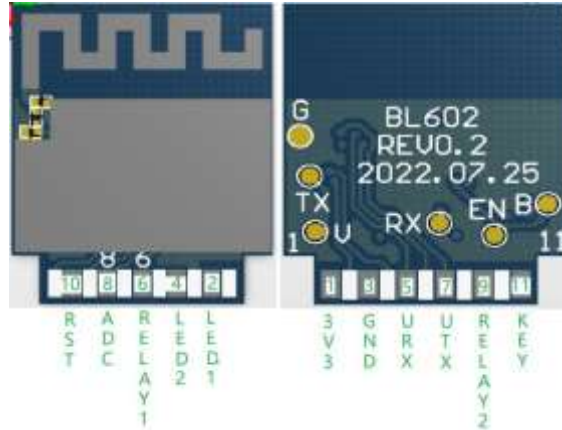


# Matter Plug Module User Manual

## 1、 Overview

The main chip of the module is BL602C-40-Q21S, which is designed to provide highly integrated application functions.

The TRWB6 can be connected to corresponding products, including ADC, LED, UART, etc., through reserved test and function ports; It also contains 3V3 voltage and GND voltage, connected to the corresponding product, and can supply power to the TRWB6 module.



## 2、 Working principle

The user powers the module through the VDD and GND pins, and the LED1 and LED2 pins can drive LED lights to indicate the current status of the module.

The module is connected to the wireless network through the antenna, and after receiving the relevant control instructions, the RELAY pin of the module will output a high level or low level to control other devices.

The user controls the reset and network configuration of the module through the KEY pin.

UTX and URX are serial communication interfaces through which users can communicate with other devices.

## 3、 Interface Specification

The 11PIN pad interface is defined in Table 1 below.

Table 1

Pin	Name	Type	Description
1	VDD	P	Module power input, typical application
2	LED1	O	Main chip GPIO20, PWM.
3	GND	P	Module power supply.
4	LED2	O	Main chip GPIO21, PWM.
5	URX	I	Main chip GPIO1, module UART RX input.

6	RELAY1	O	Main chip GPIO0, relay pin control.
7	UTX	O	Main chip GPIO2, module UART TX output.
8	ADC	I	Main chip GPIO14, ADC.
9	RELAY2	O	Main chip GPIO12, relay pin control.
10	RST	/	Main chip PU_CHIP pin, pull up the high level inside the module to enable.
11	KEY	I	Main chip GPIO11, key input.

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 GPIO7 (RX), dedicated to burning, debug functions.
4	TX	Main chip GPIO16 (TX), dedicated to burning, debug functions.
5	B	Main chip GPIO8 (Boot) : Power-on The initial high level enters the normal working mode. Power on The initial low level enters flash burning mode.
6	EN	Main chip PU_CHIP pin, pull up the high level inside the module to enable.

#### 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	-32 to 122 F(0 to 50 °C )
Input Voltage	3.3V $\pm$
Input Current	350mA Max
Operating Frequency	2.4GHz

## 5、 Label

### Matter Plug Module

Model No.: TRWB6

FCC ID: 2BAGQ-TRWB6

Input: 3.3V  350mA

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 modular complies with FCC RF 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 module is limited to OEM installation only The OEM integrator is responsible for ensuring that the end-user has no manual instructions to remove or install module If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: Contains Transmitter Module FCC ID:2BAGQ-TRWB6 Or Contains FCC ID: 2BAGQ-TRWB6

When the module is installed inside another device, the user manual of the host must contain below warning statements;

### **1.1 List of applicable FCC rules**

FCC Part 15 Subpart C 15.247 & 15.209

## 1.2 Specific operational use conditions

The module is a 2.4G Wi-Fi module.

Operation Frequency: 2412-2462MHz

Number of Channel: 11

Modulation: DSSS, OFDM

Type: PCB Antenna

Gain: 2dBi Max.

The module can be used for mobile or portable applications with a maximum 2dBi antenna. The host manufacturer installing this module into their product must ensure that the final composite product complies with the FCC requirements by a technical assessment or evaluation to the FCC rules, including the transmitter operation. The host manufacturer has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.

1.3 Limited module procedures Not applicable. The module is a Single module and complies with the requirement of FCC Part 15.212.

## 1.4 Trace antenna designs

Not applicable. The module has its own antenna, and doesn't need a host's printed board microstrip trace antenna etc.

## 1.5 RF exposure considerations

The module must be installed in the host equipment such that at least 20cm is maintained between the antenna and users' body; and if RF exposure statement or module layout is changed, then the host product manufacturer required to take responsibility of the module through a change in FCC ID or new application. The FCC ID of the module cannot be used on the final product. In these circumstances, the host manufacturer will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

## 1.6 Antennas

Antenna Specification are as follows:

Type: PCB Antenna

Gain: 2dBi

This device is intended only for host manufacturers under the following conditions: The transmitter module may not be co-located with any other transmitter or antenna; The module shall be only used with the internal antenna(s) that has been originally tested and certified with this module. The antenna must be either permanently attached or employa 'unique' antenna coupler. As long as the conditions above are met, further transmitter test will not be required. However, the host manufacturer is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

### 1.7 Label and compliance information

Host product manufacturers need to provide a physical or e-label stating "Contains FCC ID: 2BAGQ-TRWB6" with their finished product.

### 1.8 Information on test modes and additional testing requirements

Operation Frequency: 2412-2462MHz

Number of Channel: 11

Modulation: DSSS, OFDM

Host manufacturer must perform test of radiated & conducted emission and spurious emission, etc according to the actual test modes for a stand-alone modular transmitter in a host, as well as for multiple simultaneously transmitting modules or other transmitters in a host product. Only when all the test results of test modes comply with FCC requirements, then the end product can be sold legally.

1.9 Additional testing, Part 15 Subpart B disclaimer The modular transmitter is only FCC authorized for FCC Part 15 Subpart C 15.247 & 15.209 and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuitry), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.