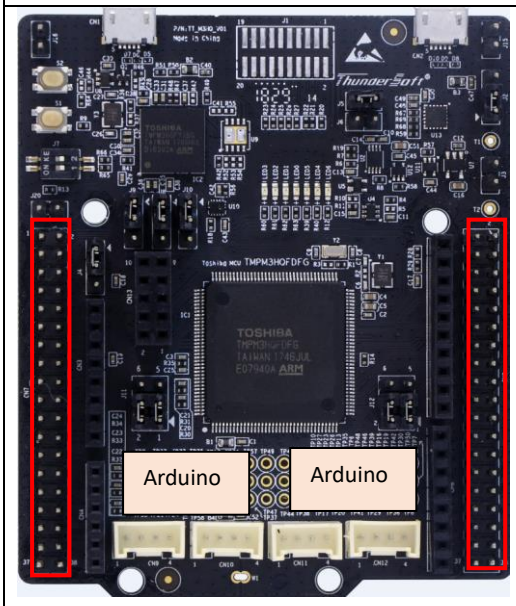
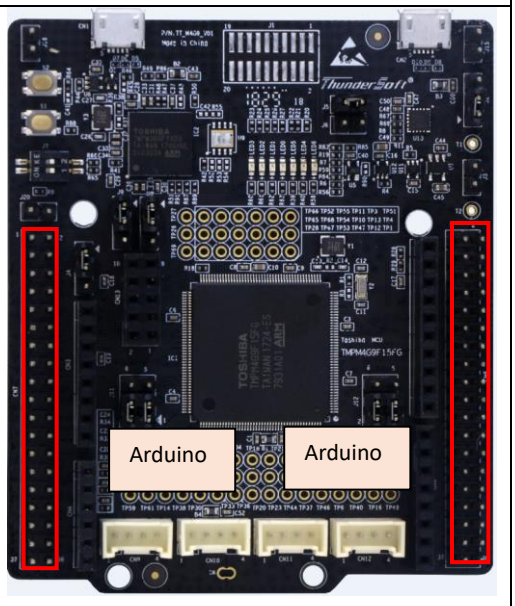
This manual is suitable for TT_M3HQ and TT_M4G9 development boards designed and manufactured by Thunder Software Technology Co., Ltd.
In this paper, TT_M3HQ and TT_M4G9 development boards are referred to as development boards. For TT_M3HQ and TT_M4G9, please refer to the following links for details.

Official	TT_M3HQ	https://www.thundersoft.com/index.php/iot/kit/m3hq/3-126
	TT_M4G9	https://www.thundersoft.com/index.php/iot/kit/m4g9/3-127
mbed	TT_M3HQ	https://os.mbed.com/platforms/TT-M3HQ/
	TT_M4G9	https://os.mbed.com/platforms/TT-M4G9/

For the PIR Sensor, used in this manual, please refer to the following links, referred to as the Test Sensor in this article.

Purchase address	https://item.taobao.com/item.htm?spm=a230r.1.14.1.6f483e5bvmWeIY&id=43728645249&ns=1&abbucket=13#detail

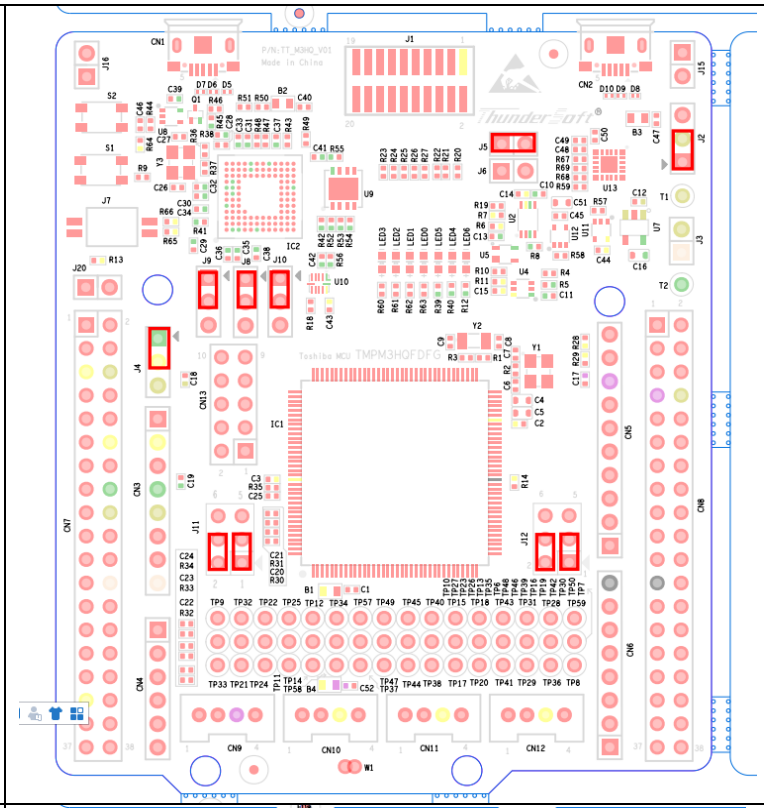
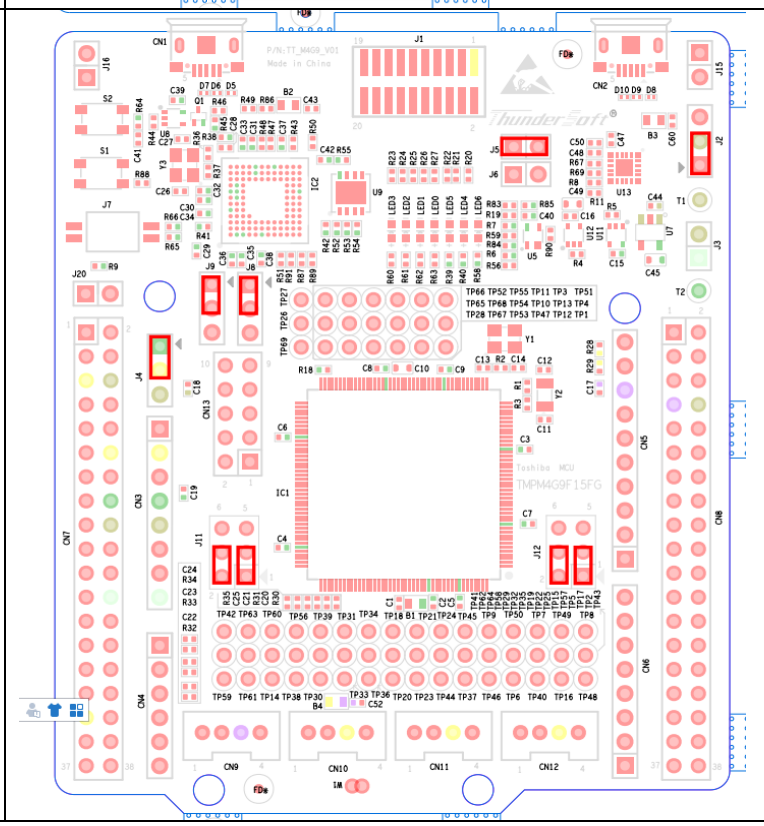
Precautions No.1:
The final version of the development board is not equipped with the following extension connectors. If you need to use them, please solder the extension connectors or jump wire by yourself.

TT_M3HQ	TT_M4G9
	

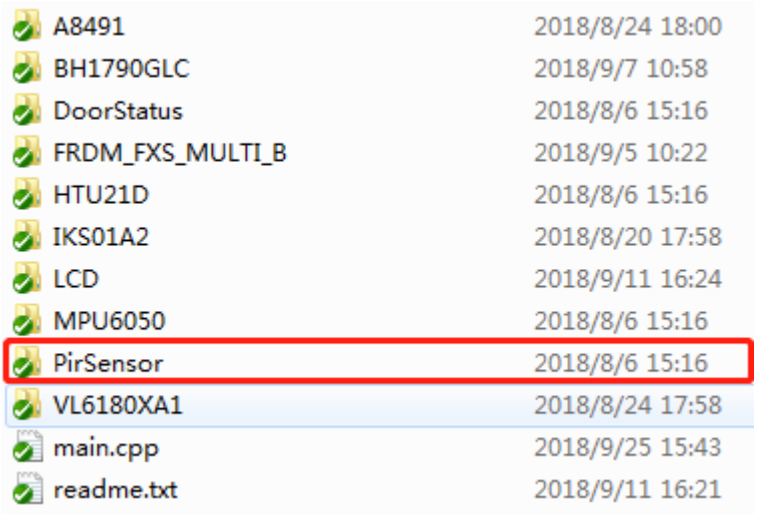
Precautions No.2:

Please confirm that the jumper caps are installed correctly as below before use.

(The jumper caps are installed according to the default state in factory. However, the jumper caps may fall off during use, which may cause the board to fail to start.)

TT_M3HQ	
TT_M4G9	

Operation steps：
Step1: Download the corresponding test code from the official website or mbed website, as shown below.

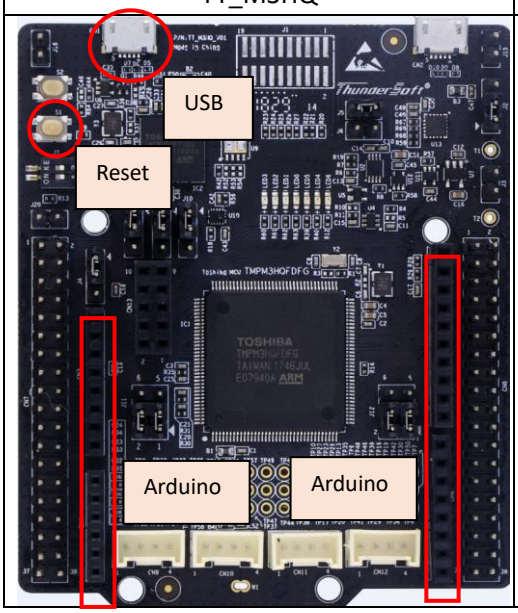
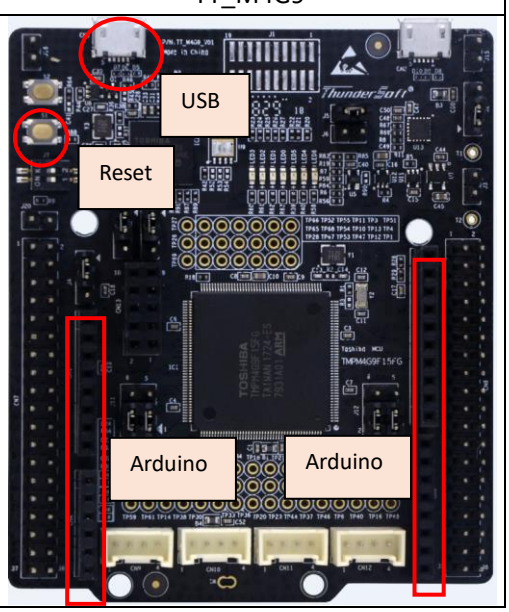


Step2: Compile source code
Developers can compile code in command line tools with the following commands.

TT_M3HQ	mbed compile -t GCC_ARM -m TT_M3HQ -D TEST_PIR_SENSOR
TT_M4G9	mbed compile -t GCC_ARM -m TT_M4G9 -D TEST_PIR_SENSOR

Step3: Connect development board and Test Sensor.

Schematic diagram of development board:

TT_M3HQ	TT_M4G9
	

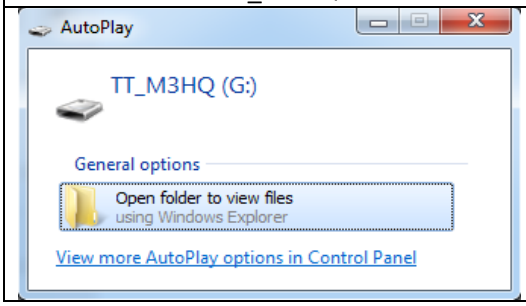
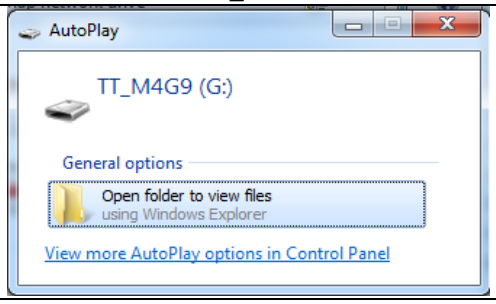
Schematic diagram of connection:

Test Sensor

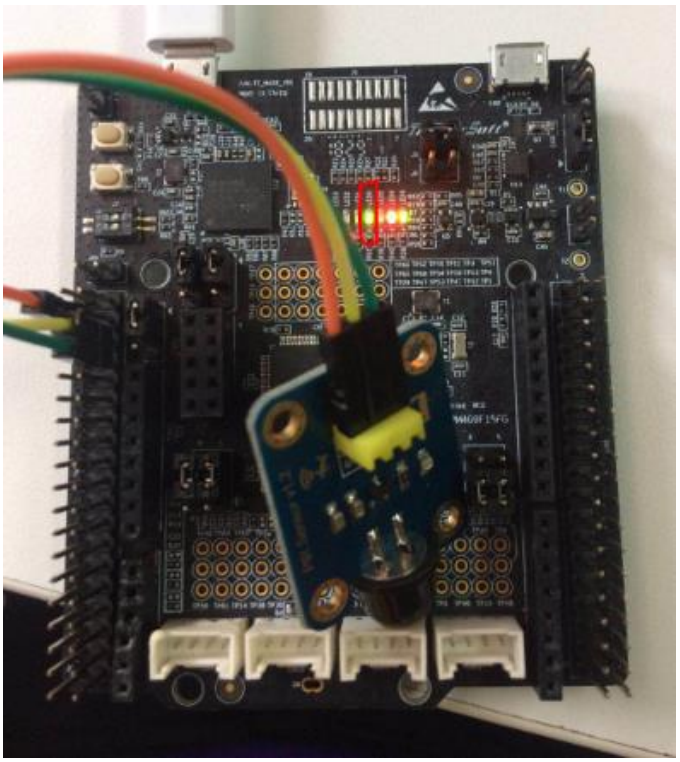
Connect the development board and Test Sensor through DuPont line, as follows ・Test Sensor + interface connects with development board CN7 pin6 ・Test Sensor - interface connects with development board CN7 pin8 ・Test Sensor S interface connects with development board CN7 pin 3

Step4:Burn .bin file：

After connecting the development board and PC through USB, the following symbols appear.

TT_M3HQ	TT_M4G9
	

Then drag and drop (or copy) the .bin file compiled in Step2 to the corresponding symbols. After the drag and drop (copy) is completed, press the reset key, and the following output will appear.

	LED Output
Output	Touch (or approach) Test Sensor with hand. LED0 will light for 5 seconds and then shut down. 

The developer can compile and write the program to the development board through IAR / KEIL after getting the code. This article will not introduce the use of IAR and KEIL, so the developer can debug it by himself.