BDE-RFM207 USER GUIDE

Introduction

This user guide is for BDE-RFM207, a Wireless Module based on TI CC2652R.
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-RFM207 receives a data packet that is sent from a mobile phone APP - nRF Connect.

Get Ready

The following tools are recommended to develop with BDE-RFM207.

Hardware tools:

- BDE-RFM207 (BDE-RFM207-BDE Technology Inc. (bdecomm.com))
- BDE-ADP05 V1.0 (adaptor board)
- PC or Laptop
- BDE-EVB07 (BDE-EVB07-BDE Technology Inc. (bdecomm.com))

  or
- TI Launchpad (LAUNCHXL-CC26X2R1 Evaluation board | TI.com)
- USB cable for power supply and debugging

Software tools:

- Terminal software such as CCS, IAR.
- CCS download
- Software Development Kit (SDK)
- nRF Connect

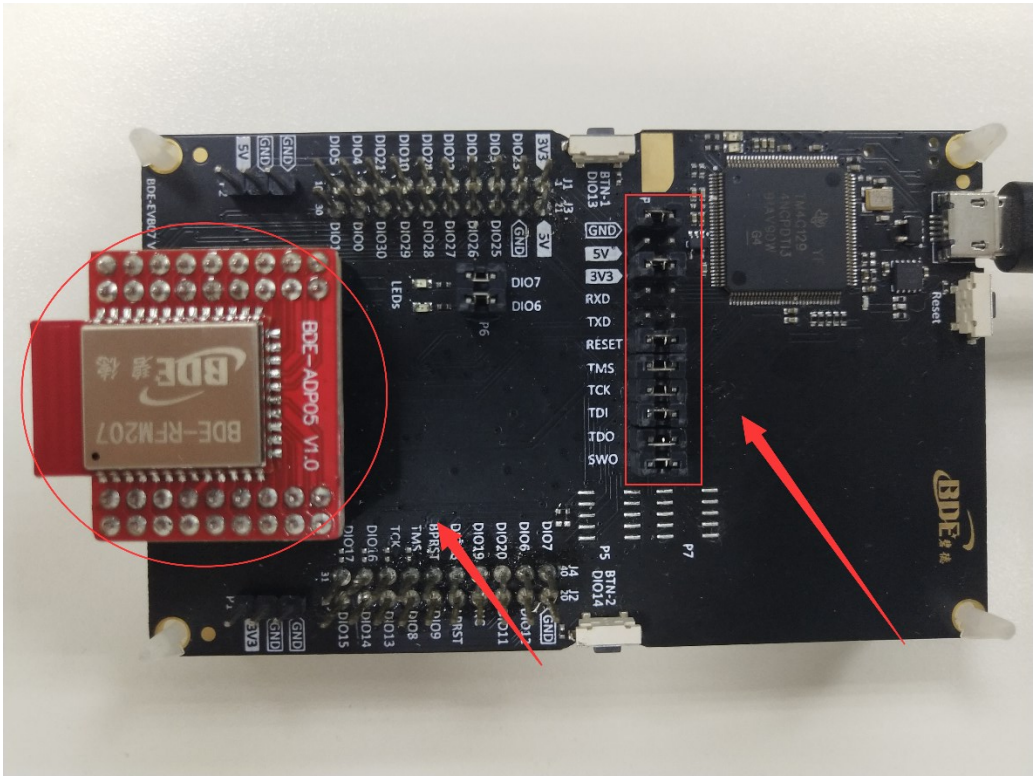
Build Your First Application

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

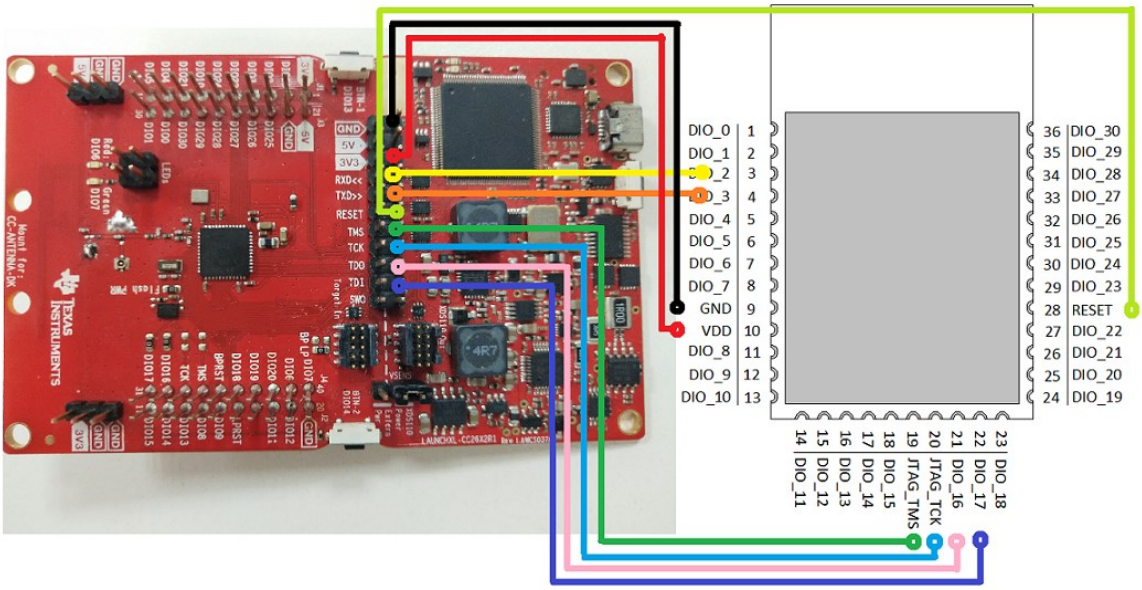
A. Connect the Hardware

If chose EVB07:

Use USB cable to connect EVB07 and PC or laptop. Plug BDE-RFM207 with the adaptor board into the dev board and connect all the pins with Jumpers as the following picture shows.



If chose TI Launchpad:
The connection is as following.



Connection Designator	BDE-RFM207	LaunchPad Pin
3V3 Power	VDD	3V3
Ground	GND	GND
RST	RST	RESET
TMS	TMS	TMS
TCK	TCK	TCK
TDO	DIO16	TDO
TDI	DIO17	TDI
RXD	DIO2	RXD
TXD	DIO3	TXD

Optional: TDO， TDI， RXD， TXD

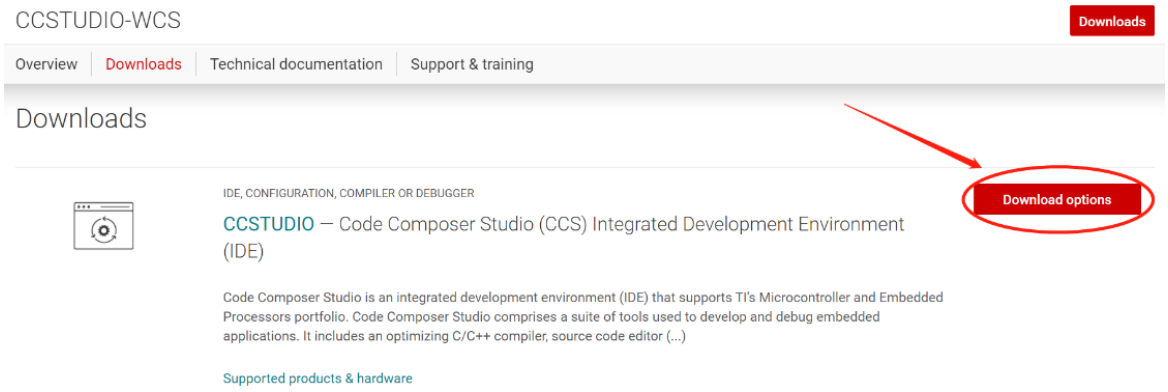
B. Build the Application

- **Download and install the CCS and SDK**

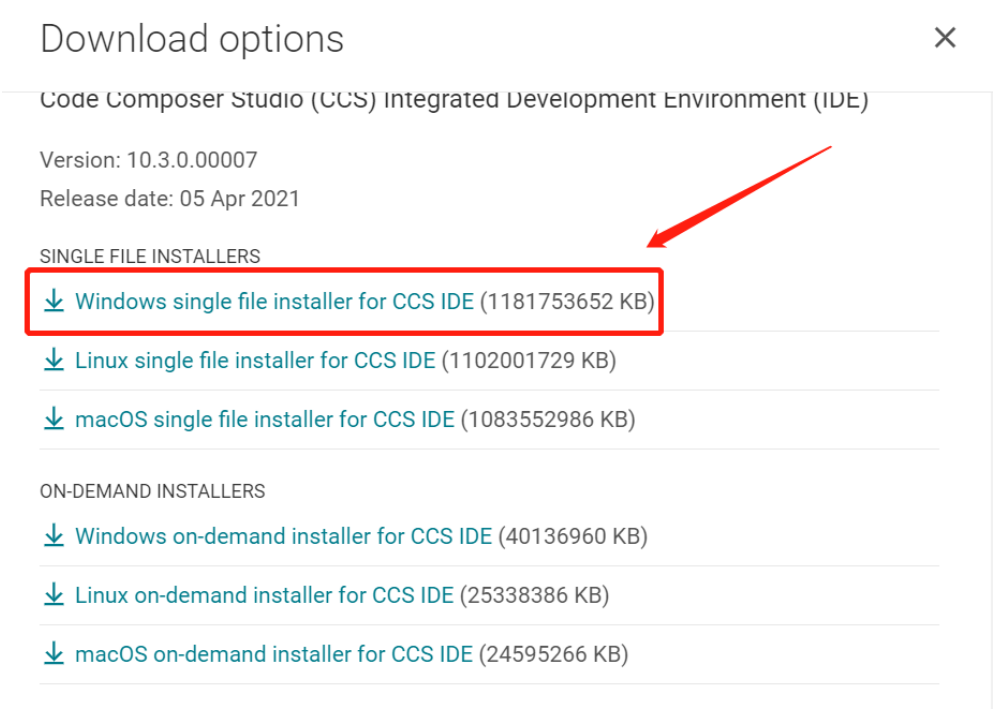
  From the above links, follow the instructions in the following steps to download and install the CCS and SDK.

- **CCS Installation**

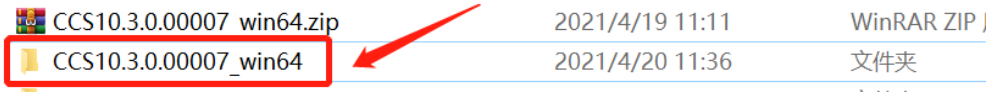
1. Click on this option



2. Select an option to download CCS

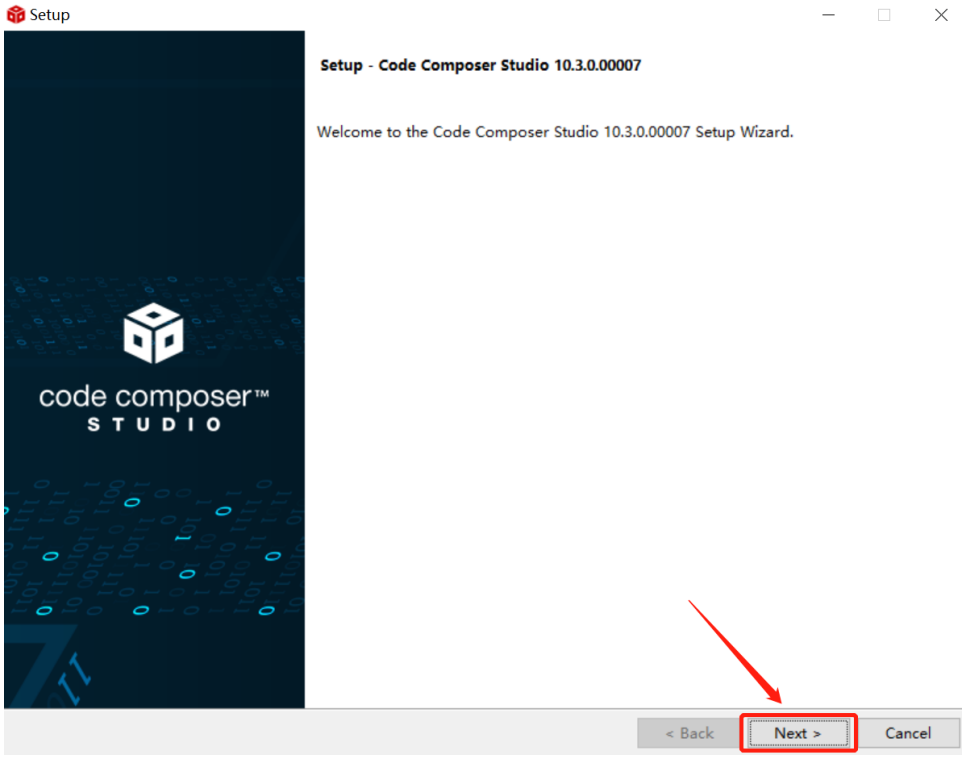


3. Unzip the package to a local disc

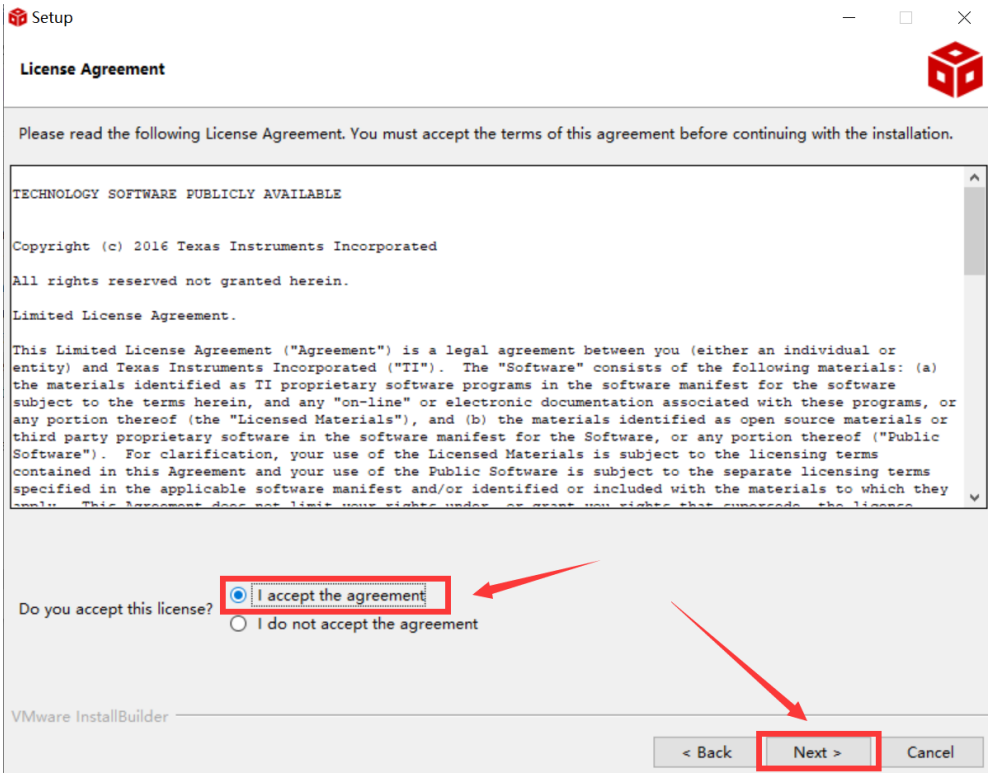


4. Click the setup of CCS

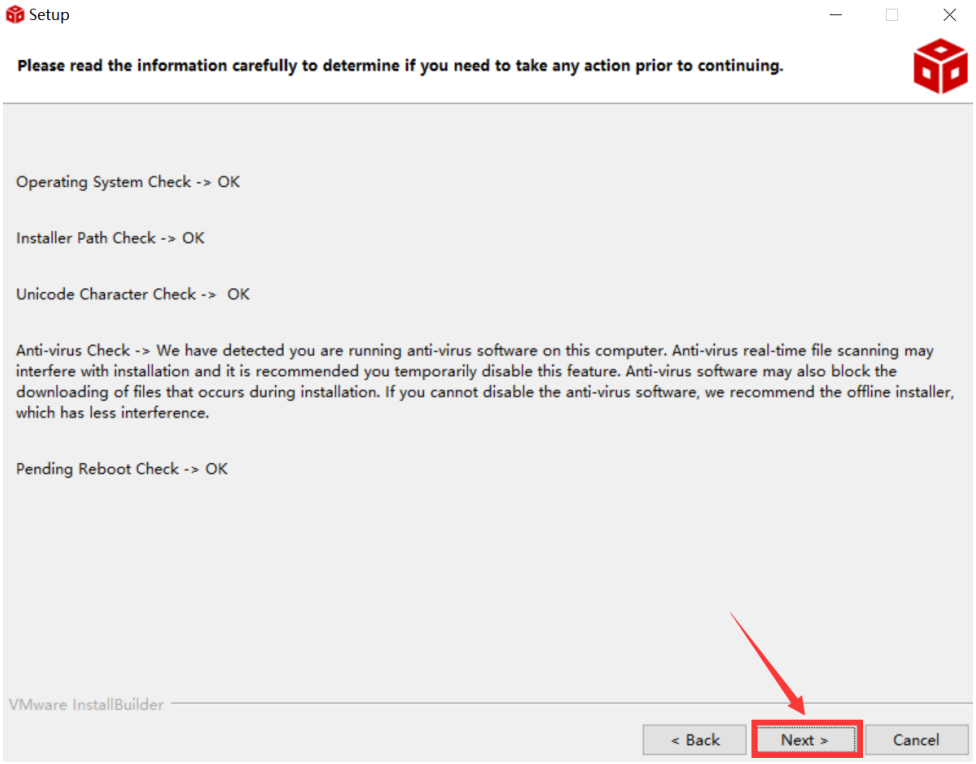
5. Click “Next”



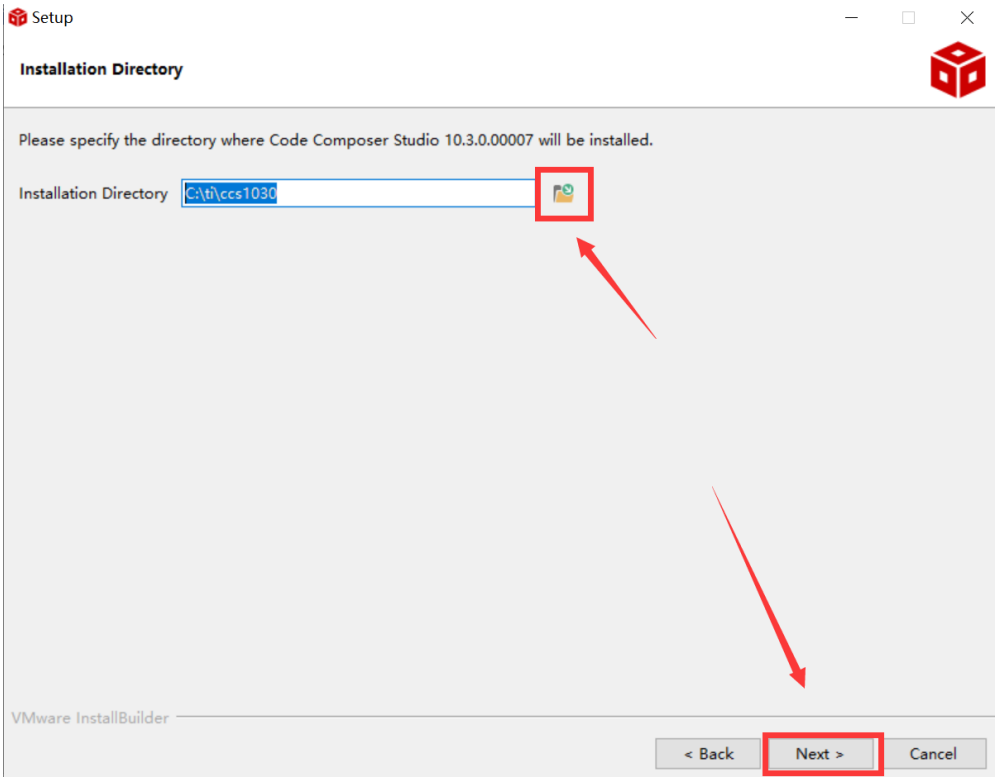
6. Select the default option



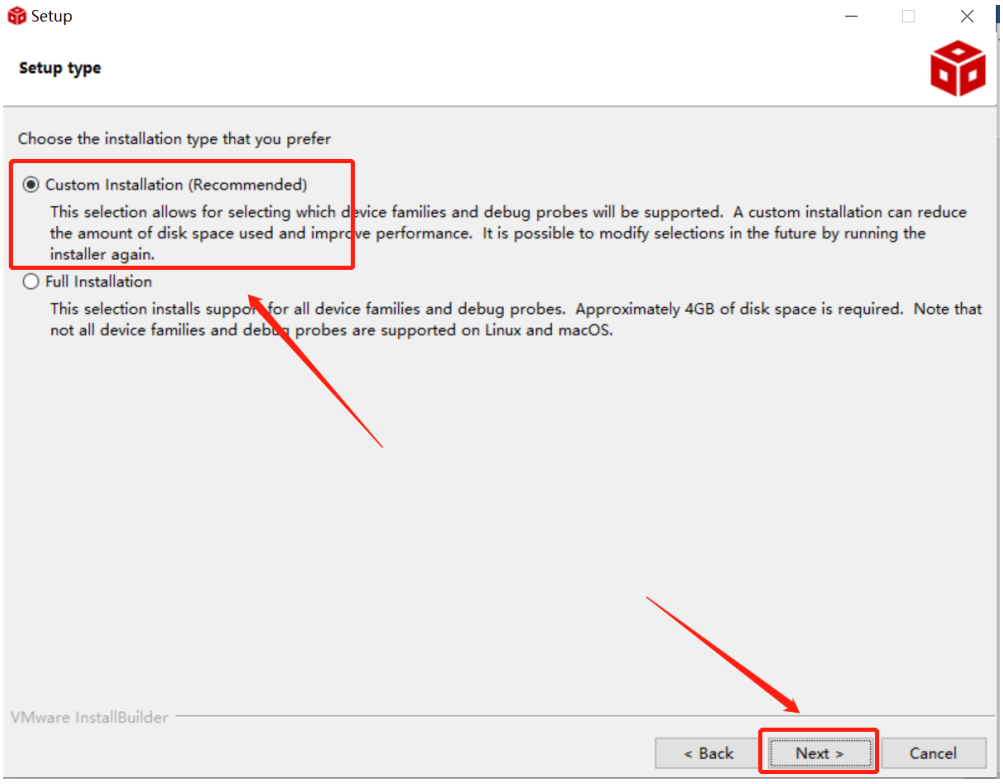
7. Click “Next”



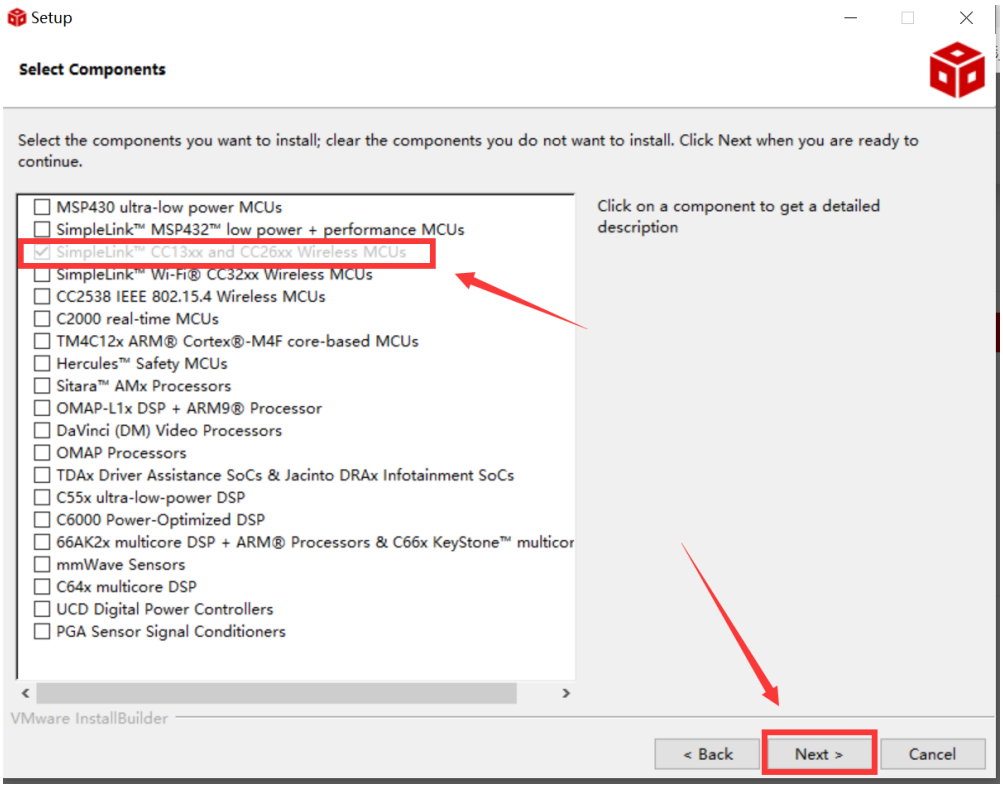
8. Select the Installation Directory



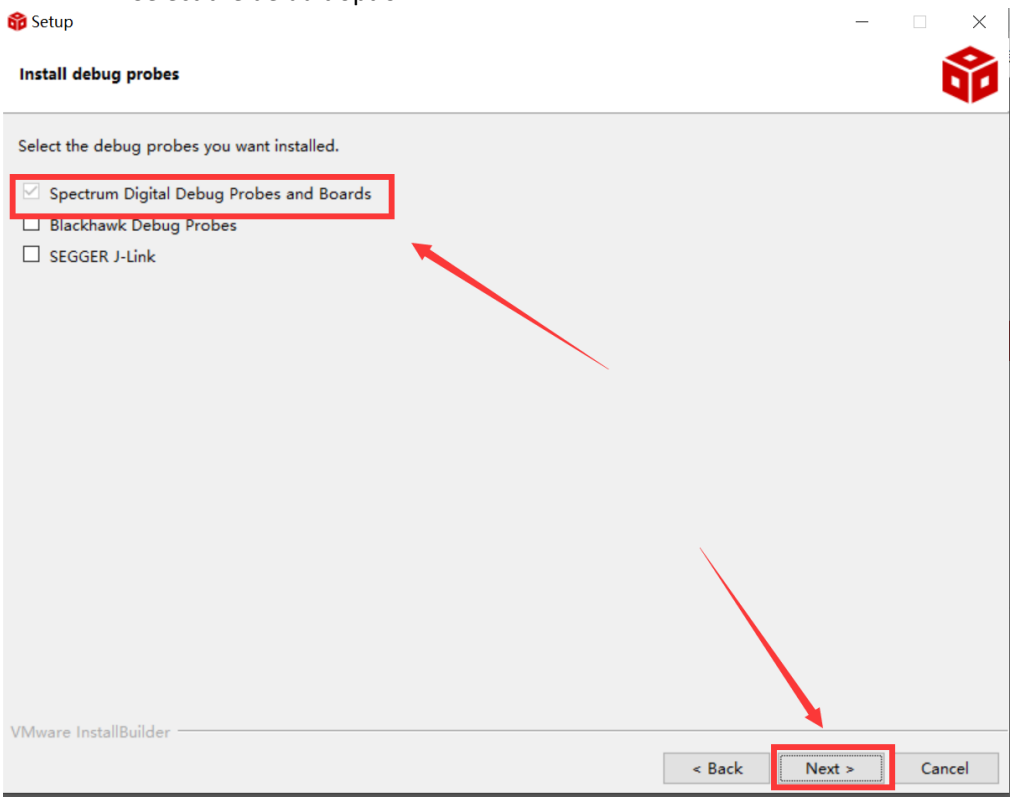
9. Select the default option



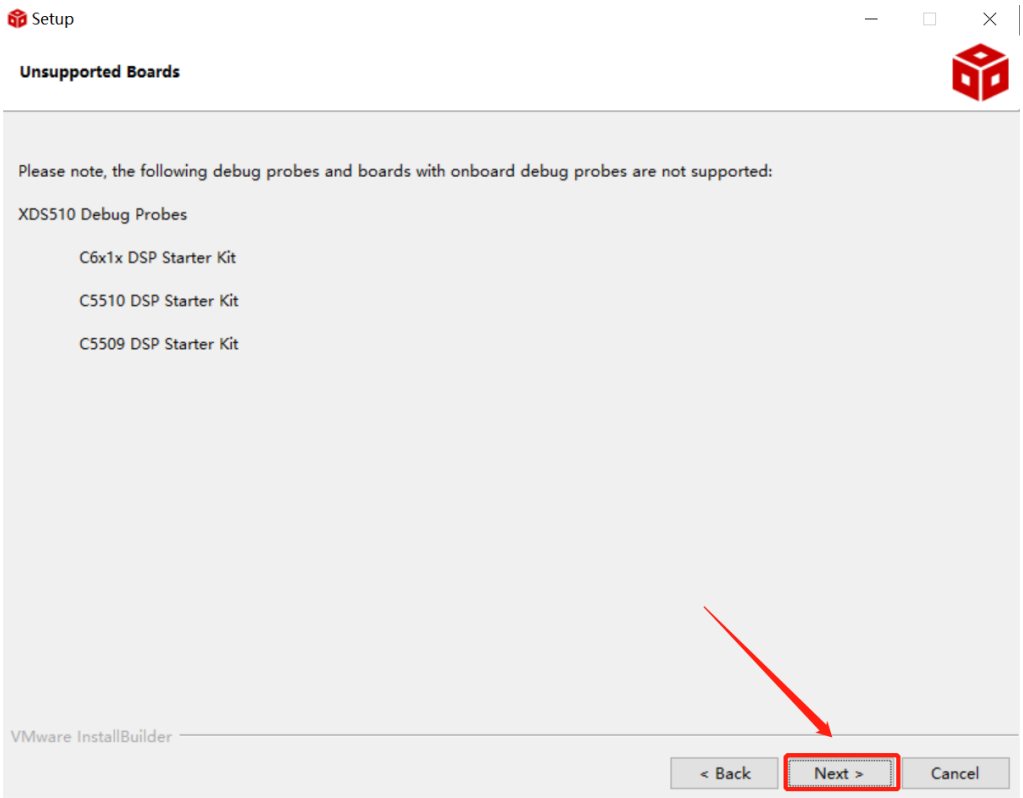
10. Select the component



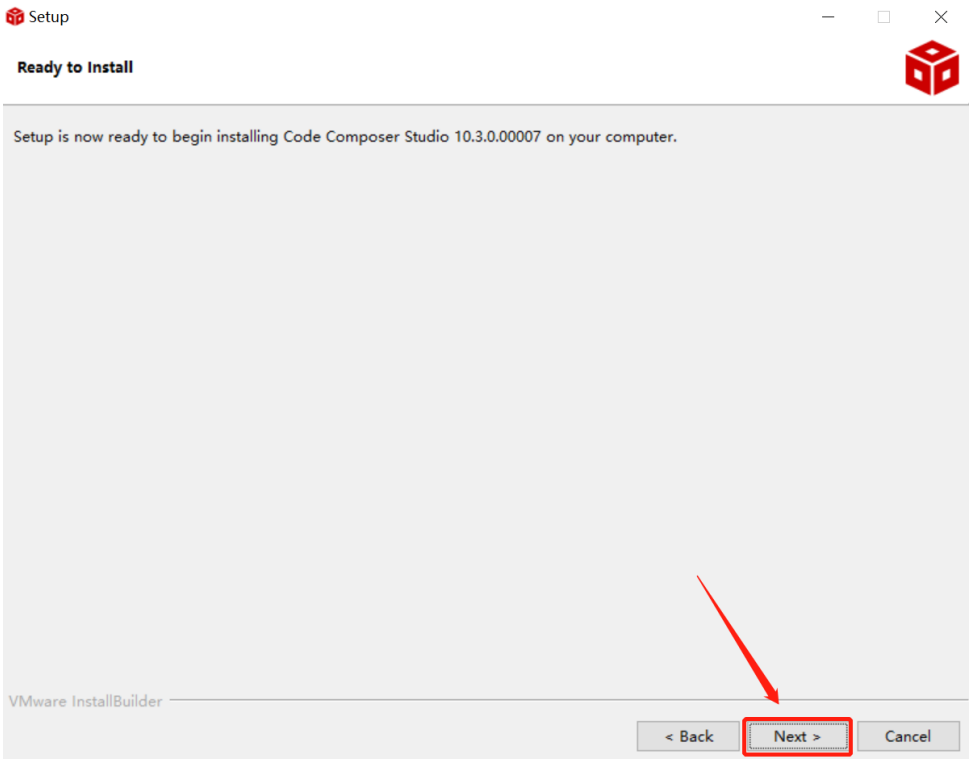
11. Select the default option



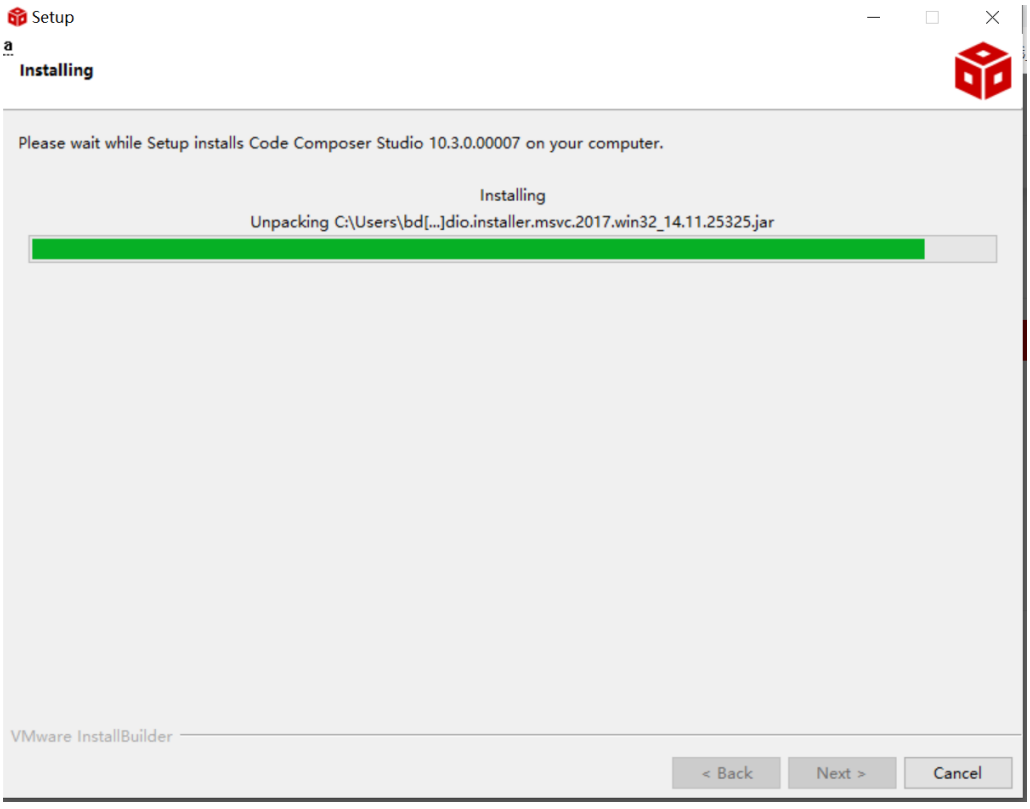
12. Click “Next”



13. Click “Next”

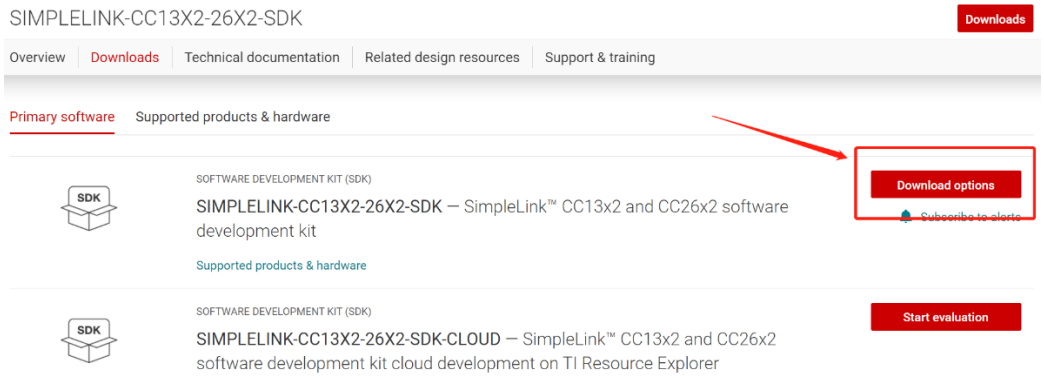


14. Waiting for installation to complete

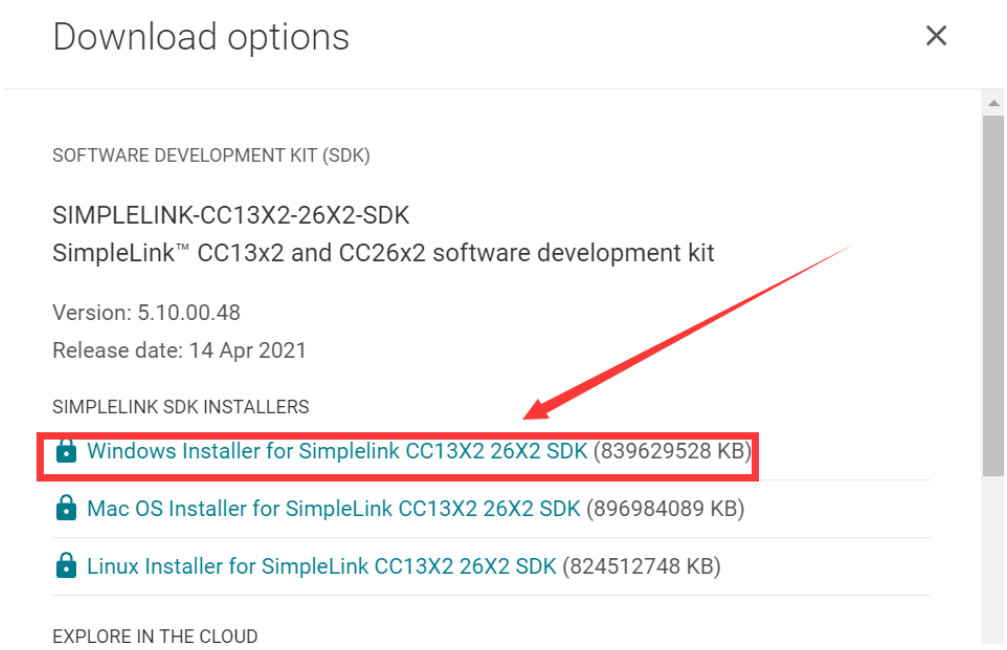


- **Software Development Kit (SDK) installation**

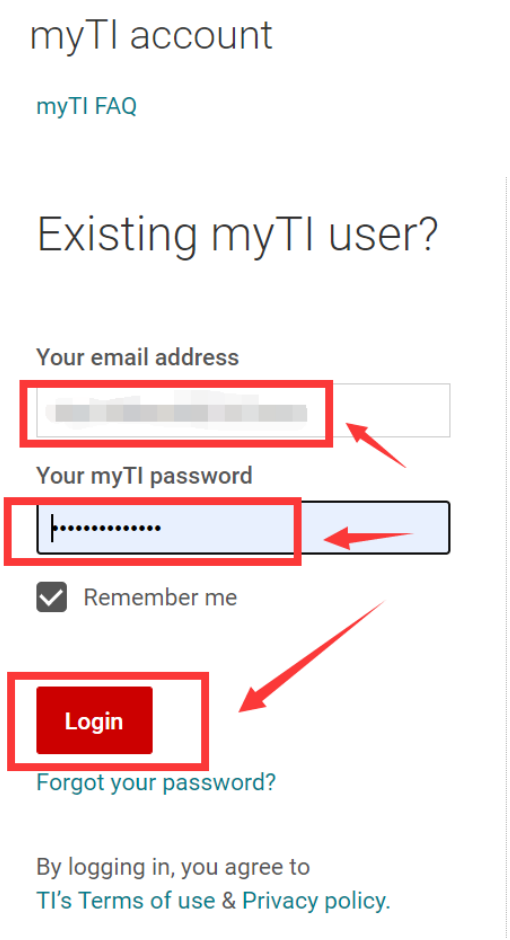
1. Click on this option



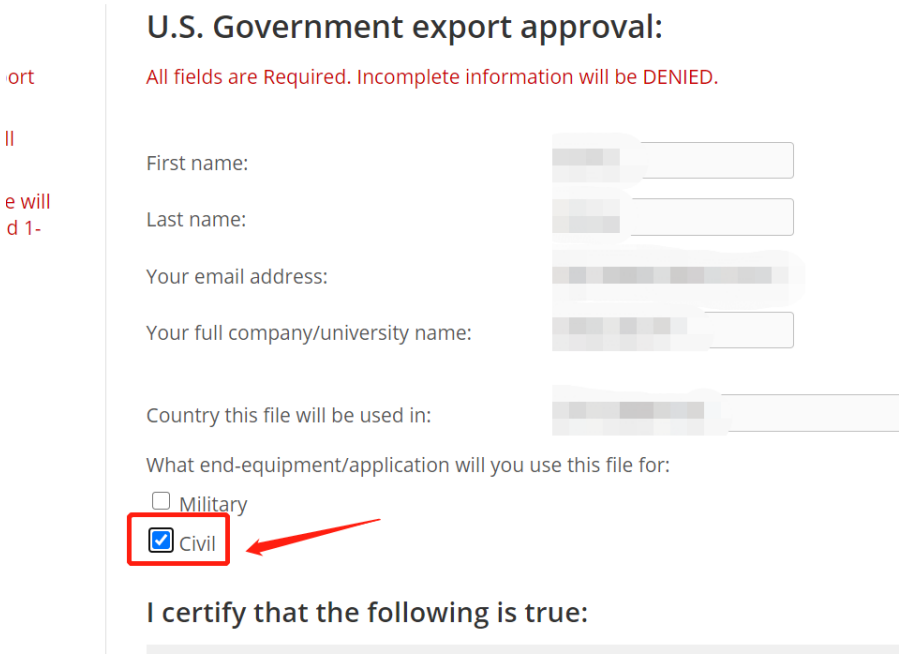
2. Select an option you need to download SDK



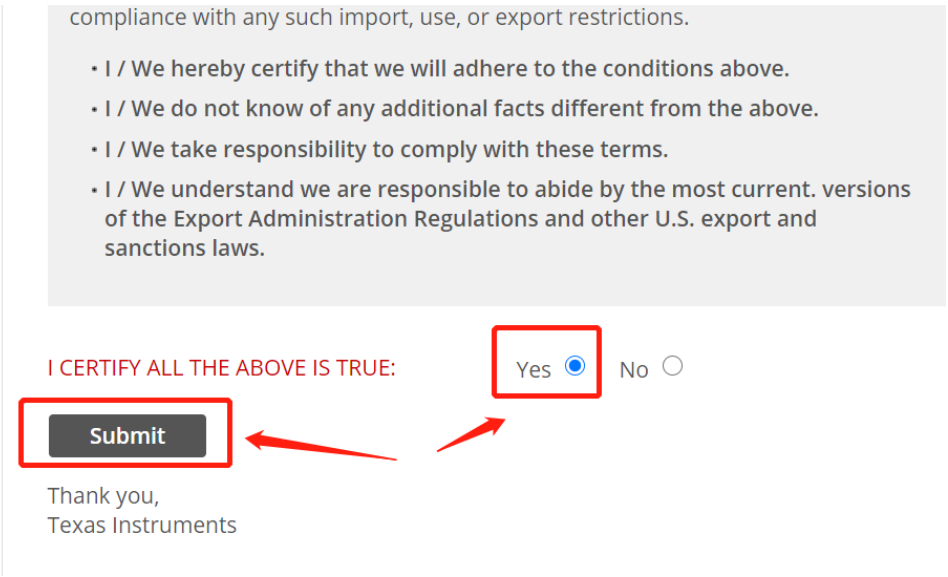
3. Log in to your TI account, if you are a new user, register a TI account first



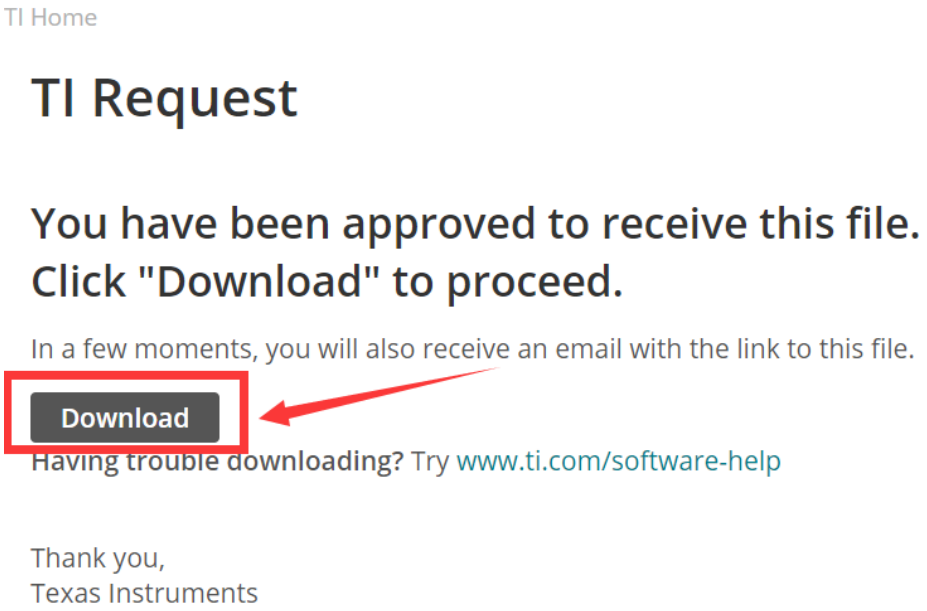
4. Select "civil" if your application is for civil use



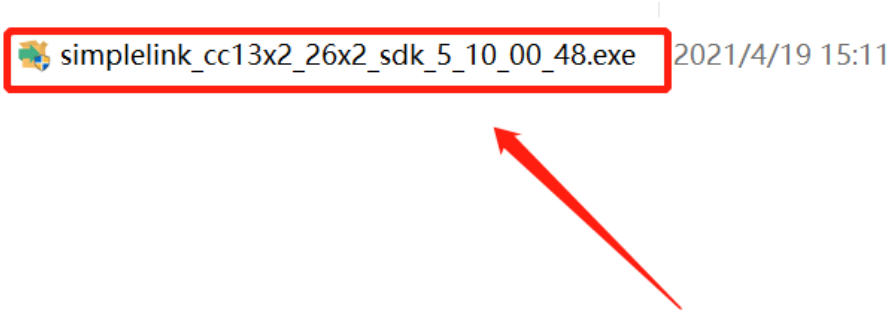
5. Select “Yes” and submit



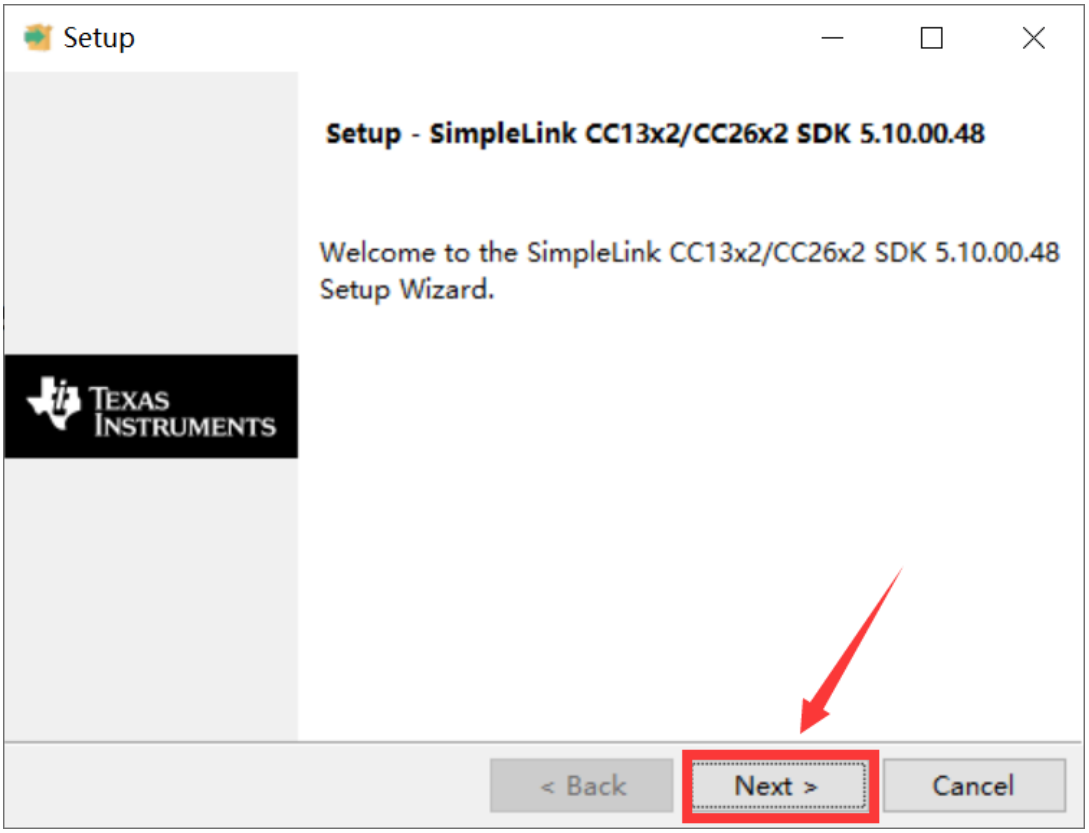
6. Download SDK



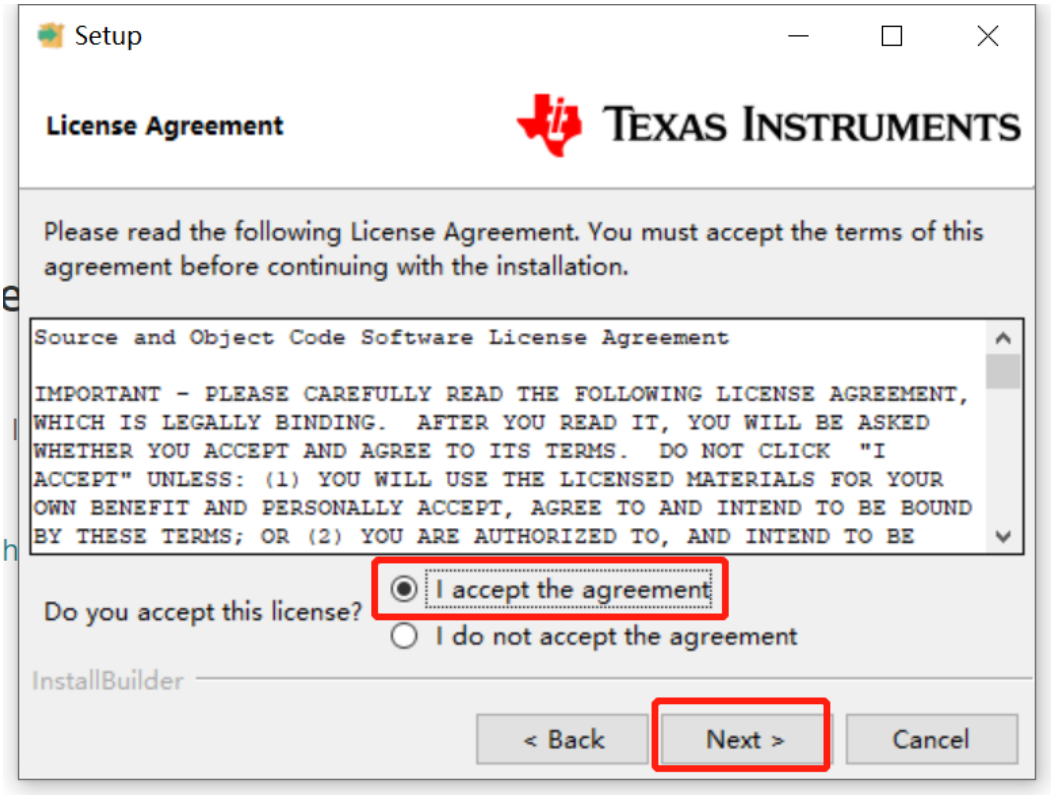
7. Installation



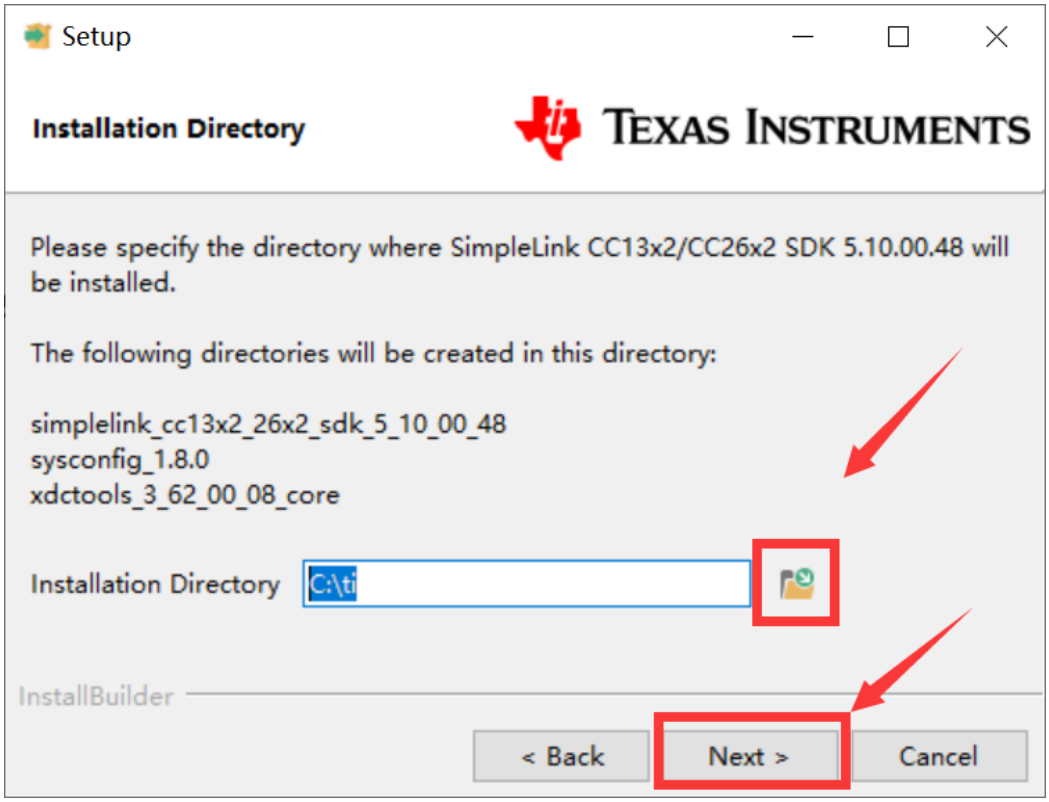
8. Click “Next”



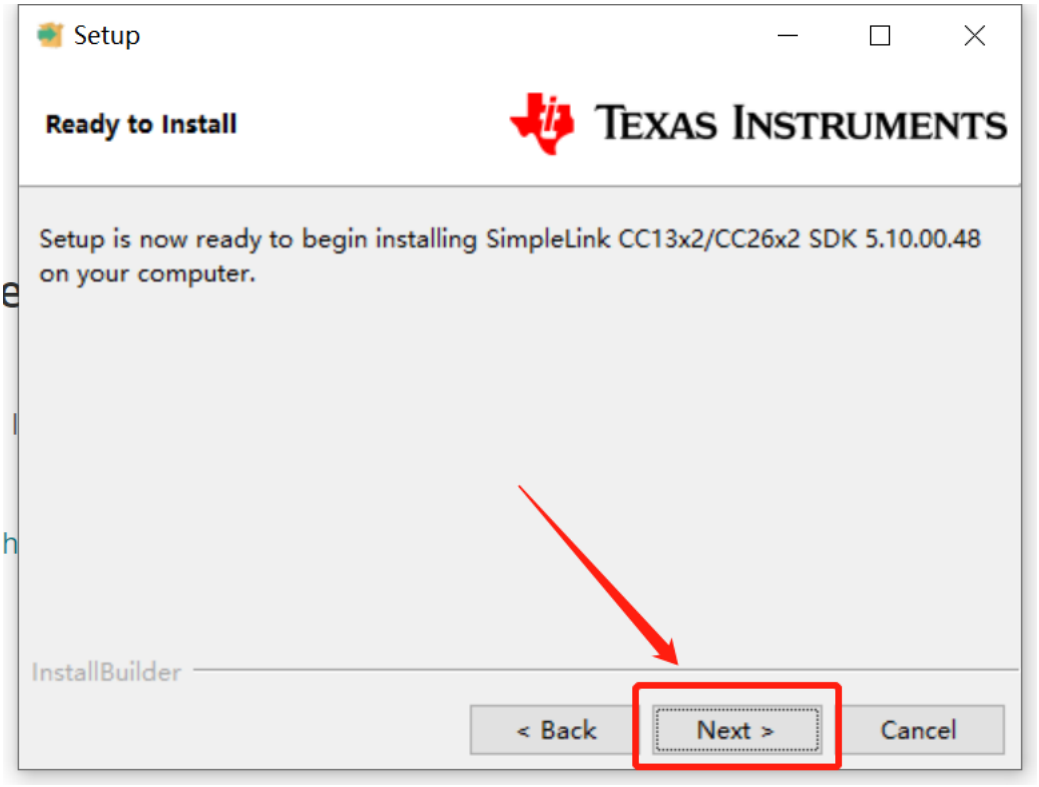
9. Select the default option



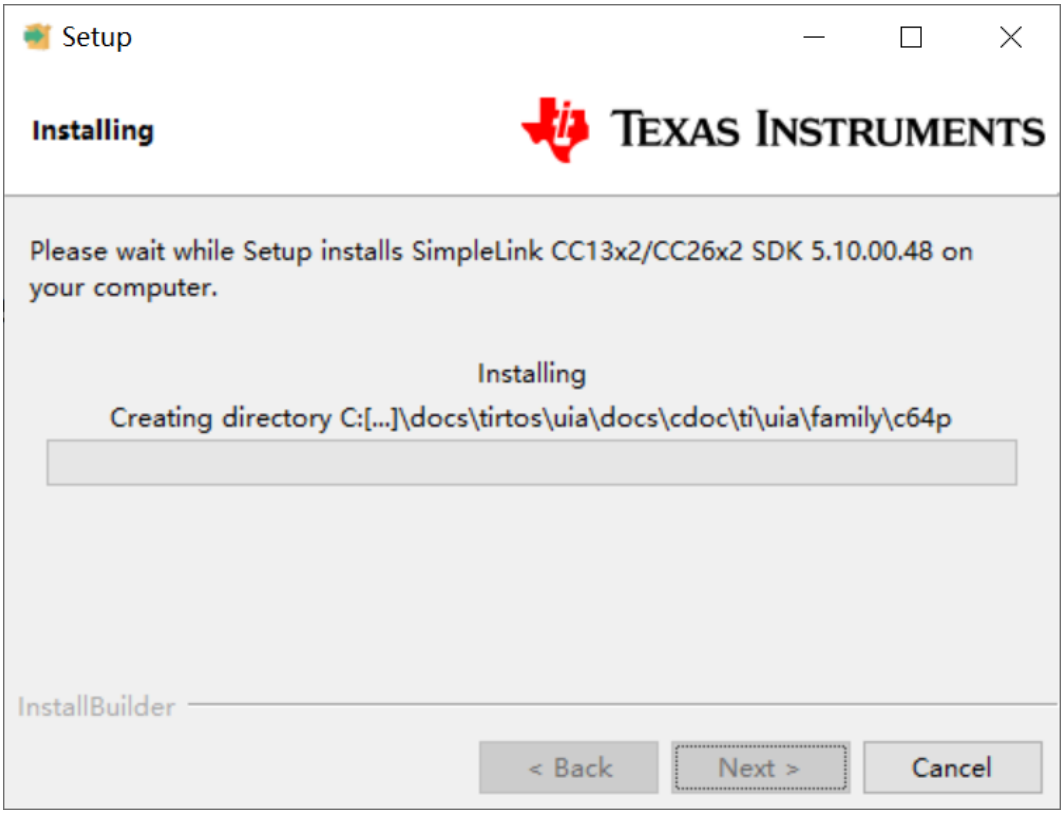
10. Select the Installation directory



11. Click “Next”

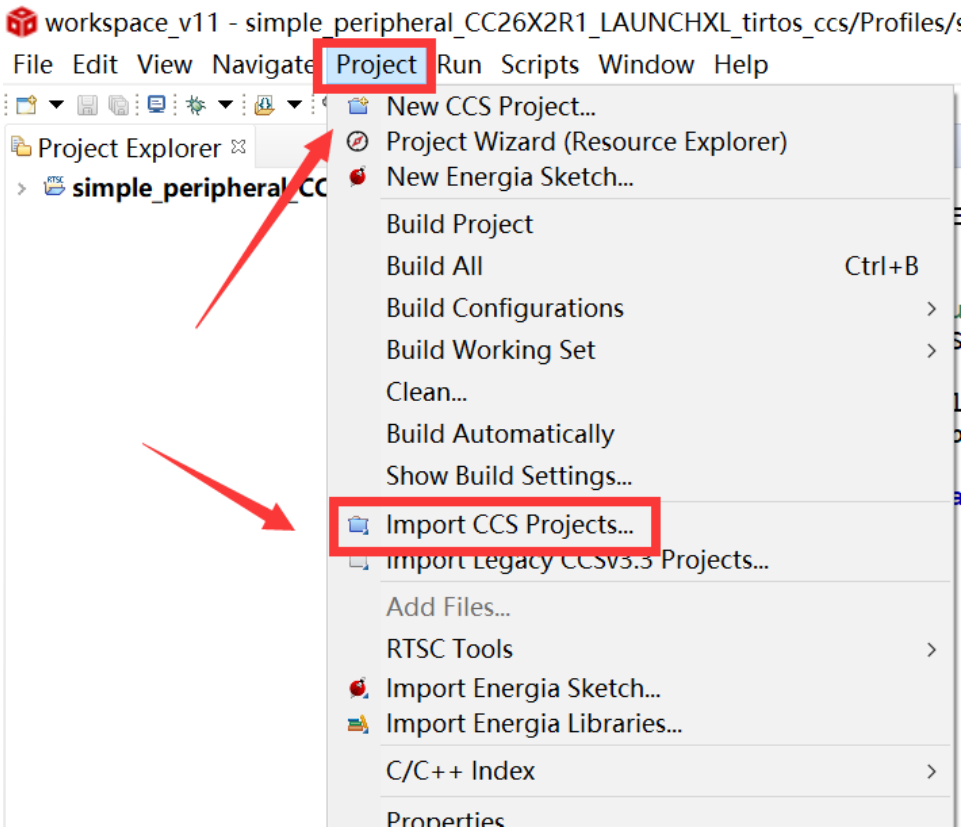


12. Waiting for installation to complete

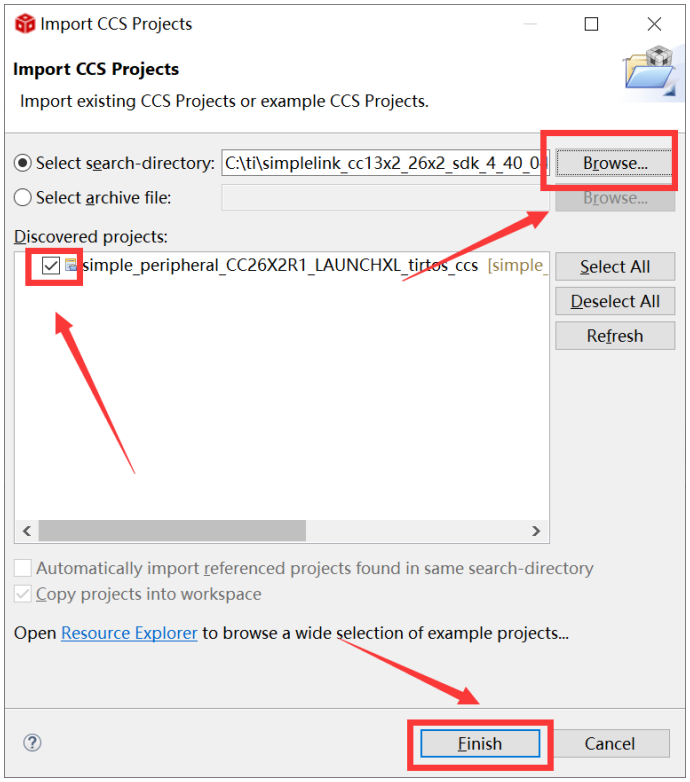


- Run an example/demo code

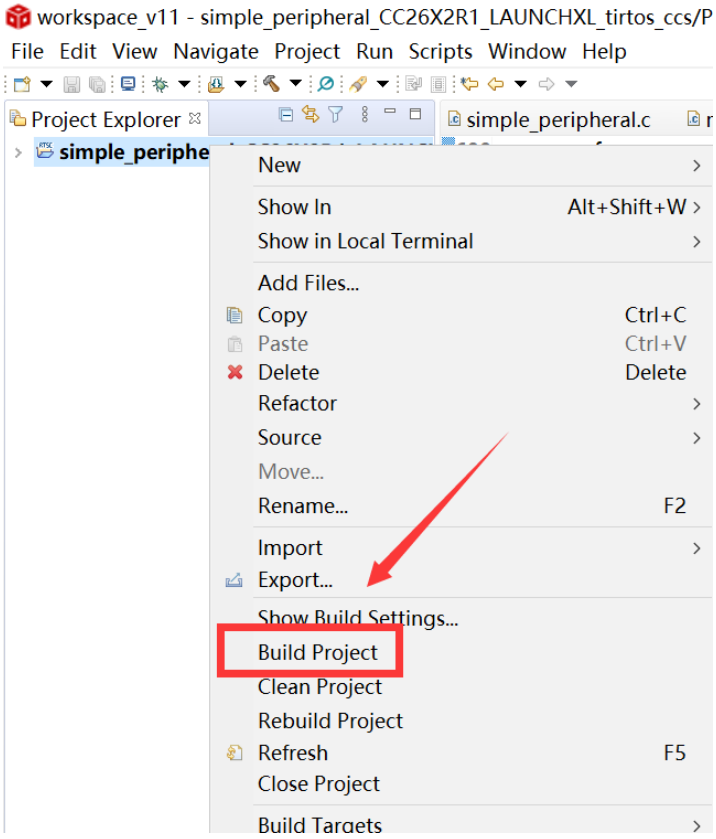
1. Find the option named “Import CCS project…”



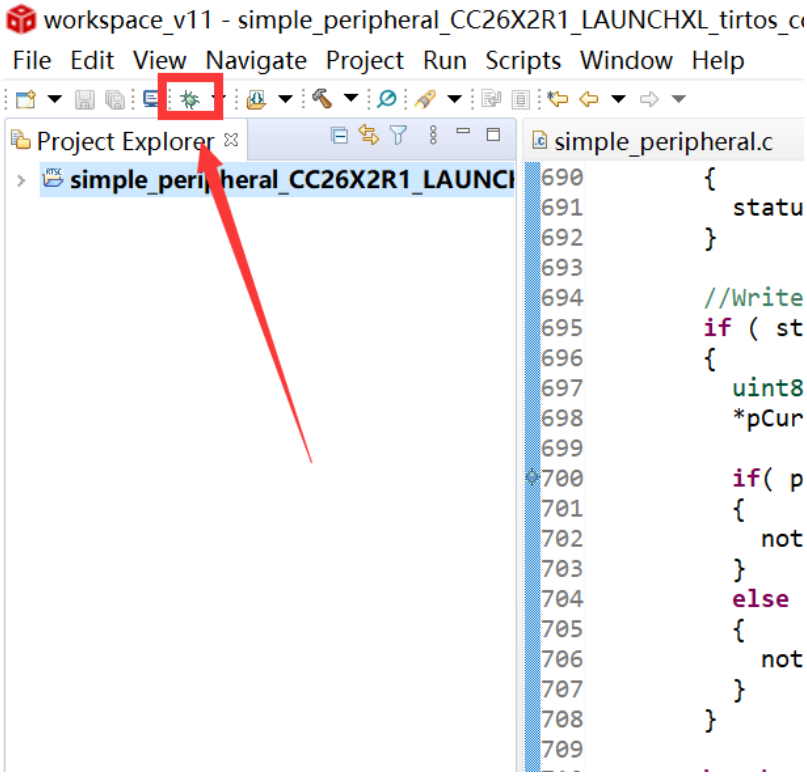
2. According to the following path to find the project:
ti\simplelink_cc13x2_26x2_sdk_5_10_00_48\examples\rtos\CC26X2R1_LAUNCHXL\ble5stack\simple_peripheral\tirtos\ccs



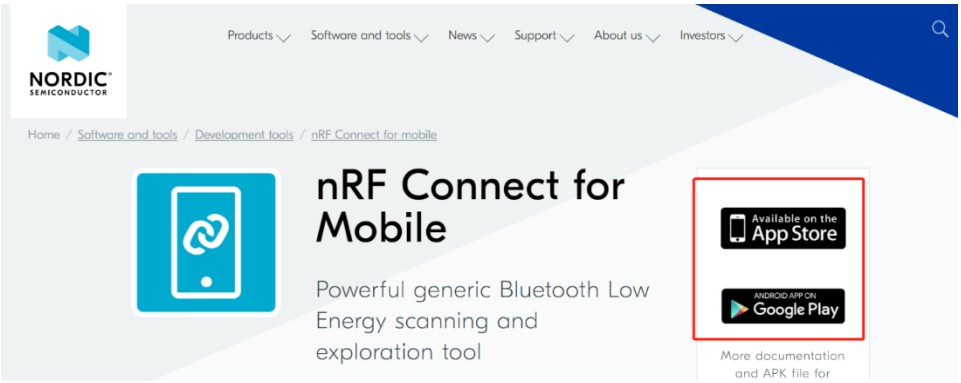
3. Right Click the project to build project



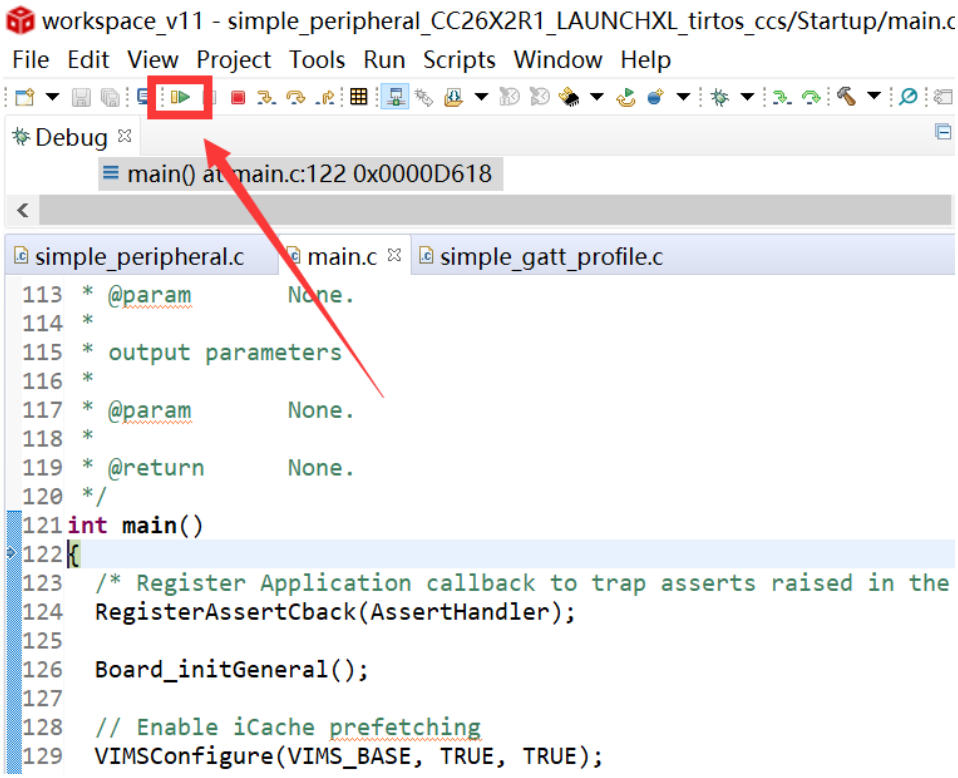
4. Click this bug icon (means download and debugging)



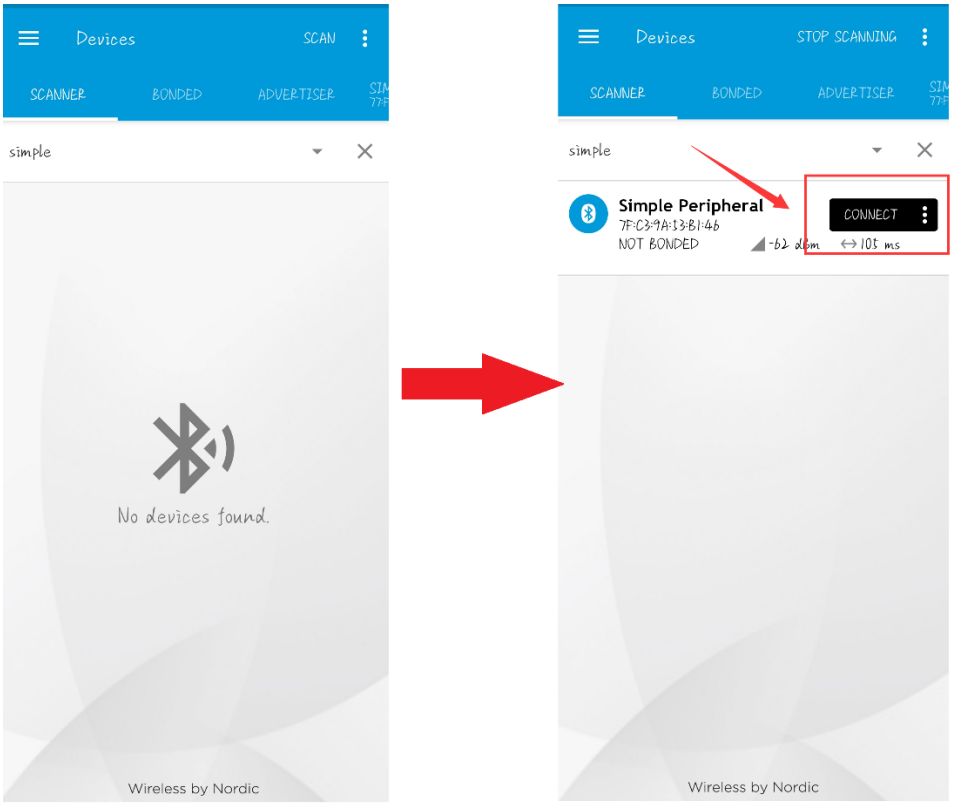
5. Download and start nRF Connect (an APP on your mobile device)



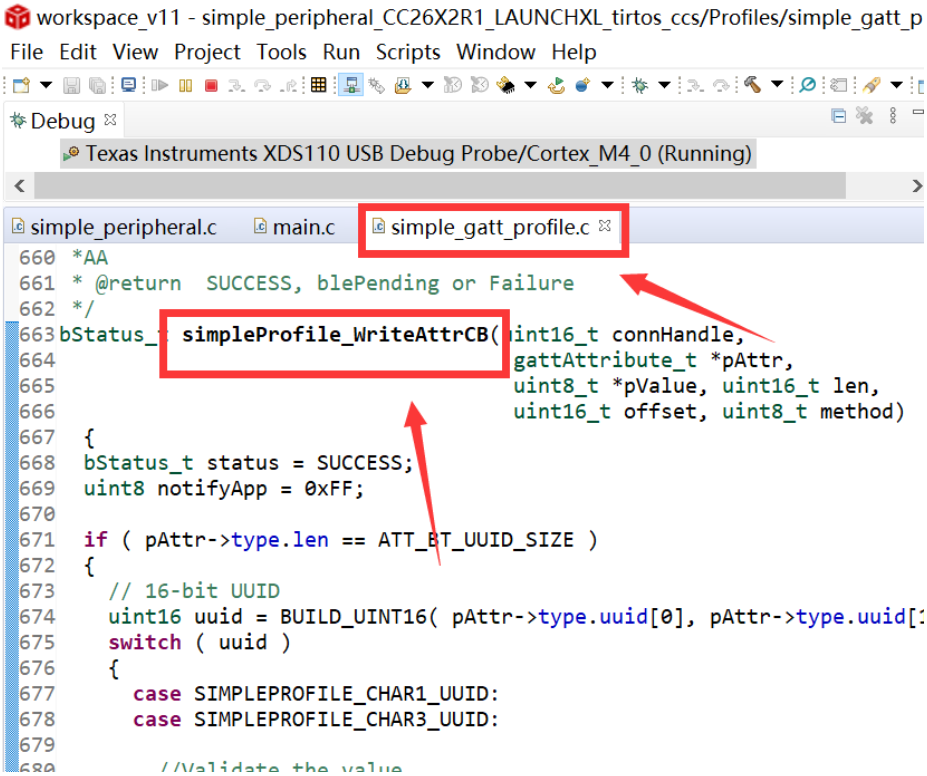
6. Click on this option to start debugging



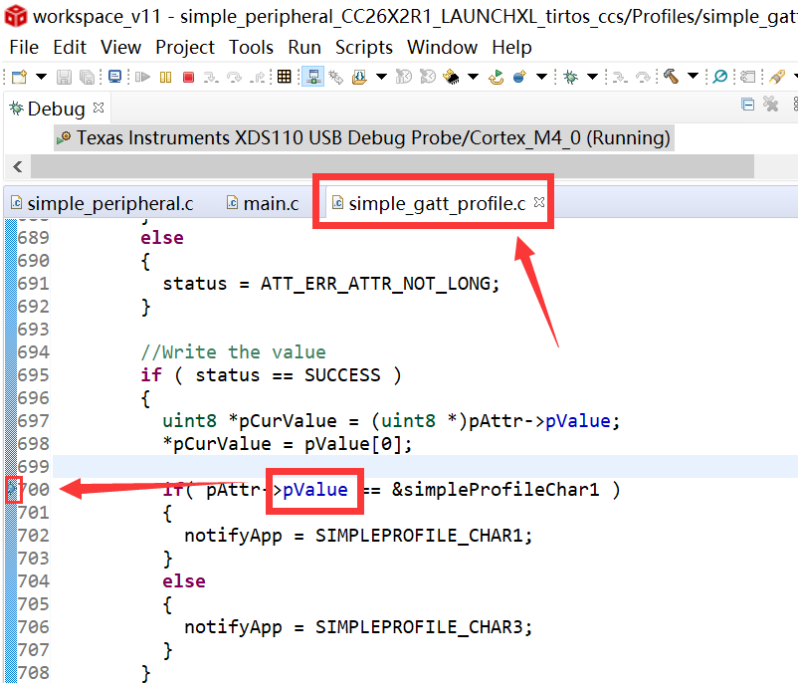
7. BDE-RFM207 is advertising, you can receive the signal on nRF Connect, then click “connect” to connect the mobile phone and the BDE-RFM207



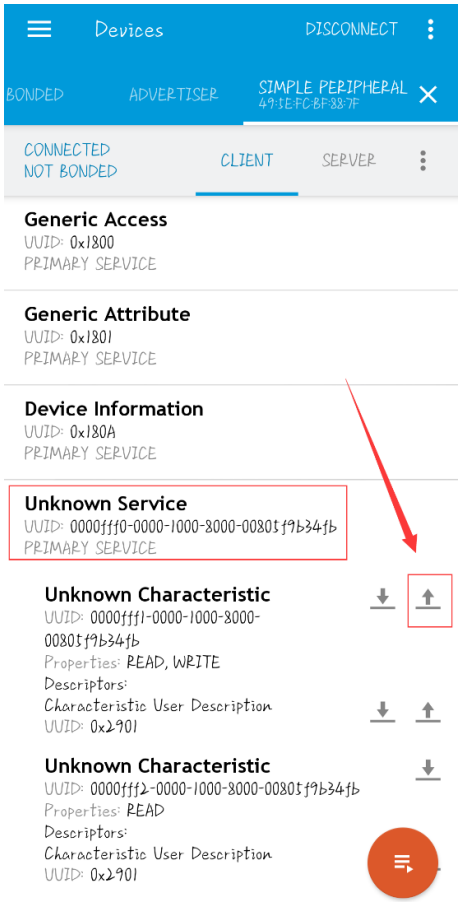
8. Find the file which is named “simple_gatt_profile.c” and the function which is named “simpleProfile_WriteAttrCB”



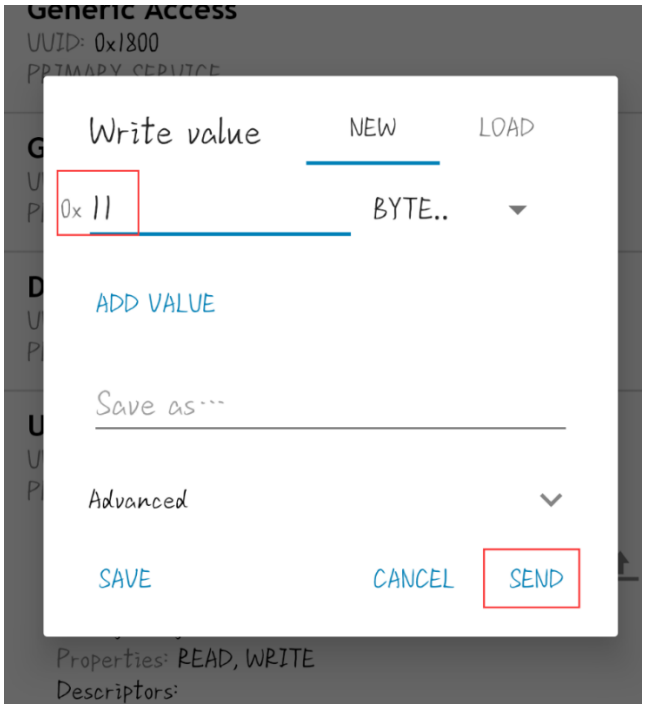
9. Find “pValue” in the function and set a breakpoint at the same line



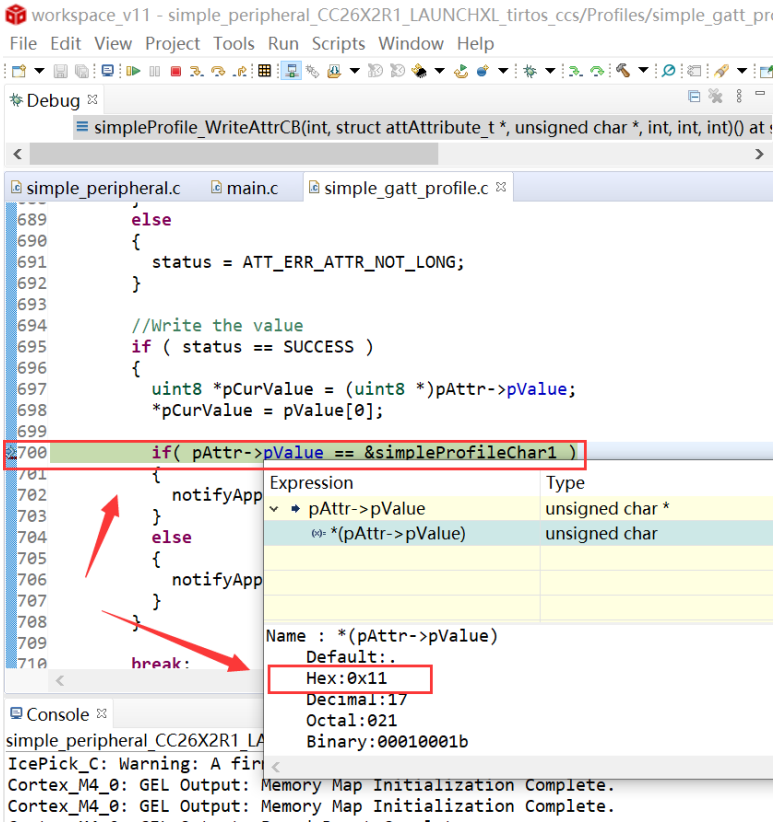
10. Click the up arrow to send a message to the BDE-RFM207



11. Send 0x11 to the BDE-RFM207



12. 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 [CC2652R data sheet, product information and support | TI.com](https://www.ti.com/lit/pdf/swcu185) page and download the User guide (https://www.ti.com/lit/pdf/swcu185)

Other Resources

[Mac OS Installer for SimpleLink CC13X2 26X2 SDK]

[Linux Installer for SimpleLink CC13X2 26X2 SDK]

[Mac OS Installer for Code Composer Studio IDE]

[Linux Installer for Code Composer Studio IDE]

[CC2652R SimpleLink™ Multiprotocol 2.4 GHz Wireless MCU]

[Windows Installer for SmartRF Flash Programmer 2]

Revision History

Revision	Date	Description
V1.0	8-May-2019	Initial Release
V1.2	10-Jun-2020	Editorial Correction
V2.0	14-Apr-2021	Replacement of template

More Questions:

Please search existing answers on TI E2E support forums

Contact your local TI sales representative.

Or
Contact BDE Technology, Inc.

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