

# The user manual of WIFI、Bluetooth module

## 1. The product description

The user can achieve the terminal equipment connection WIFI net and Bluetooth, through this module

This equipment may be operated in all European countries.

## 2. Interface

### ◆ Interface

16pin stamp hole patch

Pin definition

Pin	Module	Home appliance	Remark
PIN1	GND	GND	GND
PIN2	Power VCC	Power VCC	3.3V
PIN3	NC		
PIN4	RX Log	RX Log	Used to download and grab logs
PIN5	TX Log	TX Log	Used to download and grab logs
PIN6	TX	TX communication	TLL level
PIN7	RX	RX communication	TLL level
PIN8	GND	GND	GND
PIN9	GND	GND	GND
PIN10	GPIO_2	The reserved GPIO	
PIN11	GPIO_1	The reserved GPIO	
PIN12	RESET	Hardware reset	the module restarts after being pulled down
PIN13	NC		
PIN14	DL_MODE	Forced to download	enter into download mode after being pulled up
PIN15	NC		
PIN16	GND	GND	GND

### ◆ Power consumption requirements

- ◆ The maximum working current is not more than 500mA, the instantaneous maximum current is not more than 700mA;
- ◆ In standby mode, the power supply of the module shall be no less than 0.45W, and the power supply current shall be no less than 1A (DC-DC is recommended).

## 2. Basic parameters

Feature Description	Feature Description
Model	MWB414S.05
Product Name	WiFi 11b/g/n 1T1R and BT4.2 Model
Major Chipset	Realtek RTL8720CF
WLAN Standard	IEEE 802.11b/g/n
BT Standard	BLE4.2
WLAN Frequency Range	2412-2462 MHz
BT Frequency Range	2402-2480 MHz
Spread Spectrum	IEEE 802.11b: DBPSK, DQPSK, CCK for DSSS (Direct Sequence Spread Spectrum)

	IEEE 802.11g: BPSK, QPSK, 16QAM, 64QAM for OFDM (Orthogonal Frequency Division Multiplexing) IEEE 802.11n: MCS0~MCS7, OFDM
Modulation Method	DSSS/DBPSK/DQPSK/16-QAM/ 64-QAM
Data Transfer Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0~MCS7, up to 72.2Mbps
Antenna Reference	PCB printed ANT
Interface	16pin stamp hole patch
Supply Voltage	3.3V±0.3V
Dimension	20×18×3.15mm
Operating Temperature	-10°C to 70°C
Storage Temperature	-20°C to 85°C

### 3. Features

#### 2.1 WLAN

- CMOS MAC, Baseband PHY, and RF in a single chip for 802.11b/g/n compatible WLAN
- Complete 802.11n solution for 2.4GHz band
- 65Mbps receive PHY rate and 65Mbps transmit PHY rate using 20MHz bandwidth
- Compatible with 802.11n specification
- Backward compatible with 802.11b/g devices while operating in 802.11n mode

#### 2.2 Bluetooth

- Support Bluetooth 4.2 BQB
- Bluetooth Smart Ready (Bluetooth Low Energy)
- Highly integrated Bluetooth Low Energy controller with a UART interface
- Combines a BLE Protocol (PHY, LL, L2CAP, SM, ATT, GAP, GATT), BLE Baseband, Modem, and BLE RF in chip
- Supports BLE user GATT-based profile application

### 4. The display method of Model approved code

In the factory, the model approve code is pasted on the back shell in a label.

### 5. CE Statement



EU DECLARATION OF CONFORMITY

Hisense declares that the radio equipment type Hisense MWB414S .05 is in compliance with Directive 2014/53/EU.

### 6. FCC Statement



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.

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.

FCC ID: 2A4A3-WASHER2024

## **7. Radiation Exposure Statement**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of FCC RF Rules.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

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

### **CAUTION:**

To comply with the limits of the Class B digital device pursuant to Part 15 of the FCC Rules, this device is compliant with Class B limits. All peripherals must be shielded and grounded. Operation with non-certified peripherals or non-shielded cables may result in interference to radio or reception

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device, for example, USB dongle like transmitters is forbidden.

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. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

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: 2A4A3-WASHER2024 Or Contains FCC ID: 2A4A3-WASHER2024"

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

1. 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.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

## **MODIFICATION**

To assure continued compliance, Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

## 8. Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body NOTE To satisfy FCC exterior labeling requirements, the following text must be placed on the exterior of the end product Contains Transmitter module FCC ID: 2A4A3-WASHER2024



This symbol on the product or on its packaging indicates that this product must not be disposed of with your household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

The device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.

	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR
	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT
	SI	SK	FI	SE	UK	NO	IS	LI	CH	TR

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

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

Manufacturer: Qingdao Hisense Communication Co., Ltd.

Address: 218 Qianwangang Road, Qingdao Economic & Technological Development Zone, Qingdao, China

Importers:

Hisense France SAS

Address: 9 Rue des 3 Soeurs, 93420 Villepinte, France

Hisense Iberia, S.L.U

Address: Ronda Auguste y Louis Lumiere. 23 Nave 12. Edificio Lumiere - Parque Tecnológico 46980

Paterna (Valencia) - Spain

Hisense Italia S.r.l

Address: Via Montefeltro, 6/A, 20156 MILANO

Hisense South Africa

Address: The Estuaries, Building 17 Oxbow Crescent, Century City, Cape Town, South Africa

## 9. IC Statement

where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

"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."

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;
- 2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.