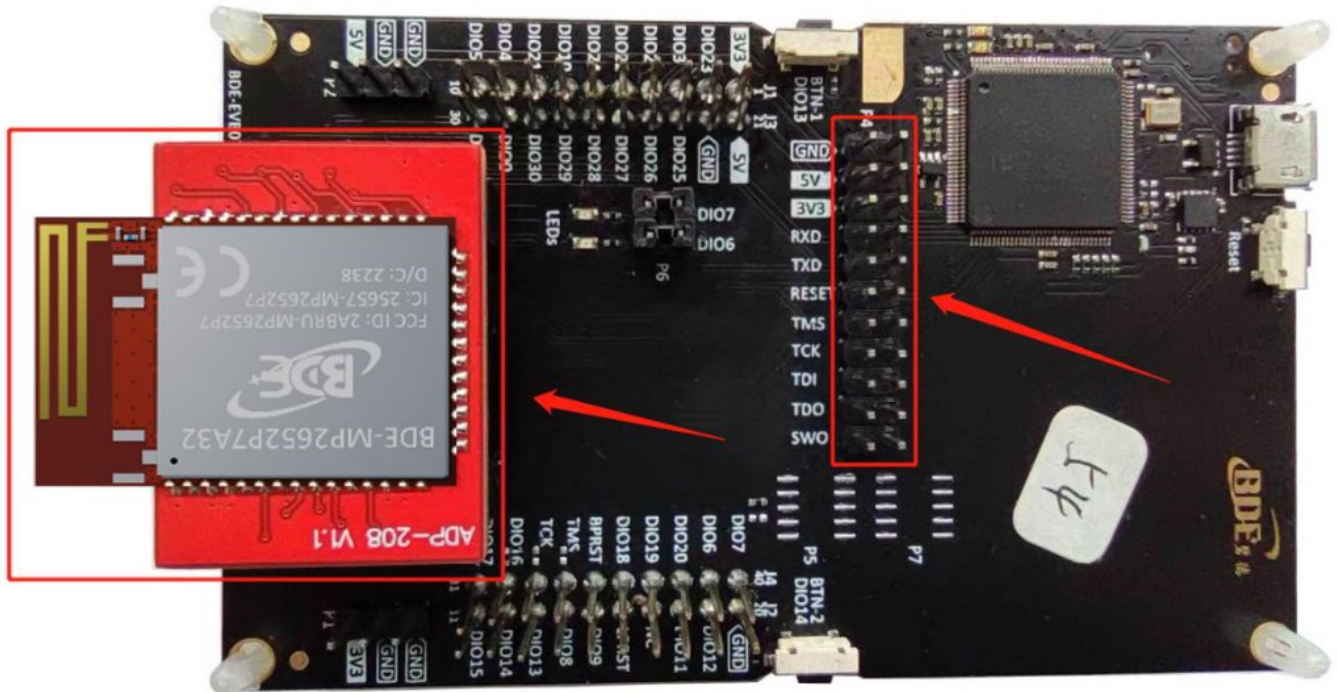
Build Your First Application

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.



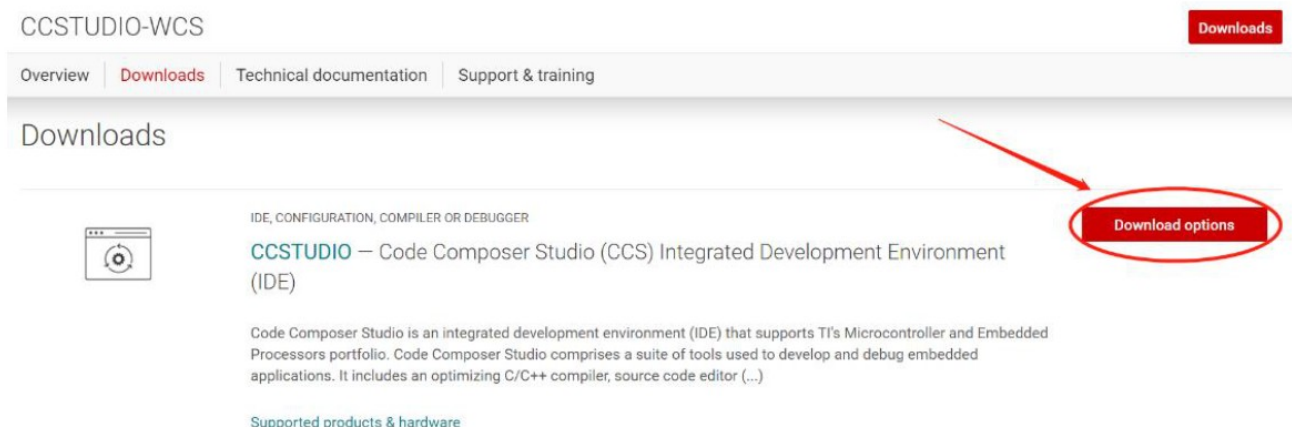
B. Build the Application

- 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

1. Click on this option



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 \(24595266 KB\)](#)

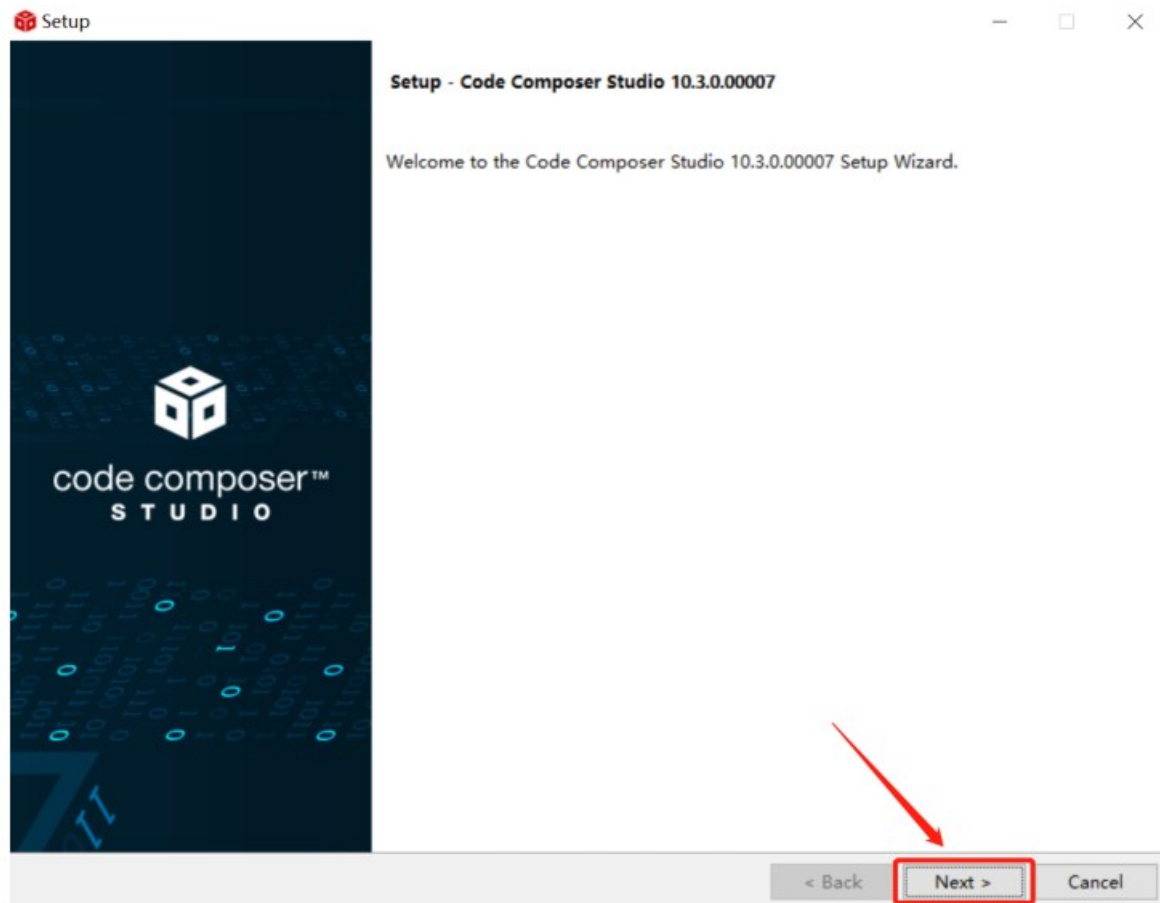
3. Unzip the package to a local disc

	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

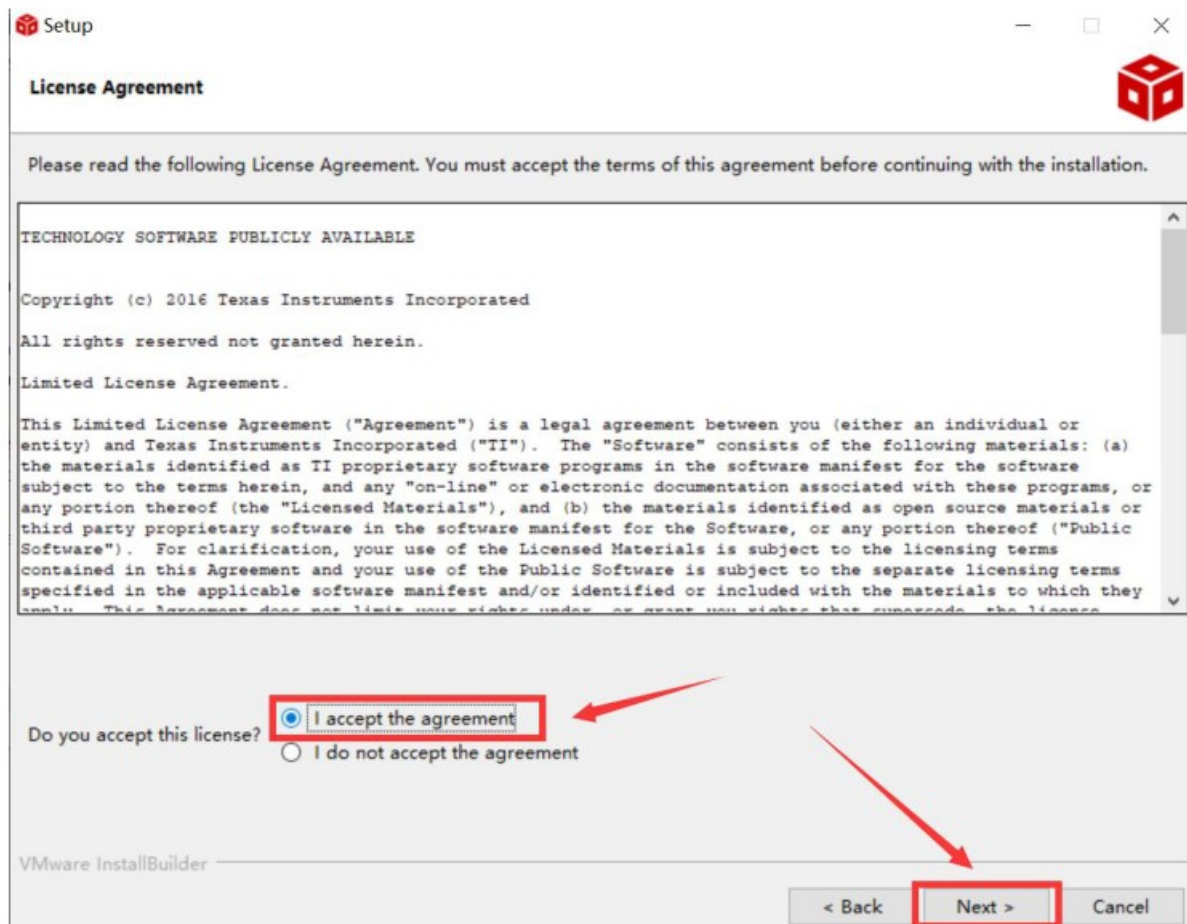
4. Click the setup of CCS

	binary	2021/3/29 21:38
	CCS10.3.0.00007_win64	2021/4/19 11:23
	components	2021/3/29 21:38
	features	2021/3/29 21:38
	artifacts.jar	2021/3/29 21:38
	ccs_setup_10.3.0.00007.exe	2021/3/29 21:37
	content.jar	2021/3/29 21:38
	README_FIRST_win64.txt	2021/3/29 21:38
	timestamp.txt	2021/3/29 21:38

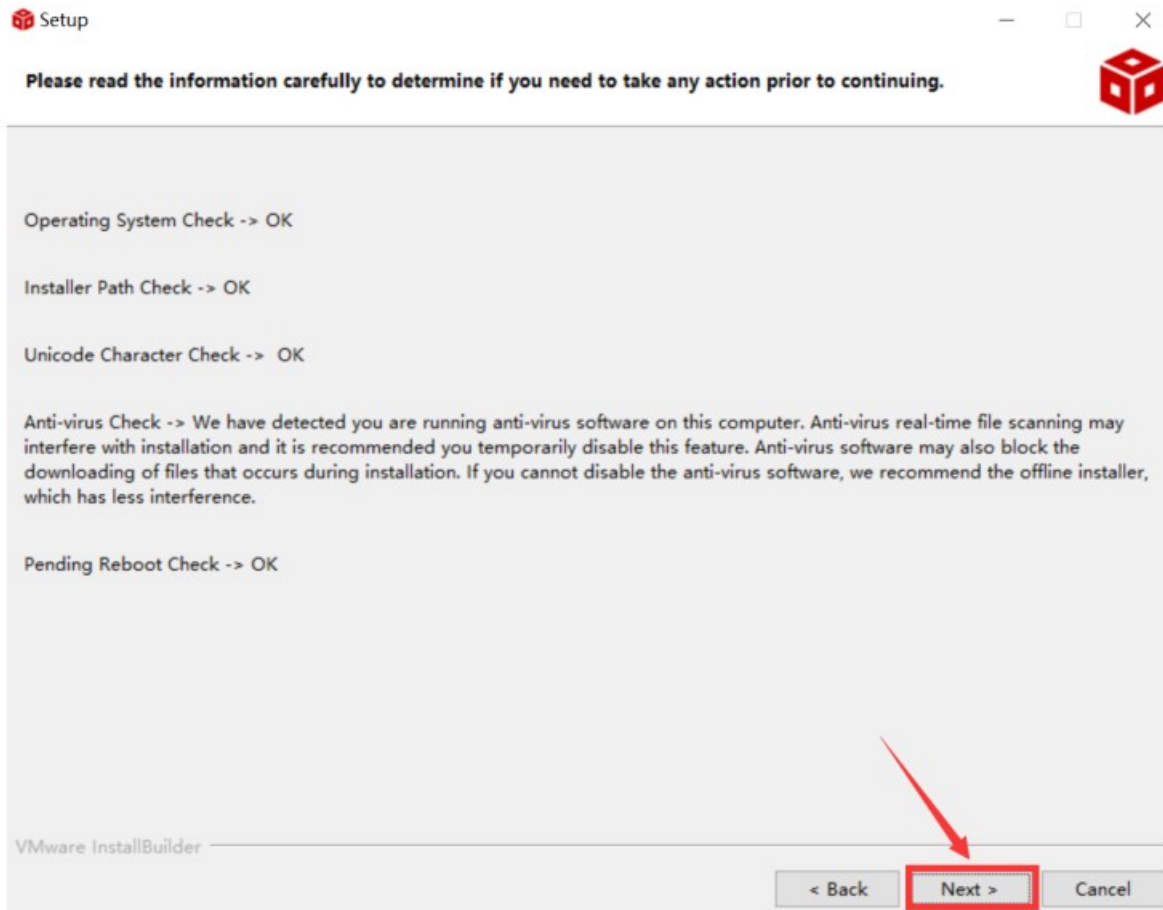
5. Click "Next"



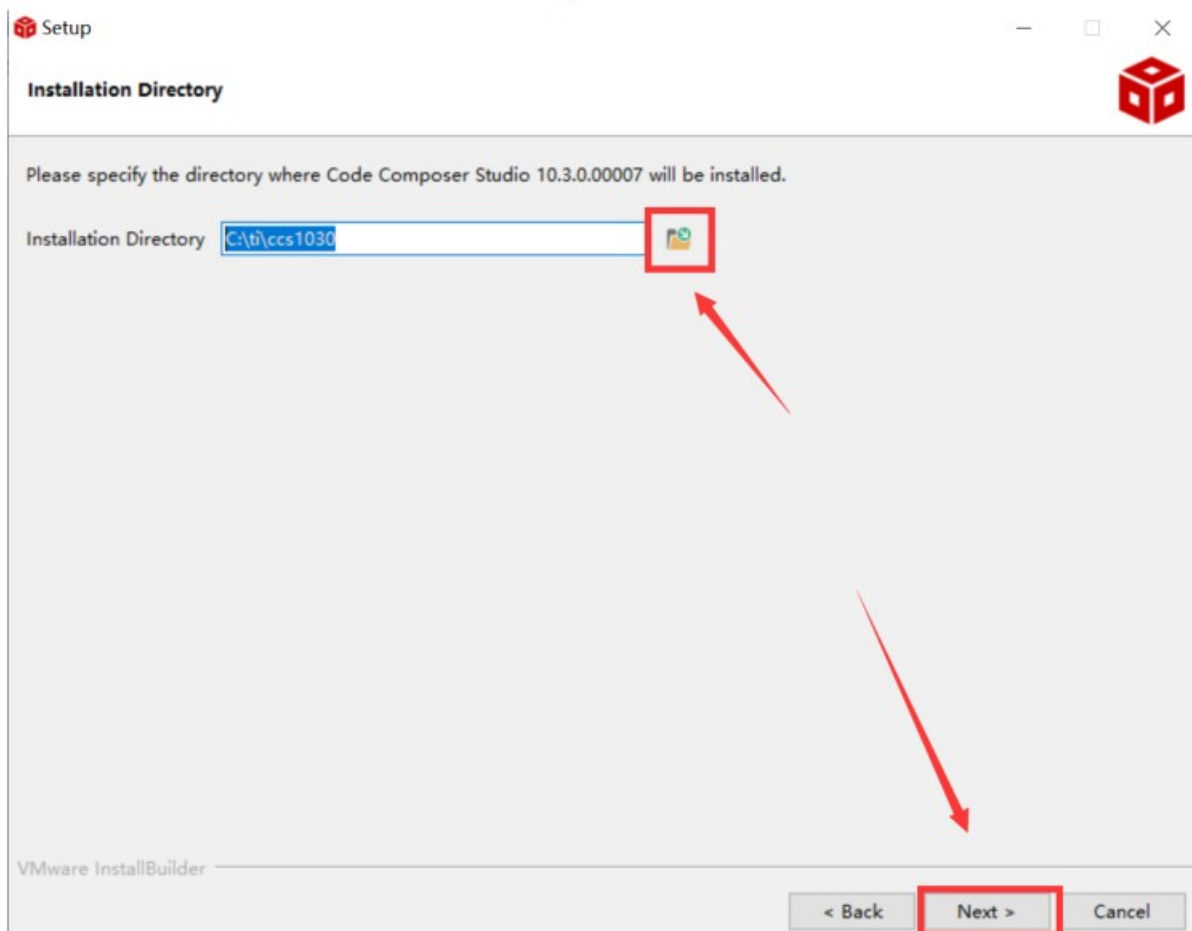
6. Select the default option



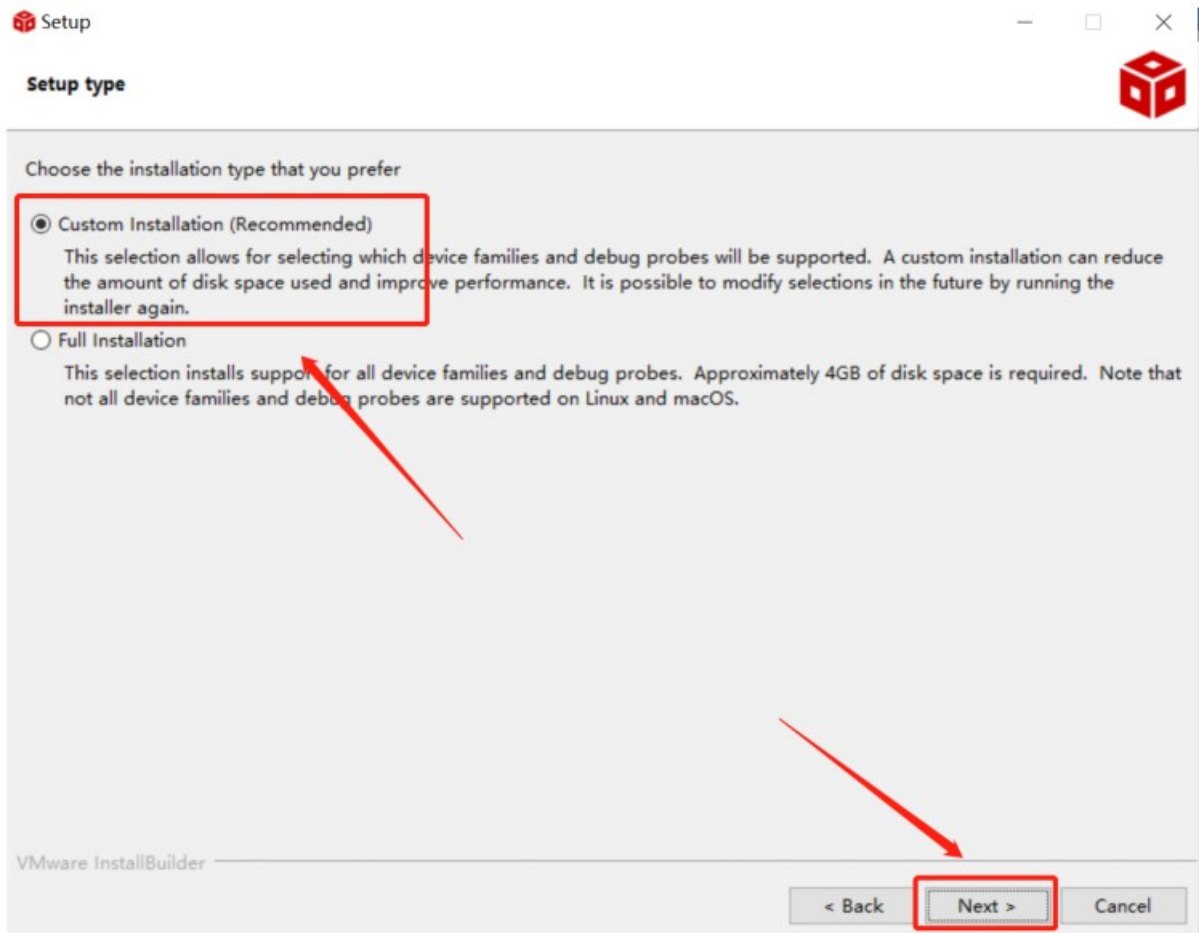
7. Click "Next"



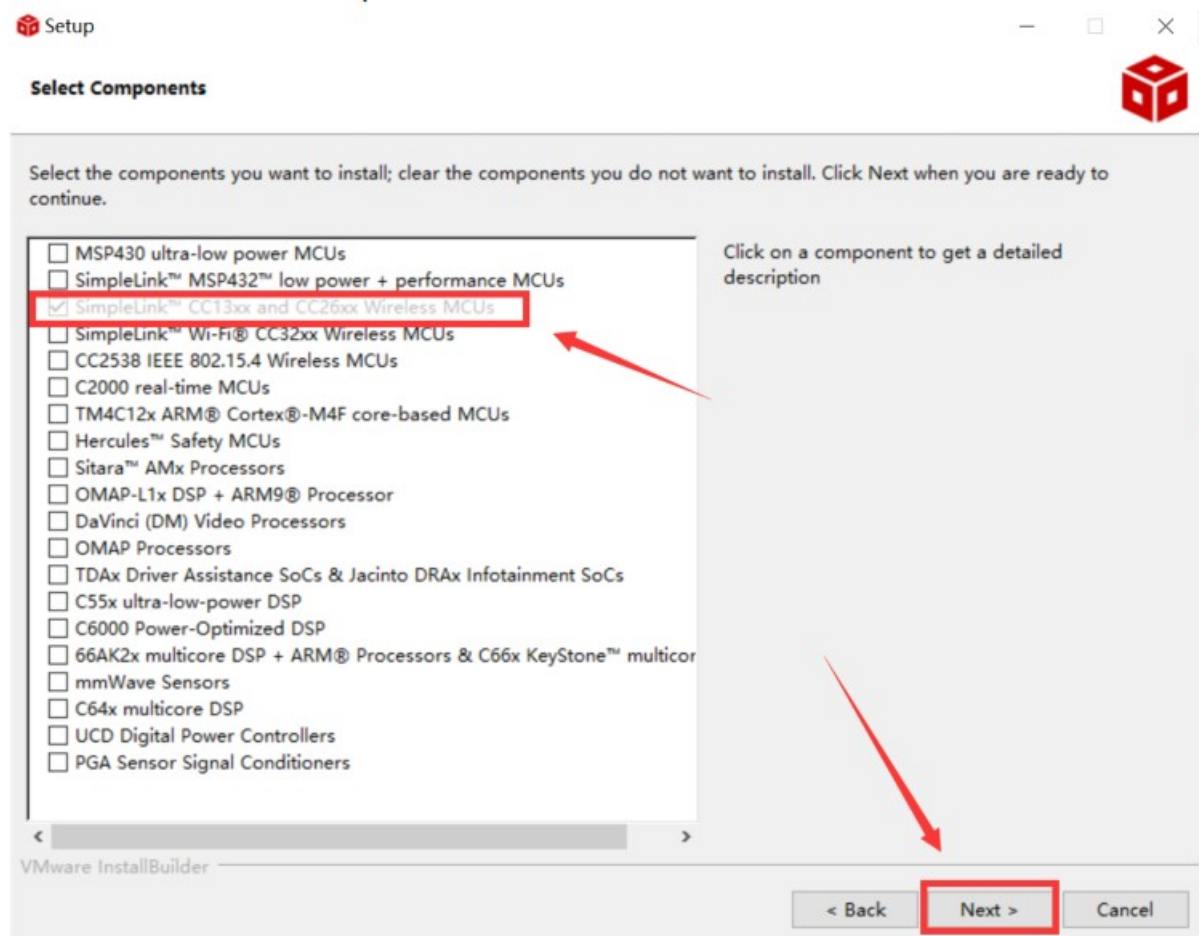
8. Select the Installation Directory



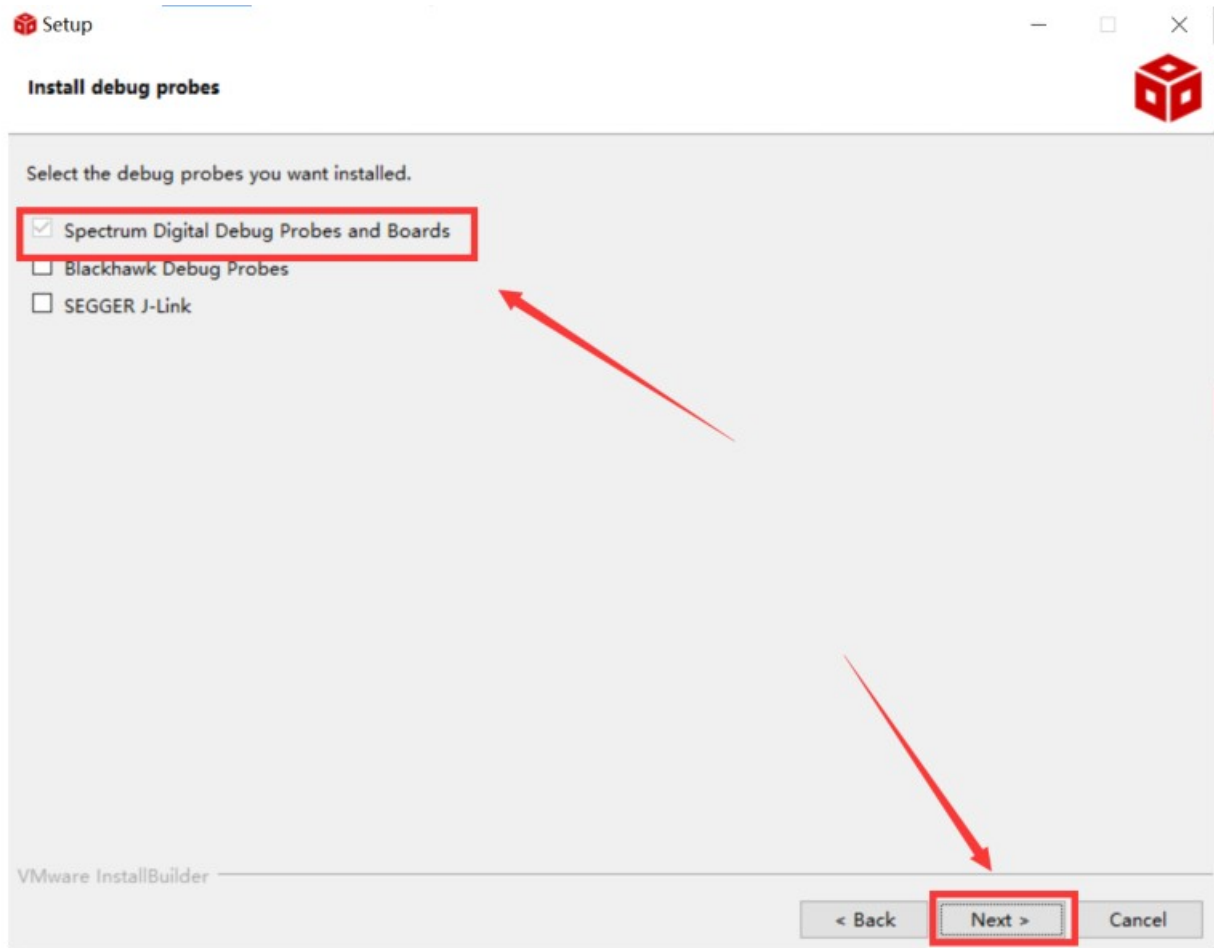
9. Select the default option



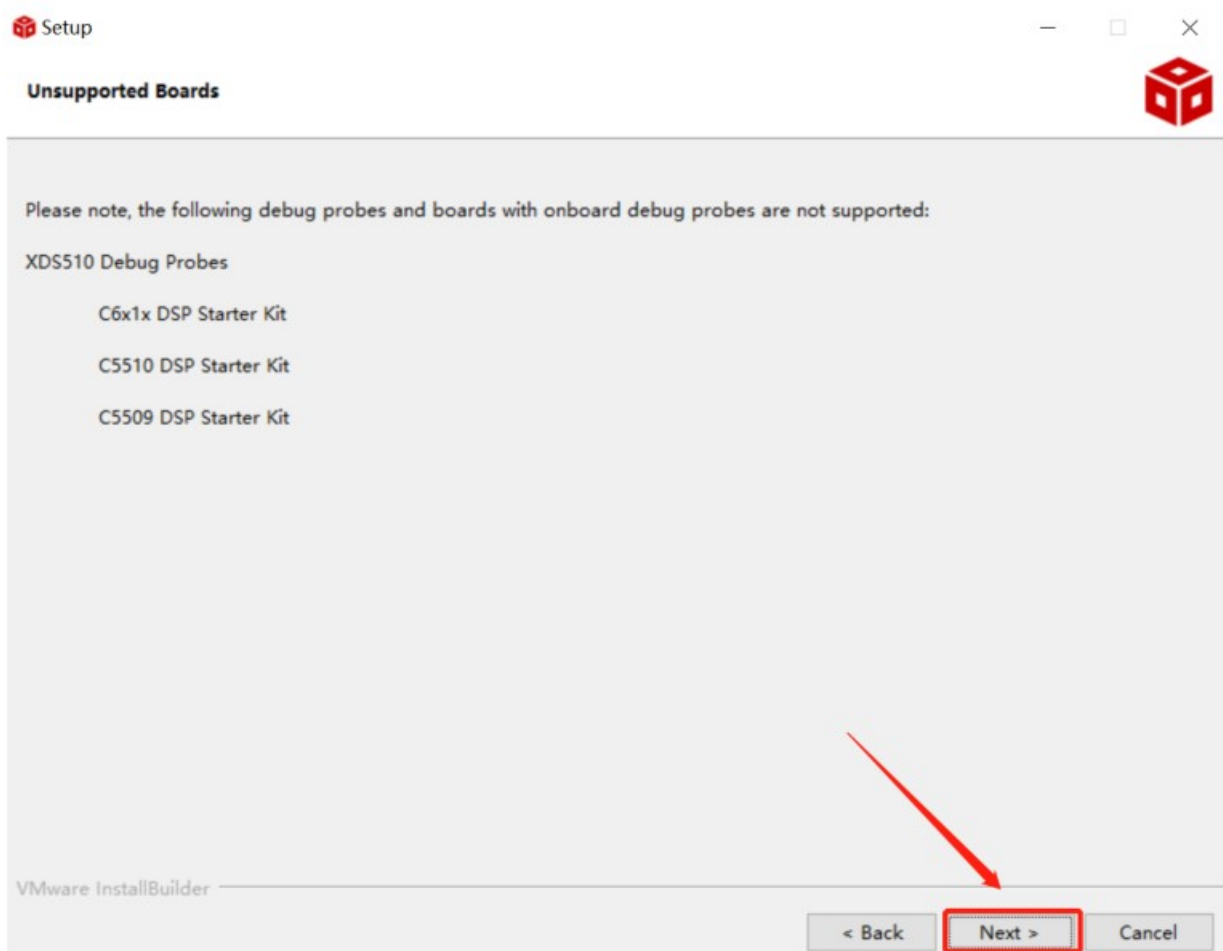
10. Select the component



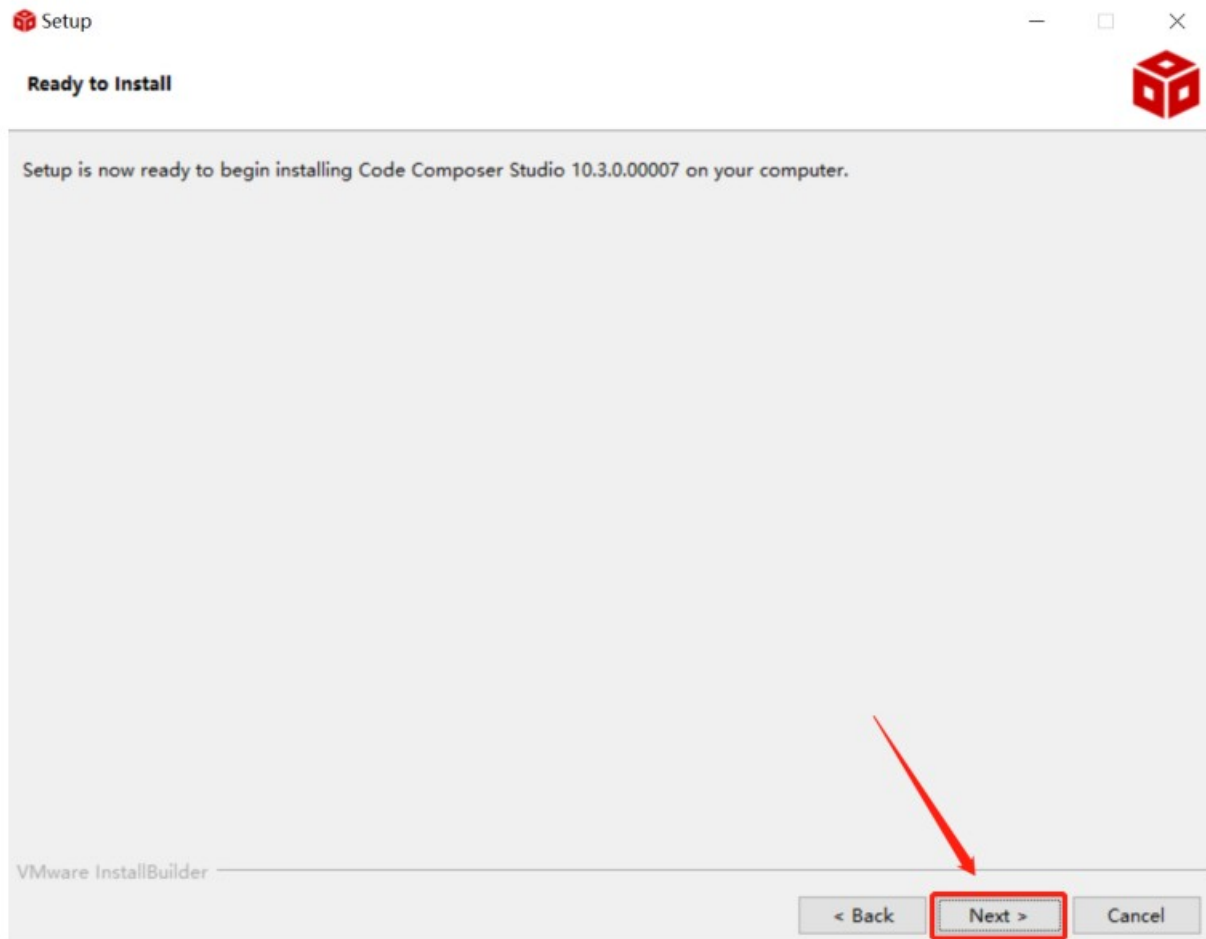
11. Select the default option



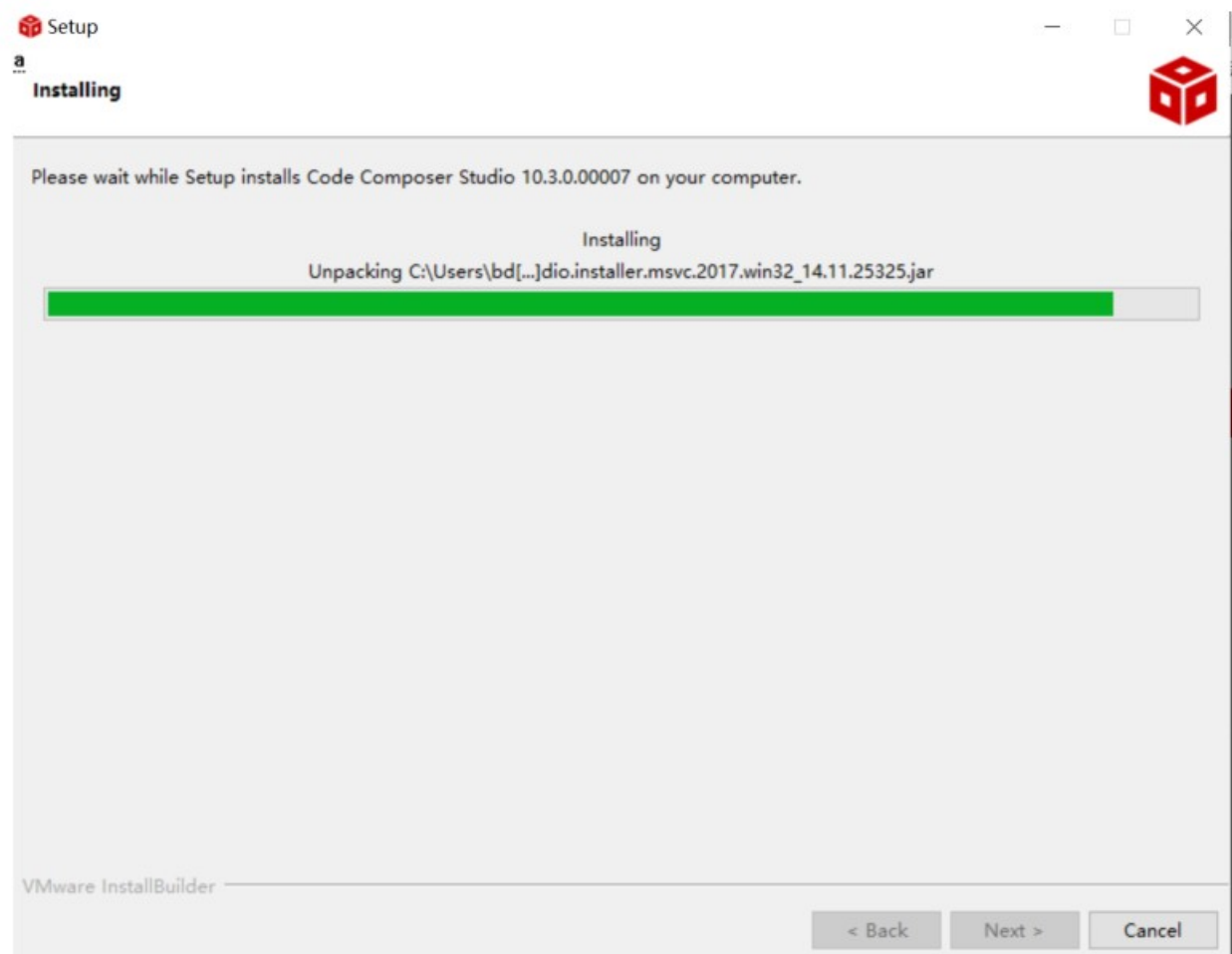
12. Click "Next"



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



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

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 ef17961f4f6605ff827887e9df26990d 

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

[Forgot your password?](#)

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

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

ort

II

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 ☐

Submit

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.

Download

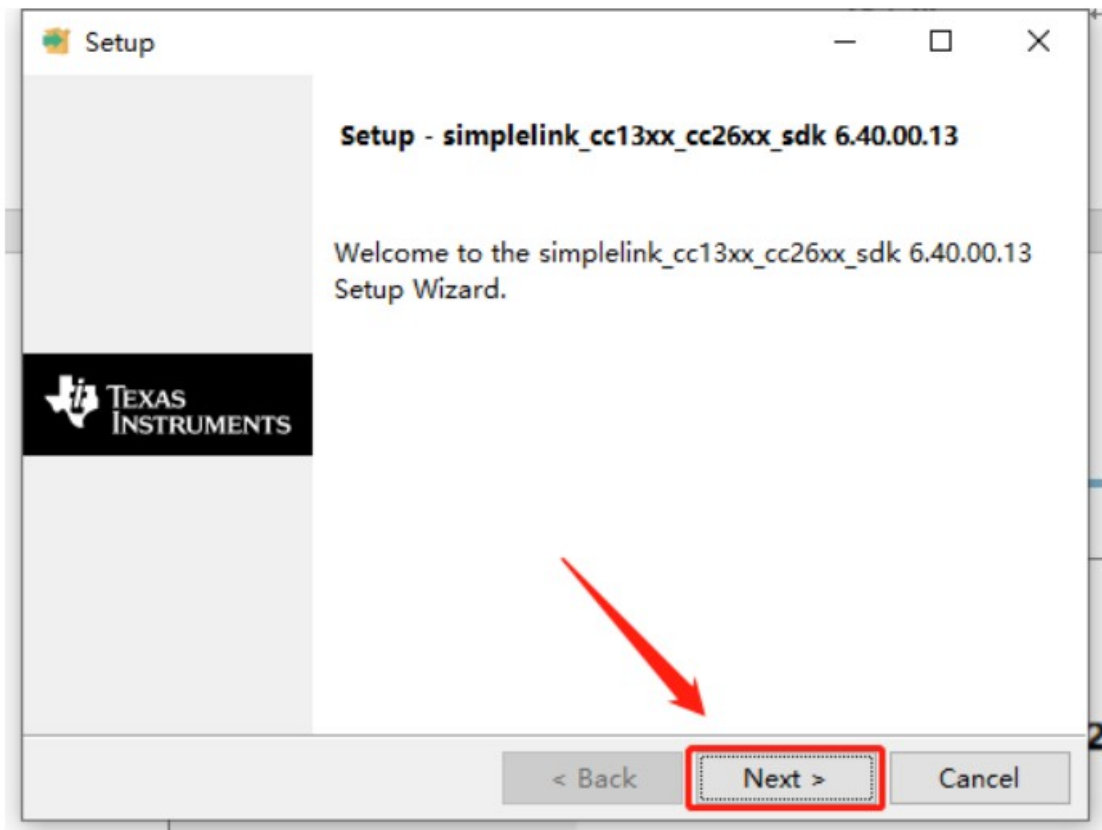
Having trouble downloading? Try

Thank you,
Texas Instruments

7. Installation

 tirtos_cc32xx_setupwin32_2_16_01_14

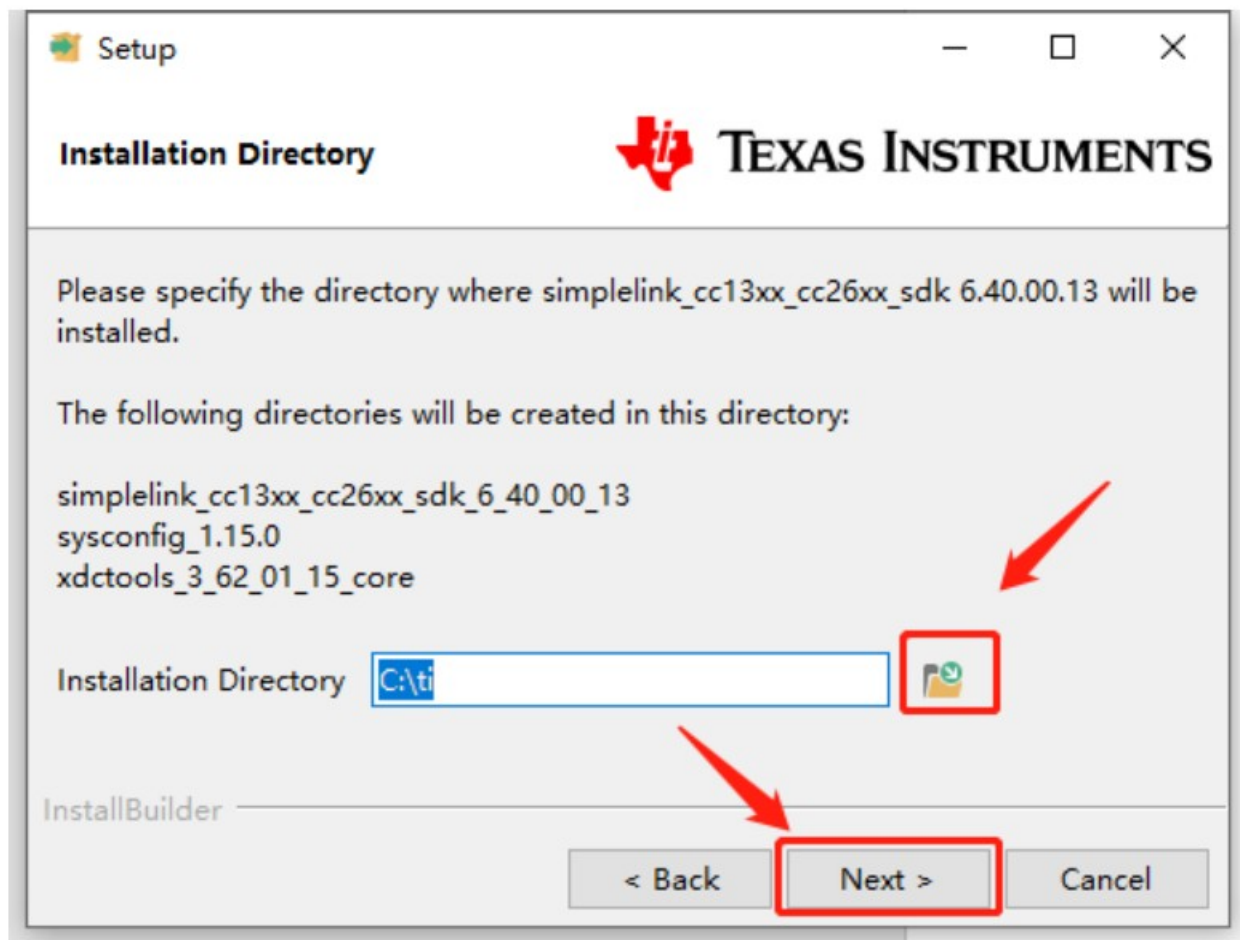
8. Click "Next"



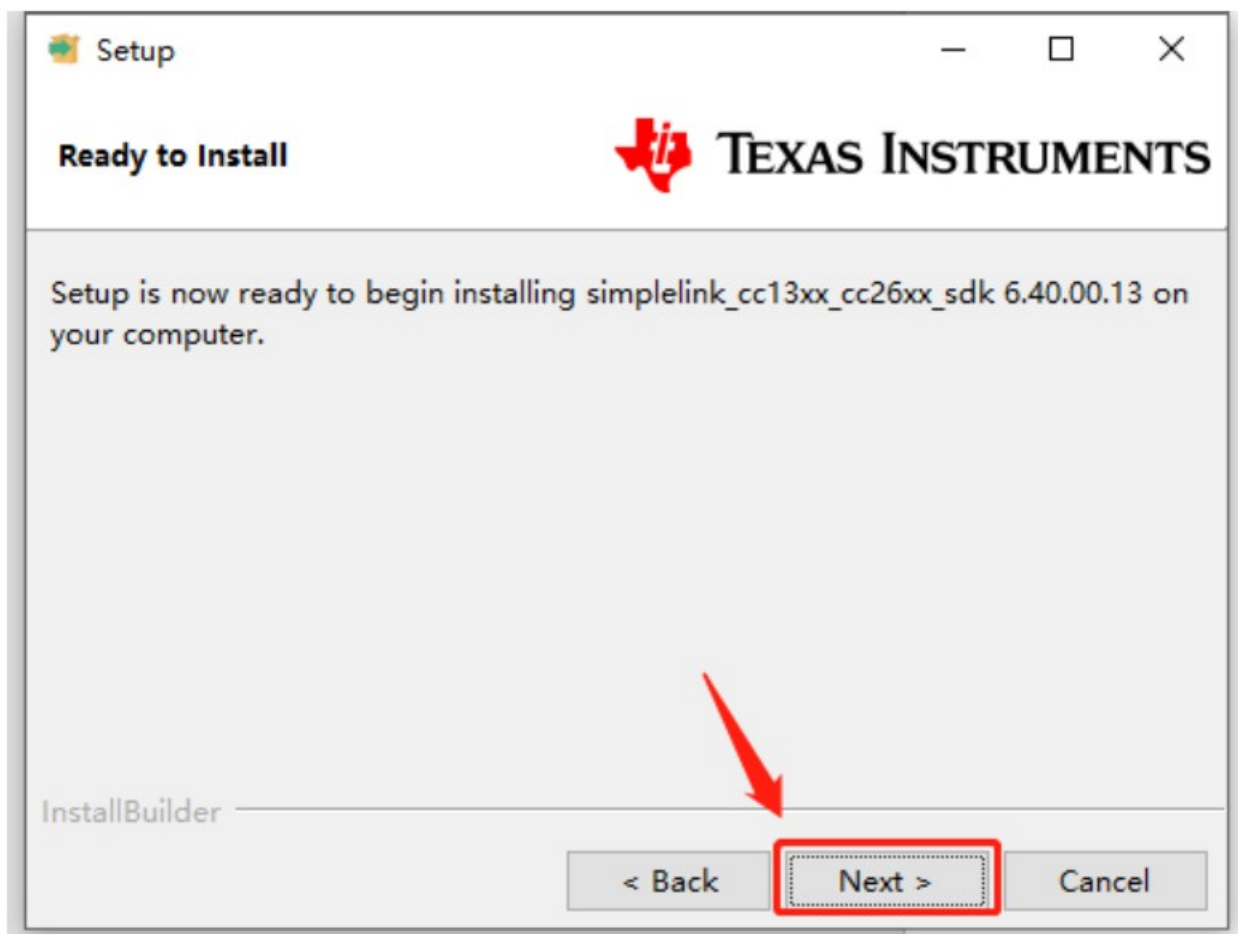
9. Select the default option



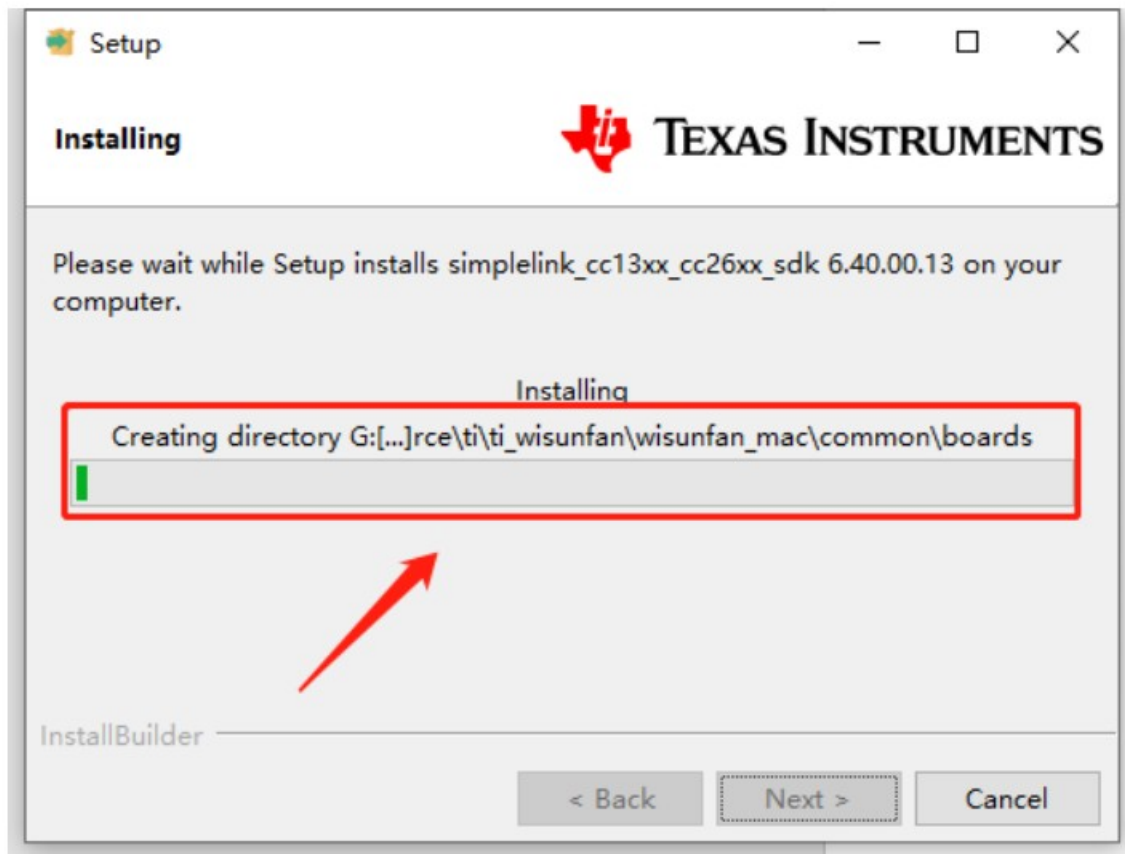
10. Select the Installation directory



11. Click "Next"

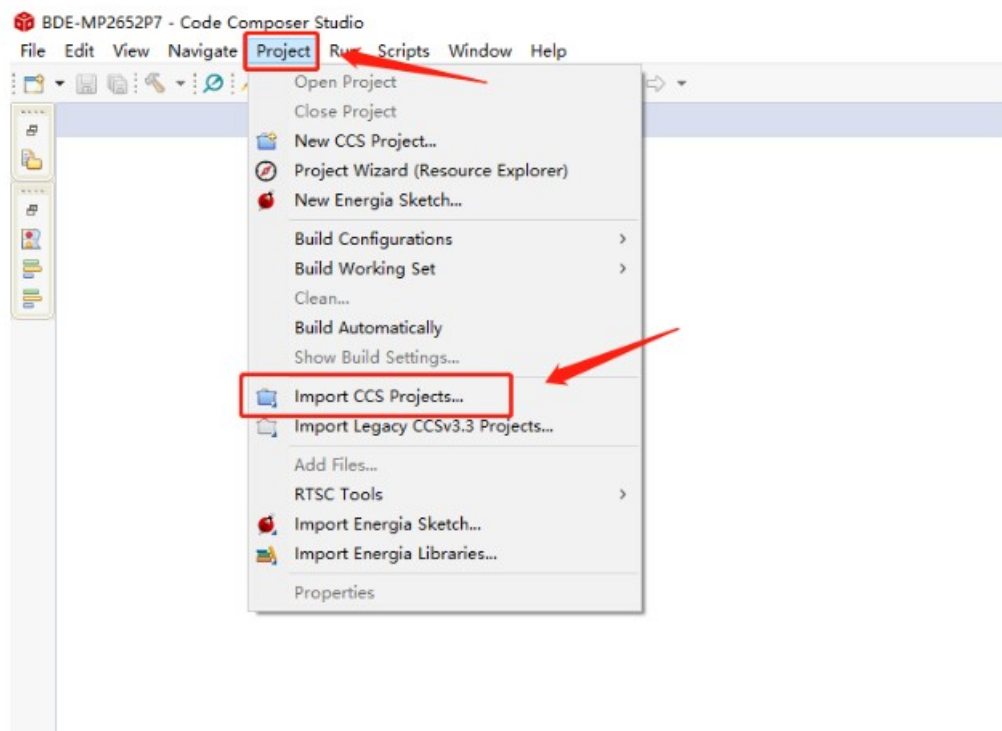


12. Waiting for installation to complete



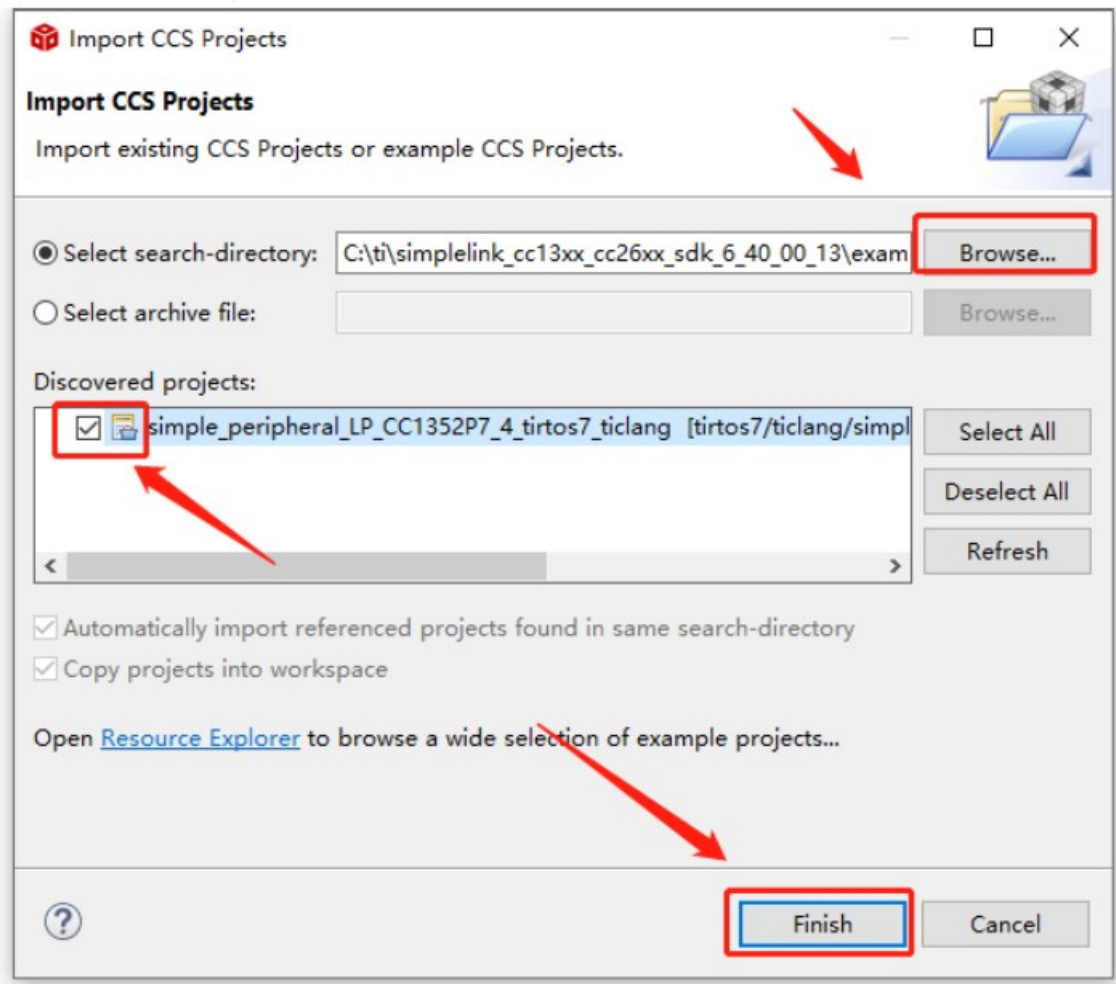
Run an example/demo code

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

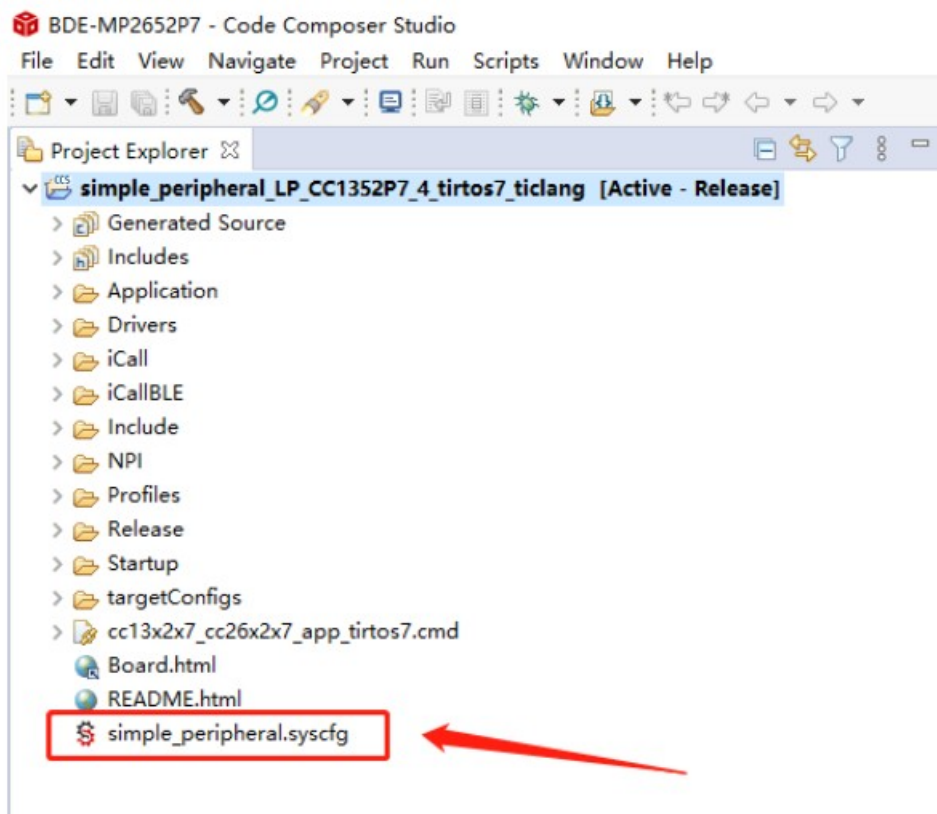


2. According to the following path to find the sending end project:

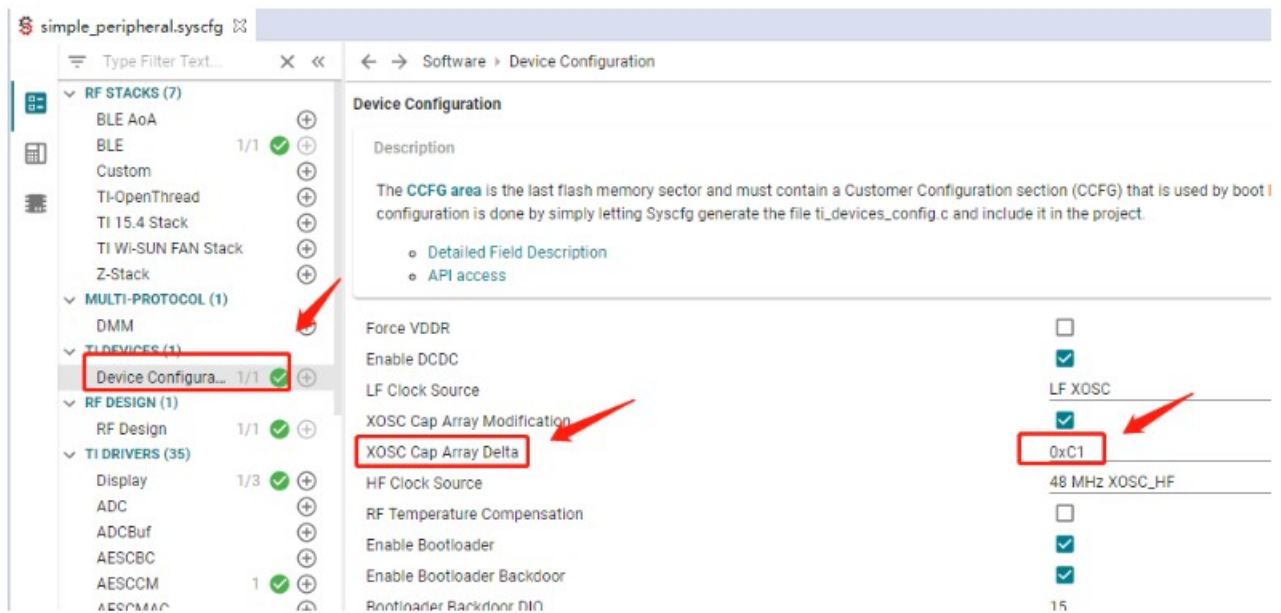
ti\simplelink_cc13xx_cc26xx_sdk_6_40_00_13\examples\rtos\LP_CC135 2P7_4\ble5stack\simple_peripheral
(Since TI does not have a dedicated SDK for CC2652P7, we use LP_CC1352P7_4 instead, which can also run normally on CC2652P7 devices)



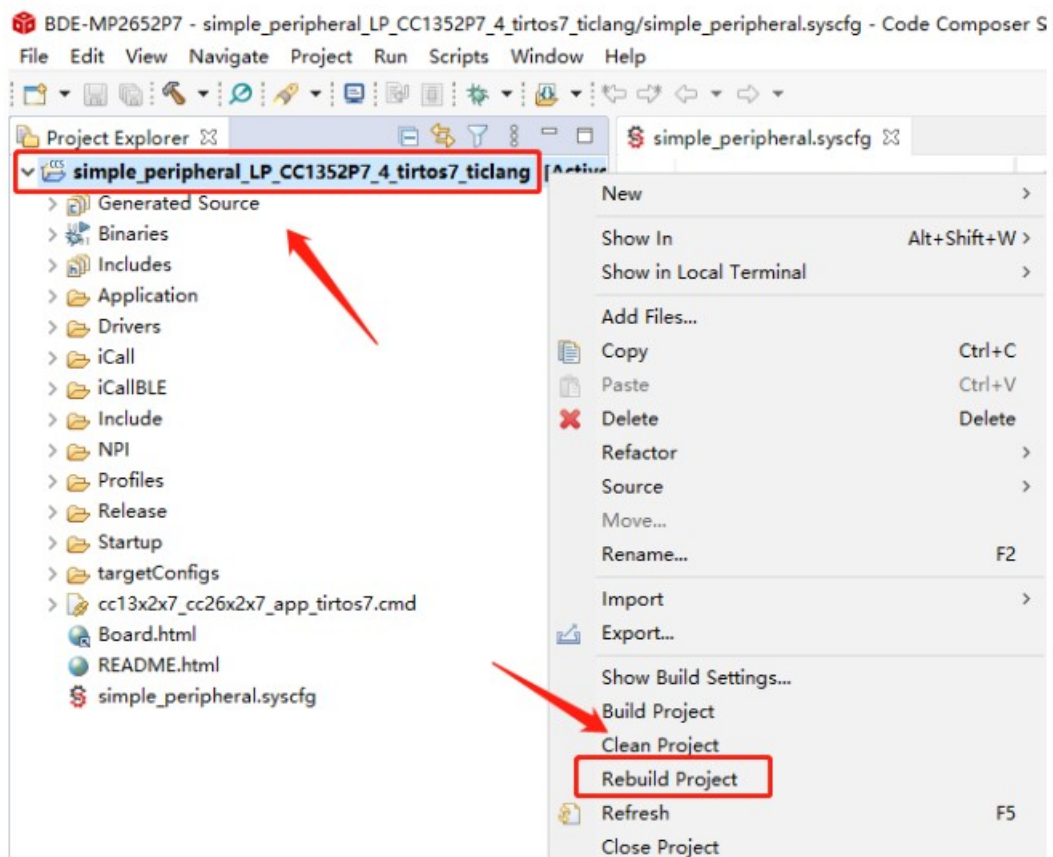
3. Open the file: simple_peripheral.syscfg



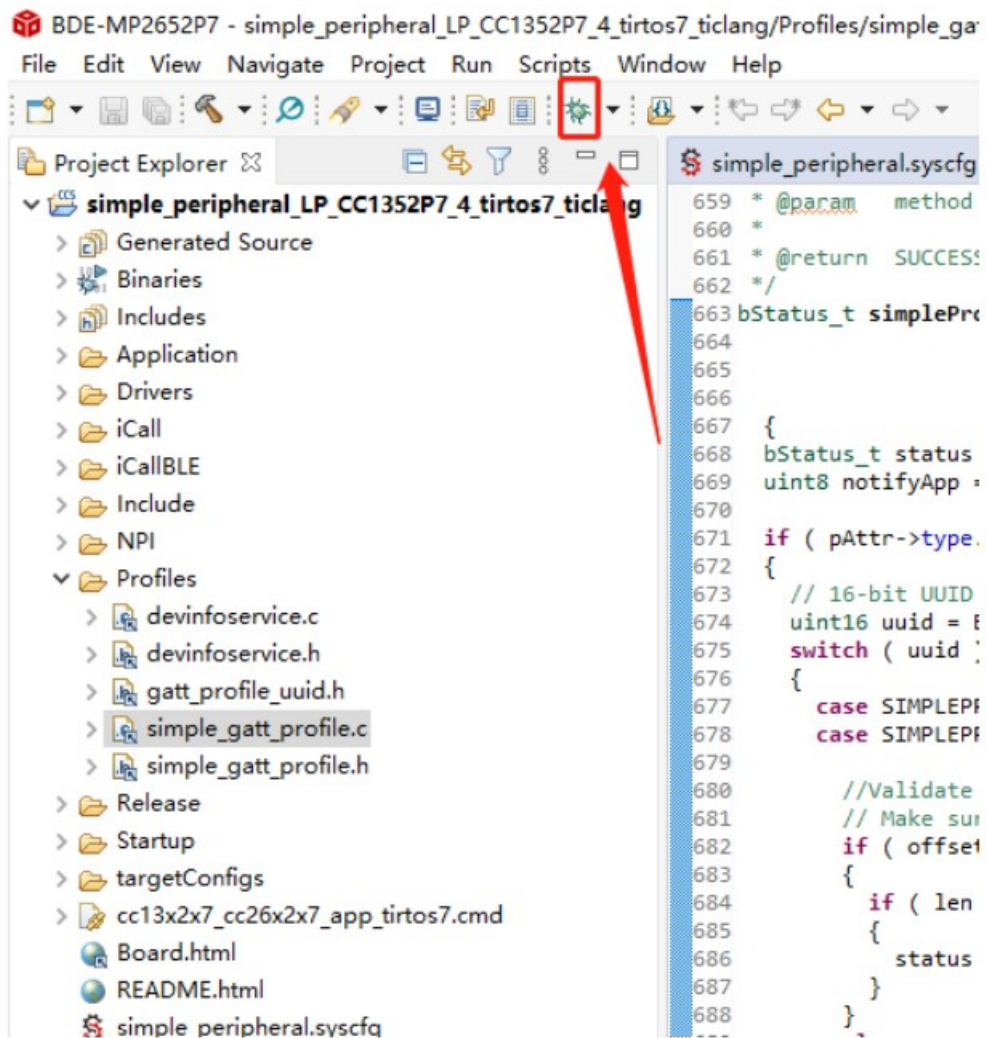
4. Chang the "0xC1" to "0x00".



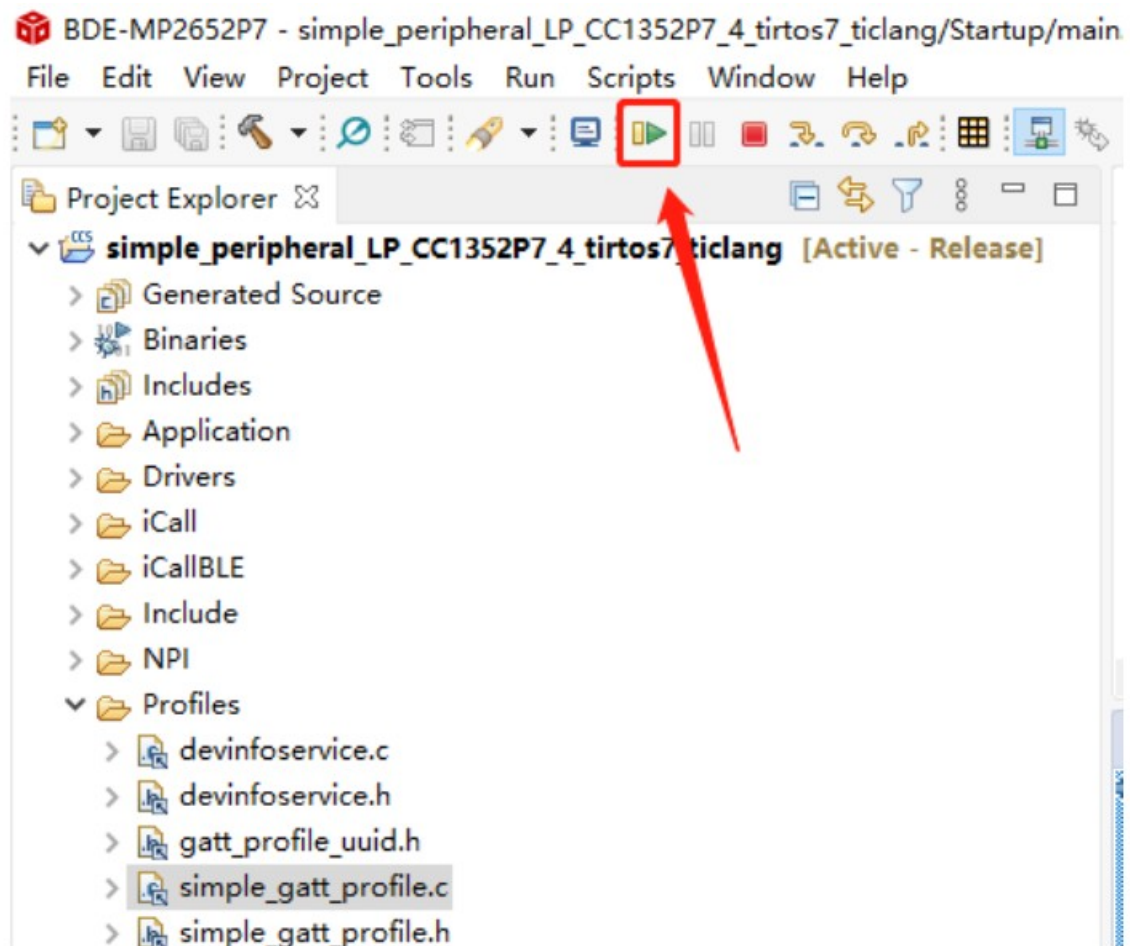
5. Right Click the project to build the receiving end project



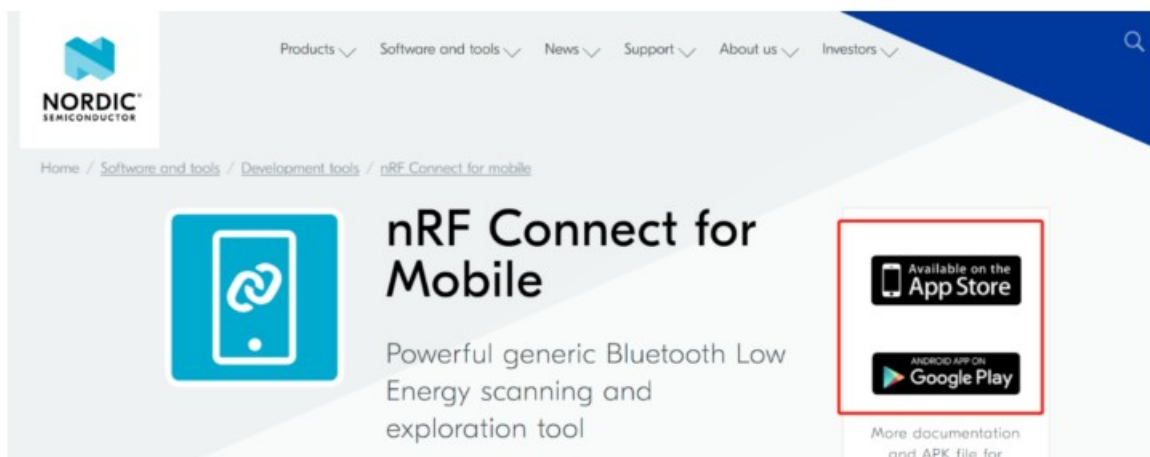
6. Click this bug icon (means download and debugging)



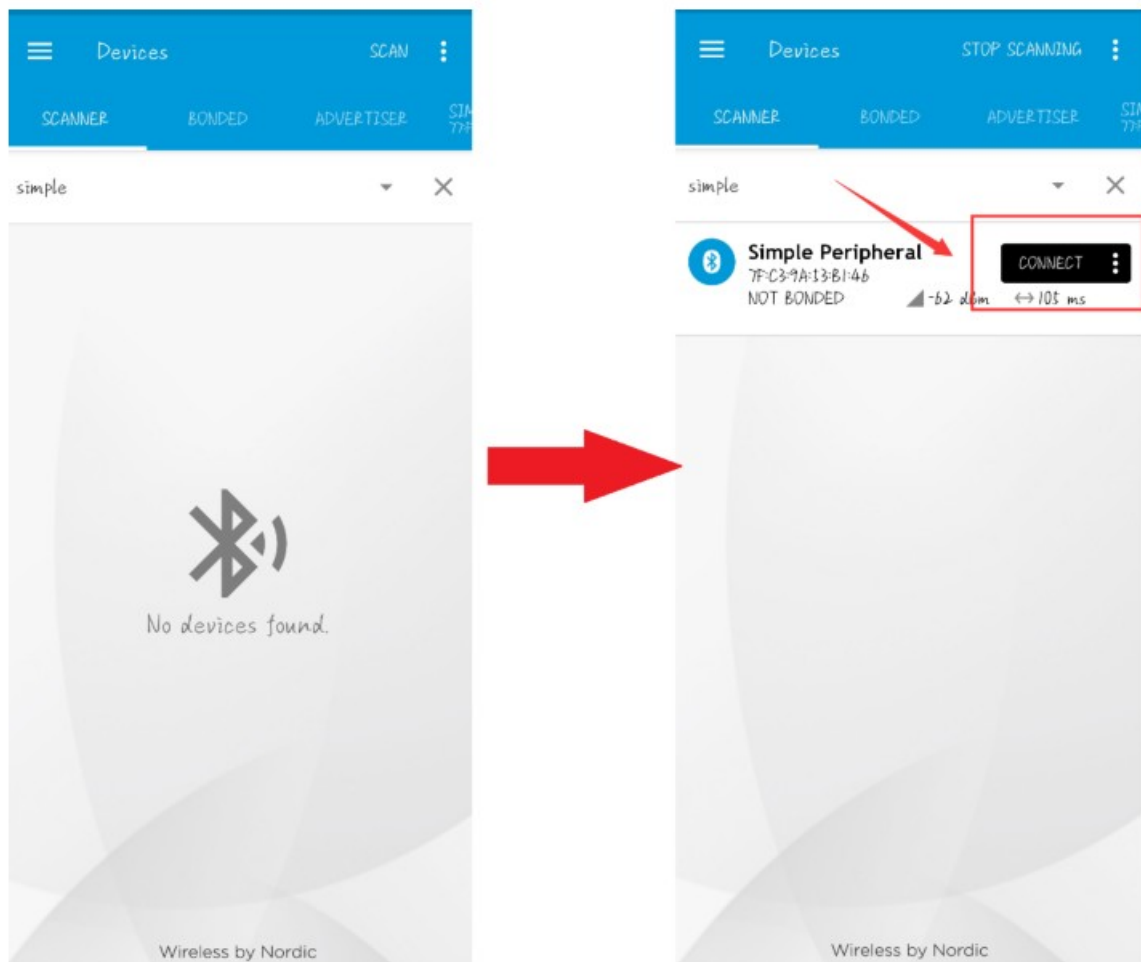
7. Click on this option to start debugging



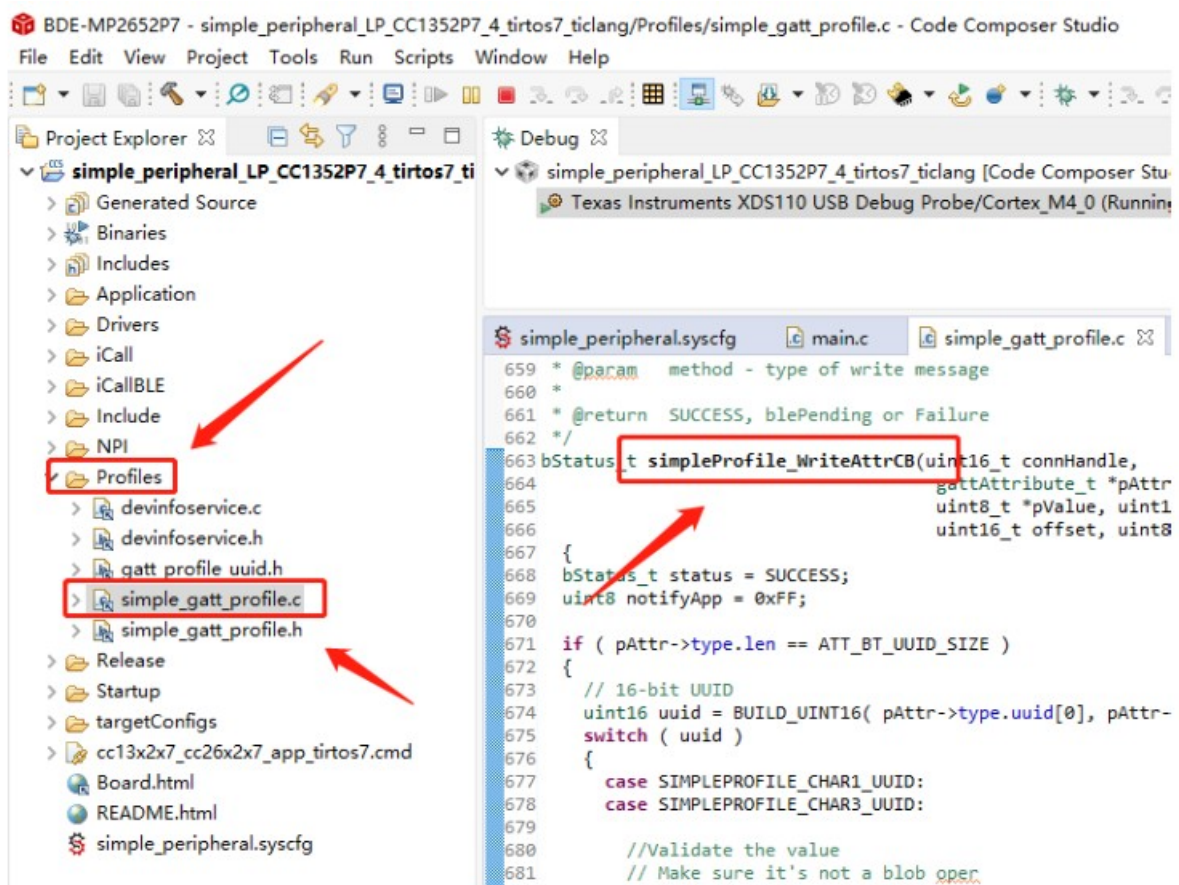
8. Download and start nRF Connect (an APP on your mobile device)



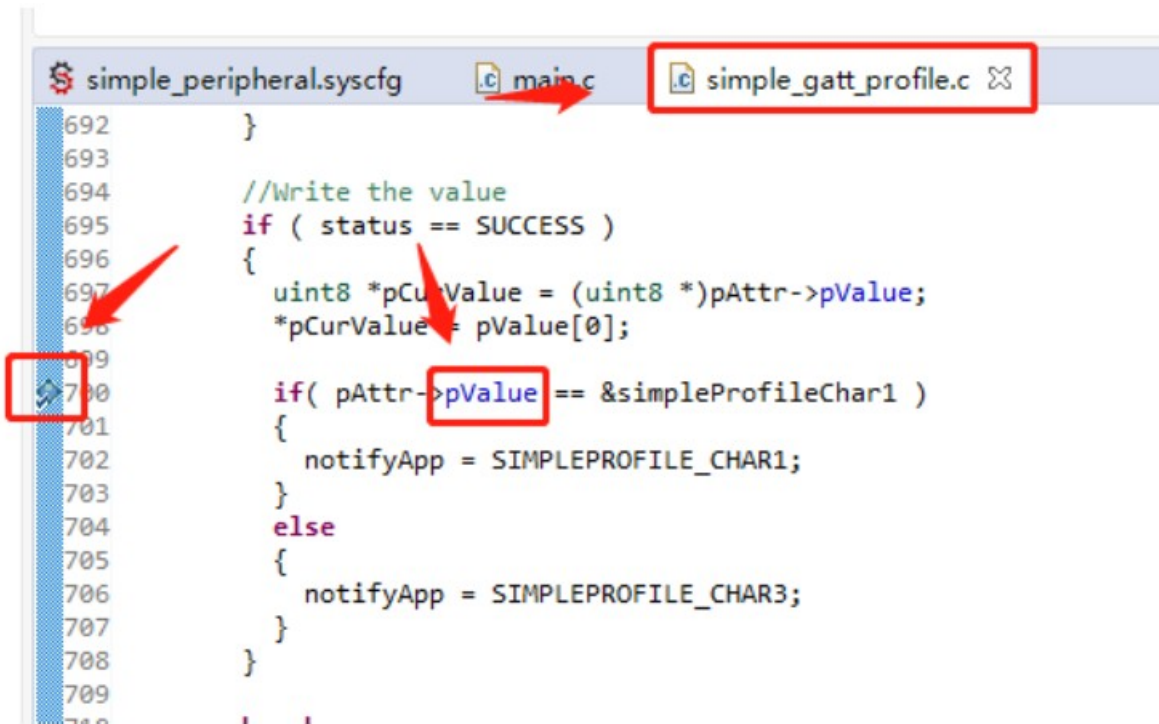
9. BDE-MP2652P7 is advertising, you can receive the signal on nRF Connect, then click "connect" to connect the mobile phone and the BDE-MP2652P7.



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

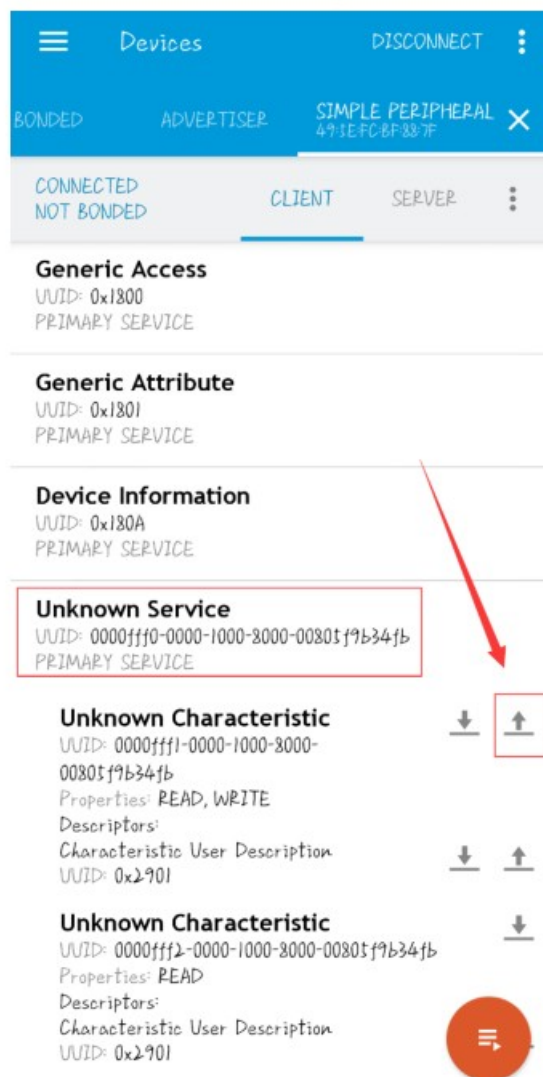


11. Find “pValue” in the function and set a breakpoint at the same line

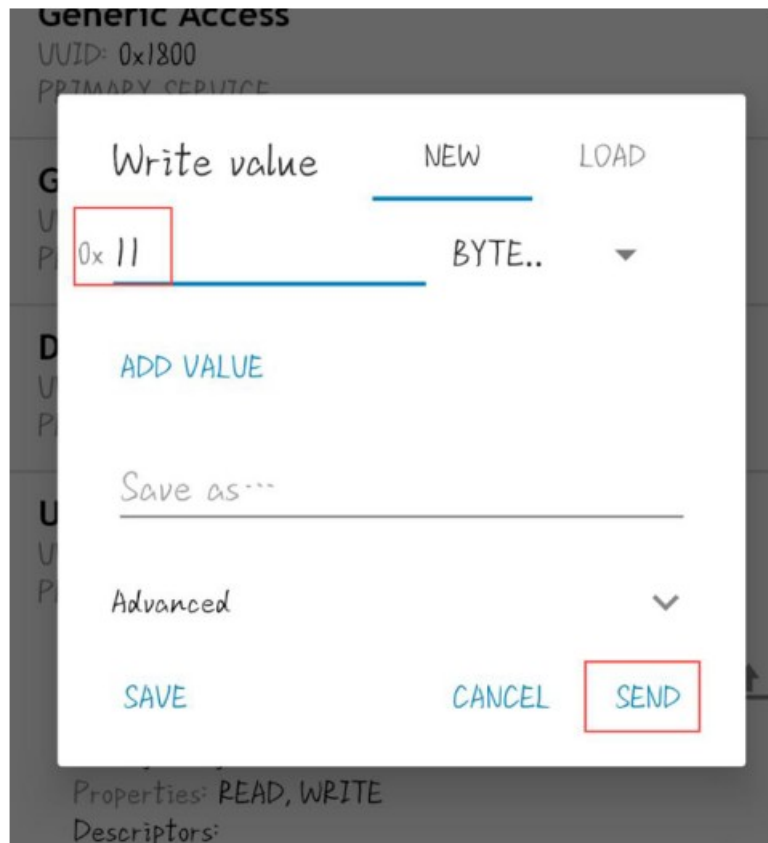


```
692     }
693
694     //Write the value
695     if ( status == SUCCESS )
696     {
697         uint8 *pCurValue = (uint8 *)pAttr->pValue;
698         *pCurValue = pValue[0];
699
700         if( pAttr->pValue == &simpleProfileChar1 )
701         {
702             notifyApp = SIMPLEPROFILE_CHAR1;
703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

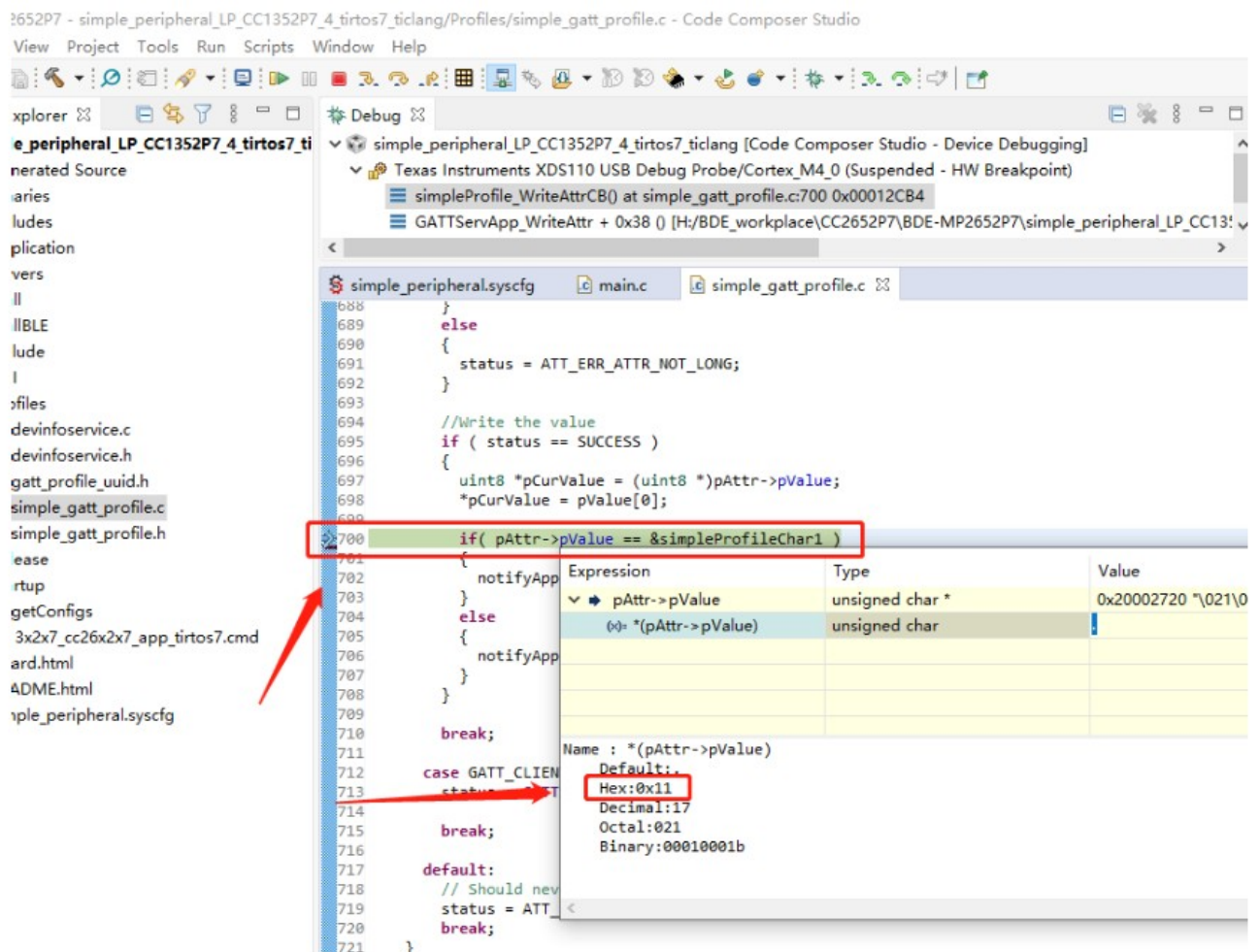
12. Click the up arrow to send a message to the BDE-MP2652P7



13. Send 0x11 to the BDE-MP2652P7



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



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](https://www.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

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

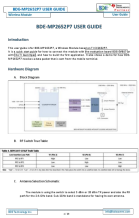
Website: <http://www.bdecomm.com/>

Email: info@bdecomm.com


BDE Technology Inc

info@bdecomm.com

Documents / Resources

	<p>BDE Technology Inc BDE-MP2652P7 Wireless Module [pdf] User Guide BDE-MP2652P7 Wireless Module, BDE-MP2652P7, Wireless Module, Module</p>
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References

-  [BDE Technology Inc.](#)
-  [Analog | Embedded processing | Semiconductor company | TI.com](#)
-  [BDE Technology Inc.](#)
-  [_____](#)
-  [BDE-EVB07-BDE Technology Inc.](#)
-  [BDE-MP2652P7\(Multi-Protocol with PA Based on CC2652P7\) -BDE Technology Inc.](#)
-  [Log in | myTI | Texas Instruments](#)
-  [Log in | myTI | Texas Instruments](#)
-  [TI E2E support forums](#)
-  [nRF Connect for Mobile - nordicsemi.com](#)
-  [CC2652P7 data sheet, product information and support | TI.com](#)
-  [CCSTUDIO IDE, configuration, compiler or debugger | TI.com](#)
-  [FLASH-PROGRAMMER Software programming tool | TI.com](#)
-  [SIMPLELINK-LOWPOWER-SDK Software development kit \(SDK\) | TI.com](#)

