



# YCHIOT high-precision positioning system UWB development board works with Arduino

Version 1.2

# Content

1 Ha	ordware Connection	3
1.1	Deployment steps hardware connection- Arduino Nano	3
1.2	Hardware Connection- Arduino UNO R3	3
1.3	Hardware Connection - Mega 2560 R3	4
1.4	Arduino- Possible reasons for download failure	4
2 So	ftware download and settings	5
2.1	Arduino IDE Introduction	5
2.2	Arduino IDE Preparation before development	6
3 Pro	ogram download	8
3.1	Download to Arduino Uno development board	8
3.2	Download to Arduino Mega 2560 development board	12
3.3	Download to Arduino Due development board	14
4 Do	ocument Management Information Form	16



# **1** Hardware Connection

This document uses the Mini3 development board interface as an example, introduces the method of connecting with three mainstream Arduino development boards on the market, and provides the DEMO program code, which has strong portability. Mini3s / Mini3s Plus module interface is the same as Mini3.

1.1 Deployment steps hardware connection- Arduino Nano



Figure 1.1 UWB Mini 3 module connected to Arduino Nano

1.2 Hardware Connection- Arduino UNO R3



Figure 1.2 UWB Mini 3 module is connected to UNO R3

## 1.3 Hardware Connection - Mega 2560 R3



Figure 1.3 UWB Mini 3 module connected to UNO R3

## **1.4** Arduino- Possible reasons for download failure

When downloading programs to Arduino, the serial cable of UWB module cannot be connected to Arduino.

# 2 Software download and settings

## 2.1 Arduino IDE Introduction

Arduino IDE makes it easy to write code and upload code to the board. It runs on Windows, Mac OS X and Linux. The environment is written in Java, based on processing and other open source software. It is widely used in post-high school education (such as universities, colleges, research institutions) in the fields of engineering, Internet of Things, robotics, art and design. This software can be used on any Arduino board. Committed to creating the next generation of STEAM plans-integrating science, technology, engineering, art and mathematics, while supporting the needs of teachers and students throughout the education process. Provide solutions for classrooms, toolkits, bundles and boards, and provide learning paths for individual and collaborative educational methods. The learner explores the program in a practical and constructive way when using the toolkit and exploring the creative abilities of each board. Whether you are a new teacher of electronics and want to introduce physical computing and computational thinking into your teaching plan, a university professor proficient in electronics, or a graduate researcher, there is an Arduino kit or board that suits you.

# Version: ARDUINO 1.8.15

Download link: https://www.arduino.cc/en/software



# Arduino IDE 1.8.15

The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. This software can be used with any Arduino board.

Refer to the Getting Started page for Installation instructions.

#### SOURCE CODE

Active development of the Arduino software is **hosted by GitHub**. See the instructions for **building the code**. Latest release source code archives are available **here**. The archives are PGP-signed so they can be verified using **this** gpg key.

#### DOWNLOAD OPTIONS

Windows Win 7 and newer
Windows ZIP file

Windows app Win 8.1 or 10 Get

Linux 32 bits Linux 64 bits Linux ARM 32 bits Linux ARM 64 bits

Mac OS X 10.10 or newer

Release Notes Checksums (sha512)

# 2.2 Arduino IDE Preparation before development

Before development, because R&C UWB outputs a large amount of data, you need to adjust the serial port parameters of the development environment to adapt to the maximum receiving speed.

1) Unzip the downloaded compressed package, open arduino.exe, the initial interface is as follows



2) Move the mouse to the "File" tab in the upper left corner, select Open, open the provided demo folder, select the UWB.ino file and open it.





3) Modify the serial port buff before downloading, open the Arduino software

directory, .....arduino-1.8.15-windows\arduino-

1.8.15\hardware\arduino\avr\cores\arduino right click to edit HardwareSerial.h

### and modify Circle the position and save





# 3 Program download

# 3.1 Download to Arduino Uno development board

3.1.1 Select the downloaded development board, as shown in the figure below



3.1.2 Connect the computer to the Arduino Uno development board with a USB cable, select the corresponding serial port, if there is no port display, you need to download and install the CH340 serial driver



© YCHIOT 2016-2023 ALL RIGHTS RESERVED www.ychiot.com

4) Change the coordinates to the actual coordinates of A0, A1, A2

📨 UWB - trilateration.h   Arduino 1.8.15 —		$\times$
文件 编辑 项目 工具 帮助		
		Ø
UWB § trilateration.h uart.h		
<pre>int result = 0; wee2d apphorPress[4];</pre>		^
vec3d report:		
int Range deca[4]:	_	
anchorArray[0].x = 0.000; //anchor0.x uint:m		
anchorArray[0].y = 0.000; //anchor0.y uint:m		
anchorArray[0].z = 1.400; //anchor0.z uint:m		
<pre>anchorArray[1].x = 2.400; //anchorl.x uint:m</pre>		
<pre>anchorArray[1].y = 0.400; //anchorl.y uint:m</pre>		
<pre>anchorArray[1].z = 1.400; //anchorl.z uint:m</pre>		
<pre>anchorArray[2].x = 2.400; //anchor2.x uint:m</pre>		
<pre>anchorArray[2].y = -2.000; //anchor2.y uint:m</pre>		
<pre>anchorArray[2].z = 1.400; //anchor2.z uint:m</pre>		
	1	
/*anchorArray[3].x = -1.60; //anchor2.x uint:m		
anchorArray[3].y = -2.40; //anchor2.y uint:m		
anchorArray[3].z = 1.400; //anchor2.z uint:m*/		

5) Click the verify button to compile



6) Compilation is complete, if there is no error, the next step will be downloaded



 编译完成。 项目使用了 22806 字节,占用了 (70%)程序存储空间。最大为 32256 字节。 全局变重使用了526字节,(25%)的动态内存,余留1522字节局部变重。最大为2048字节。 1 Ardui

7) Click the upload button, unplug the RXD and TXD pins of the development board before downloading



8) It shows that the upload is successful, that is, the download is successful





9) Connect the TXD of any base station to RX0 on the development board, open the serial monitor, and select 115200 for the baud rate



💿 UWB   Arduino	1.8.15		- 🗆 X					
文件 編編 项目 工	員 帮助 自动格式化	Ctrl+T	₽					
UWB § tritat	项目存档 停正编码并重新加载	6 L 6 7 J						
#include "uar	管理年 申日監視議 申日公祝課	Ctrl+Shift+N						
#include "tri //#include "i	WiFi101 / WiFiNINA Firmware	Updater						
	开发板: "Arduino Uno" 端曰: "COM78"	>						
<pre>void setup() //Seriall.b</pre>	取得开发板信息							
while (Seri )	烧费引导程序	,						
<pre>void loop(void) decoding();</pre>	ι							
)								
			~					
上传成功。 项目使用了 22806:1	字节,占用了 (70%) 程序存錄空间	l。最大为 32256 字节。						
全局交量使用了526字	2节,(25%)的动态内存,余留15223	字节局部变里。最大为2048字节。						
15			Arduine Une 🗄 COM78					
🗯 💽 📷 (	🔊 🕅 🕥 🏭	🥼 👄 📮 🍠					A 🖱 🖷	23:26
								🍐 📼 🧖 d× 英 2021/6/22 🗟
COM7	78							
💿 сом7	78						_	▲ ● <sup>▲</sup> 4 * ¥ 2021/6/22 ■ □ X 友送
COM7	78 A0:1064 ra	inge Al:2436	range A2:3598	range A3:0 x:	:0.12 y:0.66	z:0.58	_	▲ ● ▲ • * * 9021/922   ¥ □ × 反送
© COM7 T3 range T3 range	78 A0:1064 ra A0:1059 ra	nge Al:2436 nge Al:2446	range A2:3598 range A2:3621	range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69	z:0.58 z:0.60		▲ ▲ 4 × 2020/0422 ¥ □ × 」 友送
© COM7 T3 range T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra	nge Al:2436 nge Al:2446 nge Al:2427	range A2:3598 range A2:3621 range A2:3621	range A3:0 x: range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70	z:0.58 z:0.60 z:0.57		▲ ▲ 4 × 2020/0422 ¥ □ × 」 发送
COM7 T3 range T3 range T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra	nge Al:2436 nge Al:2446 nge Al:2427 nge Al:2455	range A2:3598 range A2:3621 range A2:3621 range A2:3612	range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66	z:0.58 z:0.60 z:0.57 z:0.56		▲ ● ▲ 4 * * 2021/0422 ¥ □ × 反送
COM7 T3 range T3 range T3 range T3 range T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra A0:1139 ra	nge Al:2436 nge Al:2446 nge Al:2427 nge Al:2455 nge Al:2473	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3612	range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48	_	▲ ● ▲ • * * 2021/022 ¥ □ × 反送
COM7 T3 range T3 range T3 range T3 range T3 range T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra A0:1139 ra A0:1148 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2473 ange Al:2436	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3621 range A2:3635	range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66 :0.12 y:0.66 :0.15 y:0.72	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52		▲ ● ▲ 4 * * 2021/022 ¥ □ × 反送
COM7 T3 range T3 range T3 range T3 range T3 range T3 range T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra A0:1139 ra A0:1148 ra A0:1120 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2473 ange Al:2436 ange Al:2417	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3621 range A2:3635 range A2:3621	range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66 :0.15 y:0.72 :0.16 y:0.71	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.55		▲ ● ▲ 4 * * 2021/022 ¥ □ × 反送
COM7 T3 range T3 range T3 range T3 range T3 range T3 range T3 range T3 range T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra A0:1139 ra A0:1148 ra A0:1120 ra A0:1125 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2473 ange Al:2436 ange Al:2417 ange Al:2431	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3621 range A2:3635 range A2:3621 range A2:3607	range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66 :0.15 y:0.72 :0.16 y:0.71 :0.15 y:0.68	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.55 z:0.52		▲ ● ▲ 4 * * 2021/022 ¥ □ × 反送
COM7 T3 range T3 range T3 range T3 range T3 range T3 range T3 range T3 range T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra A0:1139 ra A0:1148 ra A0:1120 ra A0:1125 ra A0:1134 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2473 ange Al:2436 ange Al:2417 ange Al:2431 ange Al:2446	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3621 range A2:3635 range A2:3621 range A2:3607 range A2:3607	range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66 :0.15 y:0.72 :0.16 y:0.71 :0.15 y:0.68 :0.14 y:0.66	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.55 z:0.52 z:0.52		▲ ▲ 4 × 2021/0422 ¥ □ × 〕 发送
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra A0:1139 ra A0:1148 ra A0:1120 ra A0:1125 ra A0:1134 ra A0:1078 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2473 ange Al:2473 ange Al:2417 ange Al:2431 ange Al:2446 ange Al:2436	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3635 range A2:3635 range A2:3607 range A2:3607 range A2:3607 range A2:3607	range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66 :0.15 y:0.72 :0.16 y:0.71 :0.15 y:0.68 :0.14 y:0.66 :0.13 y:0.67	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.55 z:0.52 z:0.52 z:0.49 z:0.57		▲ ▲ 4 ¥ ¥ 902116422 ¥ □ × □ ×
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra A0:1139 ra A0:1120 ra A0:1120 ra A0:1125 ra A0:1134 ra A0:1078 ra A0:1139 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2473 ange Al:2436 ange Al:2431 ange Al:2436 ange Al:2436 ange Al:2469	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3621 range A2:3635 range A2:3621 range A2:3607 range A2:3607 range A2:3607 range A2:3654	range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66 :0.15 y:0.72 :0.16 y:0.71 :0.15 y:0.68 :0.14 y:0.66 :0.13 y:0.67 :0.12 y:0.71	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.55 z:0.52 z:0.52 z:0.49 z:0.57 z:0.52		▲ ▲ 4 × ¥ 2021/0422 ¥ □ × □ ×
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1077 ra A0:1077 ra A0:1139 ra A0:1120 ra A0:1125 ra A0:1125 ra A0:1134 ra A0:1078 ra A0:1139 ra A0:1139 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2473 ange Al:2436 ange Al:2431 ange Al:2436 ange Al:2436 ange Al:2469 ange Al:2446	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3621 range A2:3635 range A2:3627 range A2:3607 range A2:3607 range A2:3607 range A2:3654 range A2:3654	range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66 :0.15 y:0.72 :0.16 y:0.71 :0.15 y:0.68 :0.14 y:0.66 :0.13 y:0.67 :0.12 y:0.71 :0.10 y:0.66	z:0.58 z:0.60 z:0.57 z:0.56 z:0.52 z:0.55 z:0.52 z:0.52 z:0.49 z:0.57 z:0.52 z:0.52		▲ ▲ 4 ¥ ¥ 902116422 ¥ □ × □ ×
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1077 ra A0:1073 ra A0:1139 ra A0:1120 ra A0:1125 ra A0:1125 ra A0:1134 ra A0:1078 ra A0:1139 ra A0:1139 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2453 ange Al:2436 ange Al:2431 ange Al:2436 ange Al:2436 ange Al:2469 ange Al:2460	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3612 range A2:3635 range A2:3607 range A2:3607 range A2:3607 range A2:3654 range A2:3654	range A3:0 x: range A3:0 x:	:0.12 y:0.66 :0.11 y:0.69 :0.14 y:0.70 :0.11 y:0.66 :0.12 y:0.66 :0.15 y:0.72 :0.16 y:0.71 :0.15 y:0.68 :0.13 y:0.68 :0.13 y:0.67 :0.12 y:0.71 :0.10 y:0.66 :0.13 y:0.69	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.55 z:0.52 z:0.49 z:0.57 z:0.52 z:0.60 z:0.50		▲ ● ▲ • ¥ 9001/922 ¥ □ × 反送
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1077 ra A0:1077 ra A0:1139 ra A0:1120 ra A0:1125 ra A0:1125 ra A0:1134 ra A0:1078 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2473 ange Al:2436 ange Al:2431 ange Al:2436 ange Al:2446 ange Al:2460 ange Al:2460 ange Al:2460	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3612 range A2:3635 range A2:3607 range A2:3607 range A2:3607 range A2:3654 range A2:3655 range A2:3635 range A2:3607	range A3:0 x: range A3:0 x:	0.12 y:0.66 0.11 y:0.69 0.14 y:0.70 0.11 y:0.66 0.12 y:0.66 0.15 y:0.72 0.16 y:0.71 0.15 y:0.68 0.14 y:0.66 0.13 y:0.67 0.12 y:0.71 0.10 y:0.66 0.13 y:0.69 0.12 y:0.65	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.52 z:0.52 z:0.49 z:0.57 z:0.52 z:0.60 z:0.50 z:0.52		▲ ▲ ▲ ▲ ★ ★ \$201/022 ¥ □ × 反送
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1139 ra A0:1139 ra A0:1120 ra A0:1125 ra A0:1125 ra A0:1134 ra A0:1078 ra A0:1078 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1197 ra A0:1153 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2455 ange Al:2436 ange Al:2431 ange Al:2446 ange Al:2446 ange Al:2460 ange Al:2460 ange Al:2460 ange Al:2460 ange Al:2427	range A2:3598 range A2:3621 range A2:3621 range A2:3621 range A2:3621 range A2:3625 range A2:3607 range A2:3607 range A2:3607 range A2:3602 range A2:3602 range A2:3607 range A2:3607 range A2:3607 range A2:3607	range A3:0 x: range A3:0 x:	0.12 y:0.66 0.11 y:0.69 0.14 y:0.70 0.11 y:0.66 0.12 y:0.66 0.15 y:0.72 0.16 y:0.71 0.15 y:0.68 0.14 y:0.66 0.13 y:0.67 0.12 y:0.71 0.10 y:0.66 0.13 y:0.69 0.12 y:0.65 0.17 y:0.68	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.52 z:0.52 z:0.49 z:0.57 z:0.52 z:0.60 z:0.50 z:0.52 z:0.49		▲ ▲ ▲ ▲ ★ ★ ¥021/022 ¥ □ × □ ×
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1077 ra A0:1139 ra A0:1139 ra A0:1120 ra A0:1125 ra A0:1125 ra A0:1134 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1197 ra A0:1153 ra A0:1120 ra	ange A1:2436 ange A1:2446 ange A1:2427 ange A1:2455 ange A1:2436 ange A1:2436 ange A1:2431 ange A1:2446 ange A1:2446 ange A1:2460 ange A1:2460 ange A1:2460 ange A1:2460 ange A1:2427 ange A1:2422	range A2:3598 range A2:3621 range A2:3621 range A2:3621 range A2:3622 range A2:3635 range A2:3607 range A2:3607 range A2:3607 range A2:3602 range A2:3605 range A2:3607 range A2:3607 range A2:3607 range A2:3607 range A2:3607	range A3:0 x: range A3:0 x:	0.12 y:0.66 0.11 y:0.69 0.14 y:0.70 0.11 y:0.66 0.12 y:0.66 0.15 y:0.72 0.16 y:0.71 0.15 y:0.68 0.14 y:0.66 0.13 y:0.67 0.12 y:0.71 0.10 y:0.66 0.13 y:0.69 0.12 y:0.65 0.17 y:0.68 0.16 y:0.65	2:0.58 2:0.60 2:0.57 2:0.56 2:0.52 2:0.52 2:0.52 2:0.57 2:0.52 2:0.60 2:0.50 2:0.50 2:0.52 2:0.49 2:0.50		
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1059 ra A0:1097 ra A0:1139 ra A0:1148 ra A0:1120 ra A0:1125 ra A0:1134 ra A0:1139 ra A0:1078 ra A0:1139 ra A0:1097 ra A0:1153 ra A0:1120 ra A0:1120 ra A0:1120 ra A0:1120 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2453 ange Al:2473 ange Al:2436 ange Al:2436 ange Al:2446 ange Al:2446 ange Al:2446 ange Al:2446 ange Al:2440 ange Al:2427 ange Al:2422 ange Al:2423	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3635 range A2:3635 range A2:3607 range A2:3607 range A2:3607 range A2:3607 range A2:3602 range A2:3607 range A2:3607 range A2:3607 range A2:3607 range A2:3607 range A2:3579 range A2:3602	range A3:0 x: range A3:0 x:	0.12 y:0.66 0.11 y:0.69 0.14 y:0.70 0.11 y:0.66 0.12 y:0.66 0.15 y:0.72 0.16 y:0.71 0.15 y:0.68 0.14 y:0.66 0.13 y:0.67 0.12 y:0.71 0.10 y:0.66 0.13 y:0.69 0.12 y:0.65 0.17 y:0.68 0.16 y:0.65 0.18 y:0.69	z:0.58 z:0.60 z:0.57 z:0.56 z:0.48 z:0.52 z:0.52 z:0.52 z:0.57 z:0.52 z:0.60 z:0.50 z:0.52 z:0.49 z:0.50 z:0.50		▲ 4 4 ¥ ¥021/0422 ¥ □ × □ × □ ↓
COM7 T3 range T3 range	A0:1064 ra A0:1059 ra A0:1097 ra A0:1073 ra A0:1139 ra A0:1120 ra A0:1125 ra A0:1125 ra A0:1134 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1139 ra A0:1148 ra	ange Al:2436 ange Al:2446 ange Al:2427 ange Al:2455 ange Al:2455 ange Al:2473 ange Al:2436 ange Al:2431 ange Al:2436 ange Al:2446 ange Al:2446 ange Al:2446 ange Al:2446 ange Al:2440 ange Al:2422 ange Al:2422 ange Al:2423	range A2:3598 range A2:3621 range A2:3621 range A2:3612 range A2:3635 range A2:3635 range A2:3607 range A2:3607 range A2:3607 range A2:3607 range A2:3602 range A2:3607 range A2:3607 range A2:3607 range A2:3607 range A2:3607 range A2:3607 range A2:3607	range A3:0 x: range A3:0 x:	0.12 y:0.66 0.11 y:0.69 0.14 y:0.70 0.11 y:0.66 0.12 y:0.66 0.15 y:0.72 0.16 y:0.71 0.15 y:0.68 0.13 y:0.68 0.13 y:0.67 0.12 y:0.71 0.10 y:0.66 0.13 y:0.65 0.12 y:0.65 0.17 y:0.68 0.16 y:0.65 0.18 y:0.69	2:0.58 2:0.60 2:0.57 2:0.56 2:0.48 2:0.52 2:0.55 2:0.52 2:0.57 2:0.57 2:0.52 2:0.60 2:0.50 2:0.50 2:0.50		

## 3.2 Download to Arduino Mega 2560 development board

The steps are the same as 3.1, the 9th point is modified to connect the TXD of any base station to RX1 on the development board

The code needs to be changed in three places, as shown below



📨 UWB   Arduino 1.8.15	_	×
文件 编辑 项目 工具 帮助		
		Ø
UWB trilateration.h uart.h		
//实现功能: 将UWB模块拿到的数据实时的拿出来,并进行三点或者四点定位		^
<pre>#include "uart.h" #include "trilateration.h"</pre>		
//#include "interrupt.h"		
<pre>void setup(){     Serial1.begin(115200); //UWB模块对应的串口     Serial.begin(115200);</pre>		
<pre>while(Serial.read()&gt;=0){}//clearserialbuffer } void loop(void){ decoding(); }</pre>		

UWB trilateration.h uart.h	•	
<pre>int a = 0, b = 0, c = 0,d=0; /*******查看是否有完整的65byte数据****/ bool check() {</pre>		^
int $i = 0;$	- 1	
<pre>int timeout = 0;</pre>		
while (i < 65 && timeout <= 500)		
{		
<pre>if (!Serial1.available())</pre>		
{	- 1	
<pre>timeout++;</pre>		
//delayMicroseconds(200);		
continue;		
}		
<pre>timeout = 0;</pre>		
<pre>buff[i++] = Serial1.read();</pre>		
if (i == 65)		
{		
<pre>buff[i] = 0;</pre>		
return 1;		
}		
}		
return 0;		
}		



## 3.3 Download to Arduino Due development board

3.3.1 The software does not have a Due development board, you need to download the Due development board library, find the development board manager, search for Due, and select version 1.6.12 to install

UWB   Arduino	.8.15		- • ×					
	自动格式化	Ctrl+T	Ø					
	项目存档							
//实现功能: 将(	管理库	Ctrl+Shift+I	^					
#include "uar	串口监视器 串口绘图器	Ctrl+Shift+M						
#include "tri	WiFi101 / WiFiNINA Firmware U	Indater						
//#include "1	开发板: "Arduino Uno"	1	开发板管理器					
	端曰: "COM78"	X	Arduino ARM (32-bits) Boards >					
<pre>void setup()    //Seriall.b</pre>	取得开发板信息		Arduino AVR Boards >					
Serial.begi while(Seri	编栏器: "AVRISP mkll" 烧录引导程序	>						
decoding(); ) 上代意為。 項目使用了 22006 杂 全局攻量使用了5205 15	特·查明了(104) 程序持续空间, 示。2341 贷款资件符,索型1555字中	最大力 32256 空符。 市局部攻撃。最大力2045年	c†+ - Ardune Uns © COM79					
<ul> <li>C = (</li> <li>) 开发板管</li> <li>类型 全部</li> </ul>	■ <u>₩</u> ● <u>₩</u> 4 5理器	2 ◎ ☆ . ~ due	3				ላ <b>ቲ ቀ ይ ම ነ</b> ወ ይ ቀ	<u>₹</u> 2332 <u>₹</u> 2021/6/22 ★
Ar duino by Ardui 这个包含 Arduino I <u>Online H</u>	<b>SAM Boards</b> no 版本 <b>1.6.12</b> 的开发板: Due. elp	(32-bits INSTALLE	ARM Cortex-M	3)	 			^
More Inf 选择版本	<u>○</u>						刪除	
								~
								关闭

3.3.2 After the installation is complete, select the development board, select the port, and the other steps are the same as 3.2







# **4** Document Management Information Form

Subject	UWB dev-kit works with Arduino
Version	V1.2
Reference documents	
Creation time	2019/01/01
Founder	Lynn
Latest release date	2023/01/01

Operator	Date	Document change record
Lynn	2019-01-01	<u>V1.0</u> V1.0 release
Lynn	2021-07-28	$\underline{V1.1}$ Rewrite chapters 2 and 3 to introduce the software download steps and precautions in detail
Lynn	2023-01-01	<u>V1.2</u> Modify the format and apply the new YCHIOT document visual style