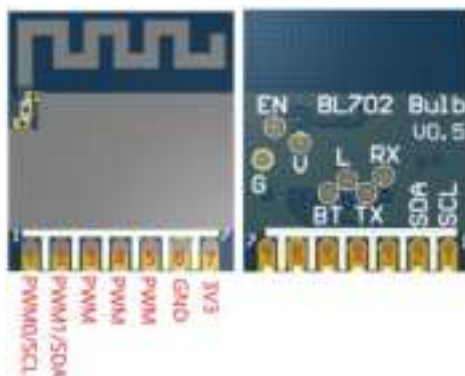


# TRZB13 Module User Manual

## 1、 Overview

The main chip of the module is BL702C-10-Q2H, which is designed to provide highly integrated application functions.

The TRZB13 can be connected to corresponding products through reserved test and function ports, including I2C and PWM; It also contains 3V3 voltage and GND voltage, connected to the corresponding product, which can power the TRZB13 module.



## 2、 Working Principle

The user powers the module through the VDD and GND pins, PIN1 and PIN2 can use I2C signals to control LED changes, while PIN1-5 can also be used as PWM signals.

The module can be used together with the lamp product, you can use the I2C signal or PWM signal to control the lamp product, the module is connected to the wireless network through the antenna, and after receiving the relevant control instructions, it will control the color and light and dark of the lamp through the I2C or PWM signal.

The PWM4 signal is multiplexed with the TX0 burning interface at the same time. After the module burning is completed, the TX0 is idle and can be used as PWM signal.

## 3、 Interface Specification

The 7PIN pad interface is defined in Table 1 below.

Table 1

Pin	Name	Type	Description
1	IO0	I/O	Main chip GPIO0, PWM0 / I2C SCL.
2	IO1	I/O	Main chip GPIO1, PWM1 / I2C SDA.
3	IO2	I/O	Main chip GPIO2, PWM2.
4	IO8	I/O	Main chip GPIO8, PWM3.

5	IO14	I/O	Main chip GPIO14, PWM4 / UART TX.
6	GND	P	Module power supply.
7	VDD	P	Module power input, typical application 3.3V power supply.

The test point on the back of the module is used for product production test and debug, as shown in Table 2 below

Table 2

No.	Name	Description
1	V	VDD, module 3.3V power supply.
2	G	GND, module power source.
3	RX	Main chip GPIO15 (RX), dedicated to burning, debug functions.
4	TX	Main chip GPIO14 (TX), dedicated to burning, debug functions.
5	BT	Main chip GPIO28 (Boot) : Power-on The initial low level enters the normal working mode. Power on the initial high level to enter Flash burning mode.
6	EN	Main CHIP PU CHIP pin, pull up the high level inside the module to enable.
7	L	Main chip GPIO26 (TX),Log print.

#### 4、 Specification

Manufacturer: Jiangsu Shushi Technology Co., Ltd.

Address: NO.9 Nanxu Road,RunZhou District,Zhenjiang,Jiangsu,China

See Table 3 below for the main parameters of the module

Operating Temp	14 to 212 F(-10 to 100 ℃ )
Input Voltage	3.3V ==
Module current RF TX	45mA Typical
Operating Frequency	2.4GHz

## 5、 Installation Instruction

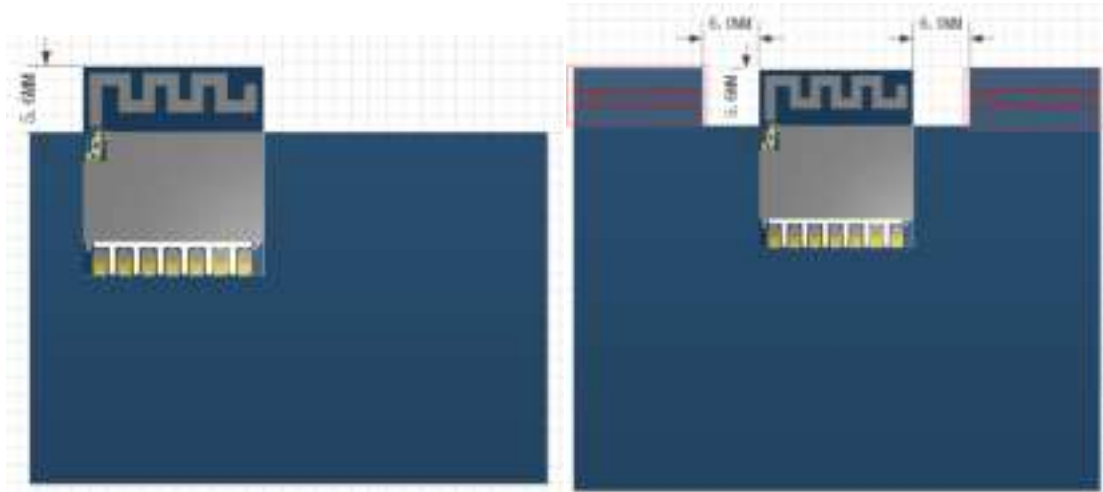
In order to maximize the radiation effect of the antenna, it is recommended that:

The three-dimensional distance between the module antenna area and the metal parts of the user's product is at least 6~15mm(such as housing positioning screws, power wires, signal wires, hardware, etc.);

The user PCB board should not be wired or covered with copper in the area directly below the module antenna area and the surrounding 6mm area;

The module is located in one corner or one side of the product, and the antenna area is external and to the user.

As shown in Figure blow (the module in the picture is only a reference diagram)



## 6、 Operational use Conditions

When the module is used with the host product, the corresponding package should be reserved on the host product, as shown in Figure below, respectively, the schematic package and PCB package sizes.

Figure:schematic package

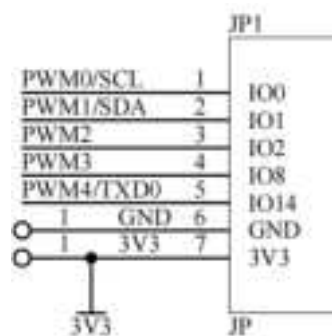
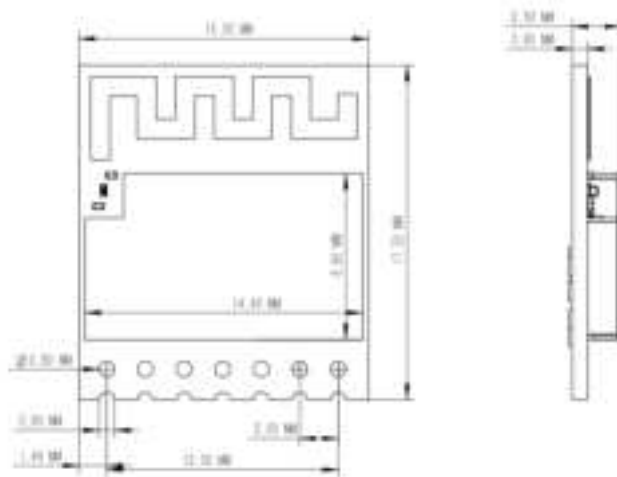


Figure:PCB package



## 7、Label

### IOT Module

Model No.: TRZB13

FCC ID: 2BAGQ-TRZB13

IC ID: 28296-TRZB13

Input: 3.3V  $\pm$  200mA

Manufacturer: Jiangsu Shushi Technology Co., Ltd.

Adress: NO.9 Nanxu Road,RunZhou District,  
Zhenjiang,Jiangsu,China



## **FCC Statement**

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help important announcement

## **Radiation Exposure Statement**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands is country-dependent and firmware programmed at the factory to match the intended destination.

The firmware setting is not accessible by the end-user.

The final end product must be labeled in a visible area with the following:

Contains Transmitter Module: 2BAGQ-TRZB13

This radio module must not be installed to co-locate and operating simultaneously with other radios in the host system, additional testing and equipment authorization may be required to operate simultaneously with other radios.

This LMA does not have RF shielding and is tested and approved as a standalone configuration, additional evaluation may be required for any system integrated with this radio module.

## **ISED Statement**

- English: This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device. The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

- French: Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

## **Radiation Exposure Statement**

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

## **Déclaration d'exposition aux radiations**

Cet équipement est conforme aux limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20cm entre le radiateur et votre corps.