



WiFi+BLE Module Manual

Model: GRJWB65-J

FCC ID: 2ADAP-GRJWB65J

IC: 12478A-GRJWB65J

Gree Electric Appliances, Inc. of Zhuhai

- Please read this manual carefully before operation and keep it well for future reference.
- Due to product improvement, Gree reserves the right to change contents of this manual without prior notice.
- Gree Electric Appliances, Inc. of Zhuhai reserves the final right to interpret this manual.

1、General Functions

The wireless module complies with IEEE 802.11 b/g/n standard and it can achieve up to a speed of 65Mbps with single stream in 802.11n , 54Mbps as specified in IEEE 802.11g, or 11Mbps for IEEE 802.11b to connect to the wireless LAN. This compact module is a total solution for a combination of Wi-Fi 802.11 b/g/n technologies with Microcontroller Processor. The main control chip of this module is highly integrated with Bluetooth low-power controller, with UART interface. It combines Bluetooth protocol, BLE baseband, MODEM and BLE RF-IN chips. It also supports GATT-based applications and MESH device applications based on BLE users, and supports Bluetooth 5.0 low power consumption.

This compact module is a total solution for a combination of Wi-Fi 802.11b/g/n technologies with Microcontroller Processor. The module is specifically developed for embedded system devices. Detailed Instruction of WiFi Module.

2、Technique Parameters

Table1. Module Parameters

Categories	Feature	parameters
Wireless specification	Operating Bands	FCC:2412 MHz to 2462 MHz for 802.11 b/g/n(HT40) 2402MHz to 2480 MHz for BLE
	power	WiFi: 802.11b: $18 \pm 2\text{dBm}$ 802.11g: $14 \pm 2\text{dBm}$ 802.11n: $13 \pm 2\text{dBm}$ BLE: $6 \pm 2\text{dBm}$
	Protocol	IEEE 802.11 b/g/n
	frequency modulation mode	CCK、OFDM、GFSK
	Receive Sensitivity	802.11b<-90.5dBm@11Mbps 802.11g<-77.5dBm@54Mbps 802.11n<-72dBm@MCS7
	Data Rate	WIFI: 802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11n(HT20):6.5/13/19.5/26/39/52/58.5/65 Mbps 802.11n(HT40):13.5/27/40.5/54/81/108/121.5/135Mbps BLE rate: 1 Mbps
	Antenna gain max	1.5 dBi

	Impedance	50-Ohm
electrical specification	Supply Voltage	+3.3V
	Connect	Internal Antenna
physical	Dimensions	35.5mm×17.7mm±0.2mm
Operating Temperature	--	-20-85 deg C.

3、Circuit Description

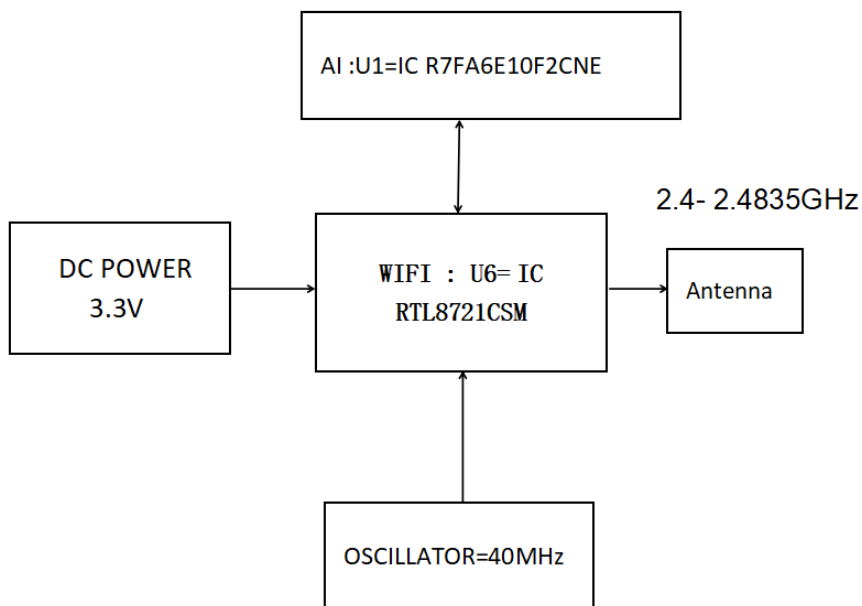


Figure1. Circuit Diagram

WiFi module has an independent power management system, and the system provides a high quality of power supply for the whole module. The Excellent matching circuit in RF-Front ensures that the signal has minimal signal loss and radiation. Oscillator X1 provides the IC U6 with the required oscillation frequency to enable the IC U6 to work normally. IC U1 achieves energy-saving control through continuous interactive learning of product operation environment through algorithms. Flash U2、U8 is the external extended memory of the IC U6、U1 for data storage. The IC U3 provides the interfaces for a variety of peripherals (Timer, PWM, Interrupt, AD, the Debug) from the module to the baseboard. Each peripheral that connects to the MCU I/O pins can choose between two different I/O pin locations with the provided flexibility in various applications.

Hereby, [Name of manufacturer], declares that this [type of equipment] is in compliance with the essential requirements and other relevant provisions of RE Directive 2014/53/EU. A copy of the full DoC is attached.

Transmit frequency of EU:

WiFi: 2412-2462MHz

BLE: 2402-2480MHz

Maximum transmit power: <20dBm

4、Pin Definition

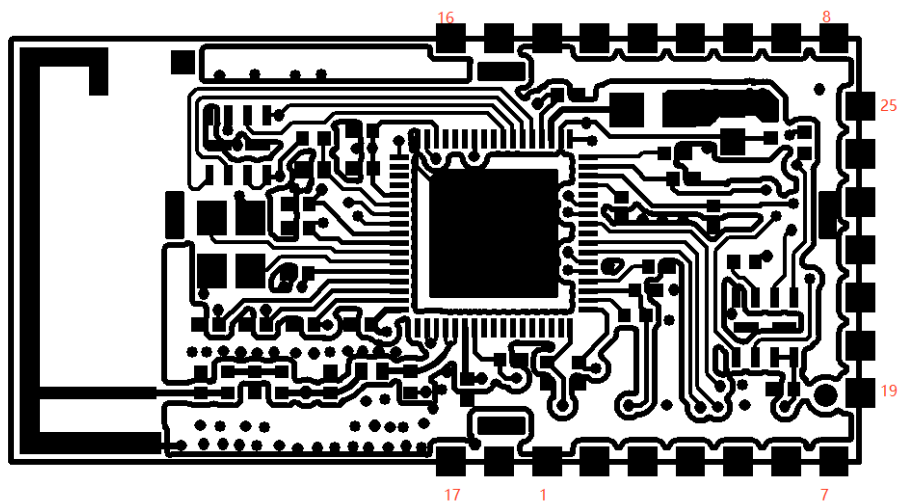


Figure2. Pin Definition

Table2. Pin Definition

PIN	Name	Mode
2,13	VCC	+3.3V
3	ADC	ADC
4	TX	UART_TX
5	RX	UART_RX
6	/	/
7	/	/
1,14	GND	Ground
9	RX	LOG_RX
8	TX	LOG_TX
11	I2C_SCL	I2C_SCL

10	I2C_SDA	I2C_SDA
12	/	/
15	SPI_MISO	SPI_MISO
16	/	/
17	/	/
18	/	/
19	RX	LOGAI_RX
20	TX	LOGAI_TX
21	/	/
22	IO	F_SWD_DIO
23	IO	F_SWD_CLK
24	IO	A_RXD
25	IO	A_TXD

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules and it contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). 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.

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.

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.

FCC& IC Radiation Exposure Statement:

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

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

Contains Transmitter Module FCC ID:2ADAP-GRJWB65-J/IC:12478A-GRJWB65-J”or
“Contains FCC ID:2ADAP-GRJWB65-J/IC:12478A-GRJWB65-J

Déclaration d’IC sur l’exposition aux radiations:

Cet équipement est conforme aux limites d’exposition aux radiations définies par le Canada pour des environnements non contrôlés. Cet équipement doit être installé et utilisé à une distance minimum de 20 cm entre l’antenne et votre corps.

Cet émetteur ne doit pas être installé au même endroit ni utilisé avec une autre antenne ou un autre émetteur.

Gree Electric Appliances, Inc. of Zhuhai

Adresse: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China, 519070
