

# WiFi Instruction

## **IMPORTANT:**

For successful operation, please read these requirements carefully before operation and store them in a safe place for later reference.

# Contents

- 1 WiFi Module Specification
- 2 Smart Phone Requirements
- 3 Percautions
- 4 Technical Solution
- 5 How to install WiFi Module
- 6 How to register an account
- 7 How to pair with device
- 8 How to delete device

## 1 WiFi Module Specification

WiFi Module Model No.	AEH-W4F1
Transmission frequency	2412MHz-2462MHz
Transmission power	≤16.66dBm
Power supply	5V / 400mA
Operating temperature	-10°C~70°C
Operating humidity	20%~85%RH

## 2 Smart Phone Requirements

Terminal device	Android	IOS
System requirements	Android 4.4 or later versions	IOS 8 or later versions
Resolution	800*480 and above	960*640 and above

### 3 Percautions

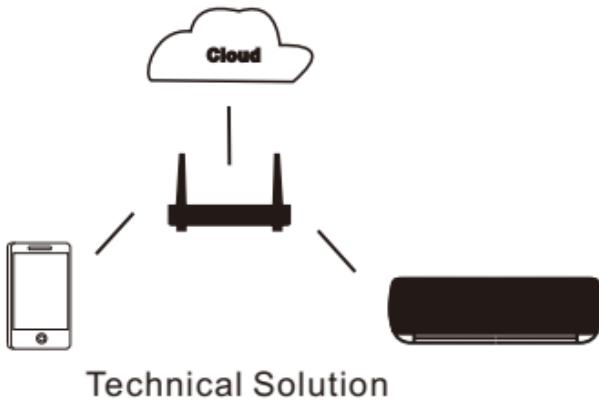
- ▶ Smart phone installed with Application.
- ▶ Not all of Android and IOS system are compatible with APP. We will not be responsible for any issue as a result of the incompatibility.
- ▶ A 2.4GHz wireless router which connects internet.
- ▶ For wireless router, WPA-PSK/WPA2-PSK encryption is recommended.
- ▶ Due to dynamic network connectivity request may time out.In this event,re-run the network.
- ▶ Due to dynamic network connectivity control processes may time out, App and product may display conflicting setting information.Reconnect to sync information.

**Note:** All technical information specified in this instruction shall be subject to actual performance, and the final explanation right should be reserved by company.

### 4 Technical solution

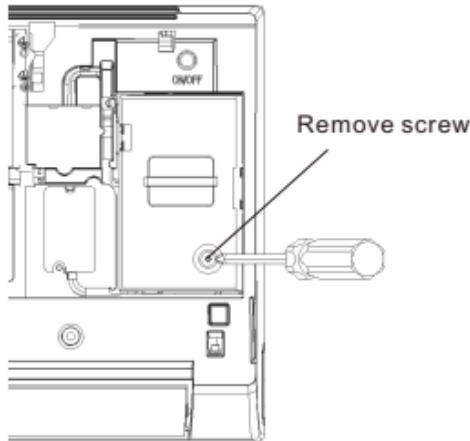
Smart system contains:

- 1)Smart phone
- 2)Smart Air conditioner
- 3)Cloud server
- 4)2.4Ghz Wireless router

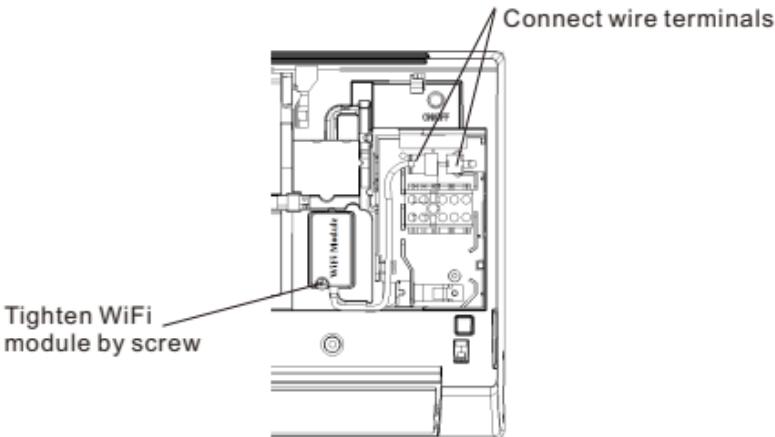


## 5 How to install WiFi module

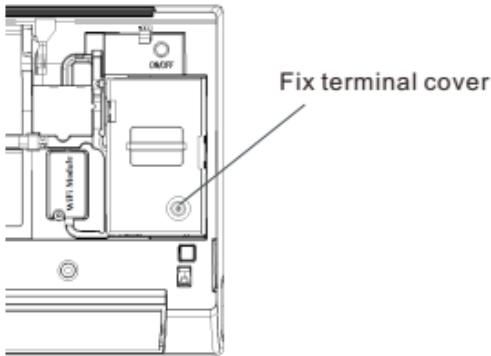
For air conditioner



1) Open air conditioner panel, and use tools to dismantle the terminal cover;



2) Fix WiFi module with tools, and connect the wire terminals of the module and of the internal machine



3) Fix the terminal cover with tools, and then WiFi module installation is finished.

**Note:** Please refer to actual product for specific installation method. This instruction is only served as reference.

## 6 How to register an account

After installing the application, enter the application by clicking the desktop icon. Select "Join now", input the information in the list and then click the "Join now". The system will send a registration code to the user's registered e-mailbox, the user then submits the code and activates the account. Then the user can sign in the application.

## 7 How to pair with device

Before pairing your device, please make sure your smartphone is connected to the Internet through a wireless router. The smartphone and the appliance can't be paired through cellular data service.

For a Dehumidifier: press "mode" and "fan" button at the same time and the buzzer will sound 3 times, wait until the display shows "P2";

For a Portable AC: click "SWING" button 6 times on the remote and the buzzer will sound 5 times, wait until the display shows "77";

For Air conditioner, press Horizon Airflow button 6 times on the remote and the buzzer will sound 5 times, wait until the display shows "77".

## For Android system



1 In "Home", click the lower right corner "+"



2 select the device you wish to connect, then select "Next"  
— 6 —



3 Select your wireless network in your house, then select “Next”

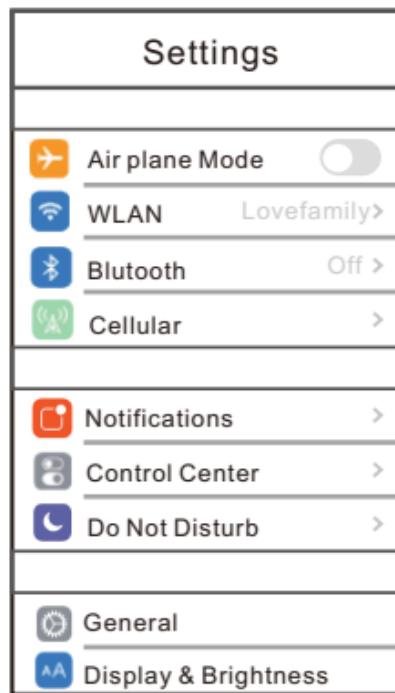


4 Input the network password, then click “Add the new device”, waiting for pairing to complete

## For IOS system



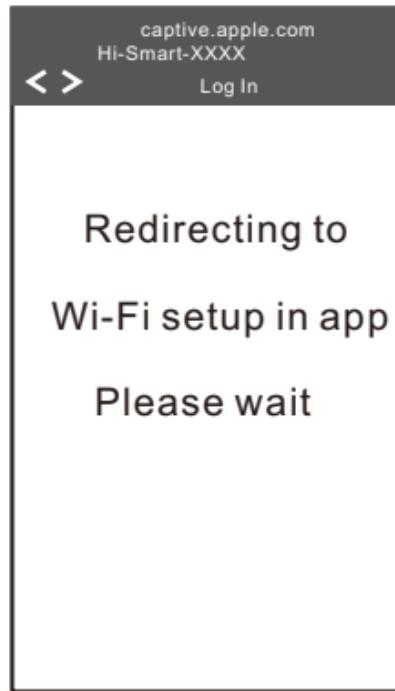
1 Select “Choose Device”, application will jump to “Settings”



2 Select “WLAN”



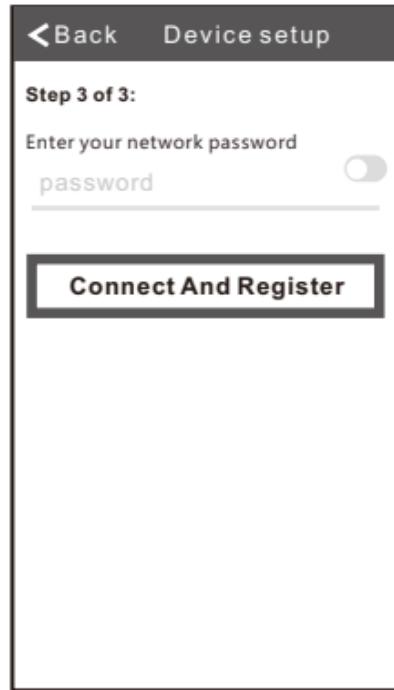
3 Select your device



4 Wait to jump to step 2, if a interface of "Open in Hi-Smart Air", please select "Open"

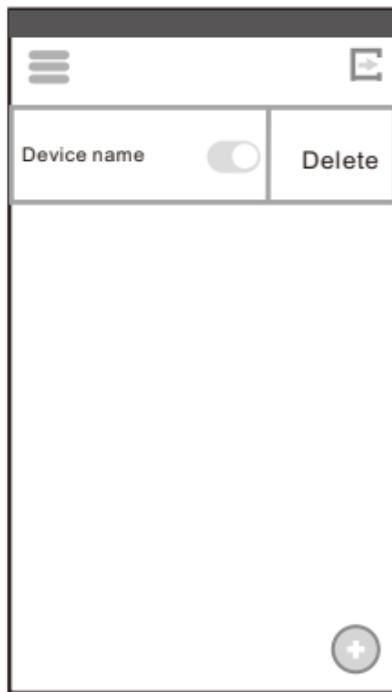


3 Select your wireless network in your house, then select “Next”



4 Input the network password, then click “Connect And Register”, waiting for pairing to complete

## 8 How to delete device



To delete any device, select the device which needs to be deleted and slide the selector to the left side, as shown in the picture. For android users, just press the screen for 2 seconds on the selected device to delete it.

**Note:** The above pictures may change in application, please take the pictures in application as the standard

Version No.1955919-01

# AEH-W4F1 WIFI Module Manual

## 1. General Description

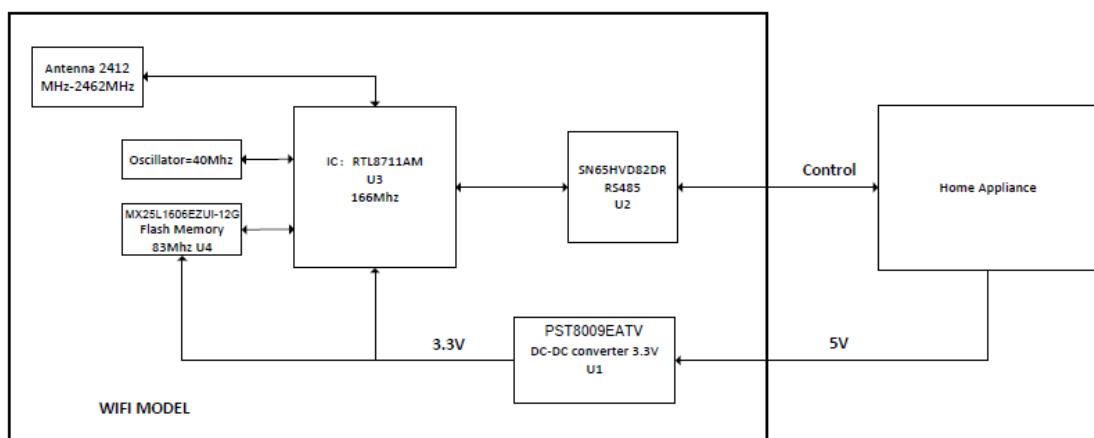
The wireless module complies with IEEE 802.11 b/g/n standard and it can achieve up to a speed of 72.2Mbps with single stream in 802.11n draft 7.0, 54Mbps as specified in IEEE 802.11g, or 11Mbps for IEEE 802.11b to connect to the wireless LAN.

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

## 2. Module Hardware Overview

### 2.1 Block Diagram

The general Hardware architecture is shown below Figure:



### 2.2 Features

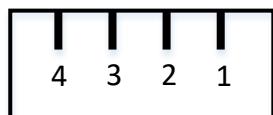
- ◆ Single-band 2.4GHz IEEE 802.11b/g/n
- ◆ Combines an ARM-Cortex M3 MCU,WLAN MAC,a 1T1R capable WLAN baseband, and RF in a single chip.
- ◆ Lead-Free / RoHS
- ◆ Single power supply voltage 3.3V.

## 2.3 Interface

### ◆ Interface

- 1.25mm pitch connector

### ◆ Pin definition



Pin number	Pin name	Pin description
1	RS485A+	Communication line positive
2	RS485B-	Communication line negative
3	GND	Ground pad
4	5V	5.0V Power

## 3. WiFi RF Specification

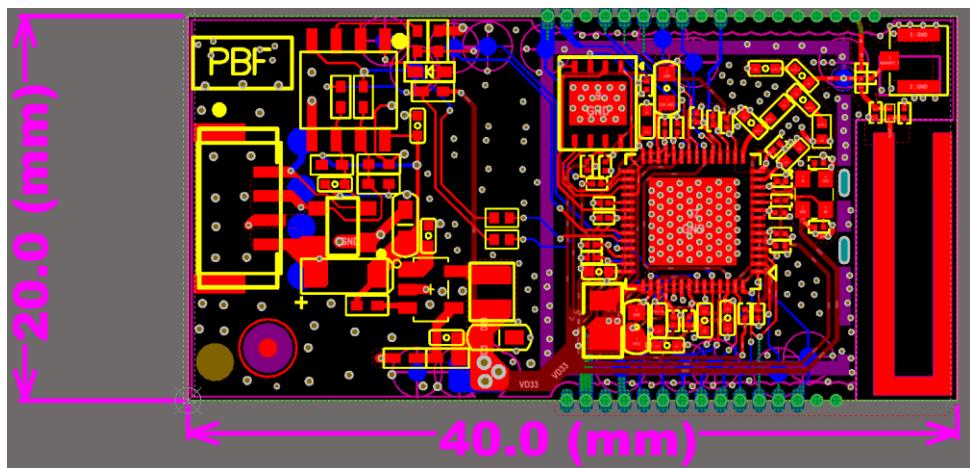
### RF Specification

Feature Description	Feature Description
WLAN Standard	IEEE 802.11b/g/n(HT20), WiFi compliant
Frequency Range	2.412GHz~2.462GHz
Number of Channels	CH1~CH11 for FCC and ICES, Shield 12,13 Channels with Software. CH1~CH13 for Europe.
Modulation	802.11b: CCK, DQPSK, DBPSK 802.11 g/n(HT20): OFDM /64-QAM,16-QAM, QPSK, BPSK
Output Power	$\leqslant 17\text{dBm}$
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n(HT20): 6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps
Antenna Reference	Internal Printed ANT: Small antennas with 1.0 dBi peak gain

## 4. Mechanical Specifications

PCB Assembly Dimension:

- ◆ Dimension (L x W) : L:40.0mm\*W:20.0mm



## 5. Requirement of FCC KDB 996369 D03 for module certification:

### 5.1 List of applicable FCC rules and Canada rules:

The module complies with FCC Part 15.247, and Canada RSS-247.

### 5.2 Summarize the specific operational use conditions:

The module has been certified for Fix/Mobile applications. The host product operating conditions must be such that there is a minimum separation distance of 20 cm (or possibly greater than 20 cm) between the antenna radiating structures and nearby persons. The host manufacturer is obligated to confirm the use conditions of the host product to ensure that distance specified in the instructions is met. In this case the host product is classified as either a mobile device or a fixed device for RF exposure purposes. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### 5.3 Limited module procedures:

Not applicable.

### 5.4 Trace antenna designs:

Not applicable.

### 5.5 RF exposure considerations:

This equipment complies with FCC's and IC's RF radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must be installed and operated to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter. Installers must ensure that 20cm separation distance will be maintained between the device and users.

#### DÉCLARATION D'IC SUR L'EXPOSITION AUX RADIATIONS:

Cet appareil est conforme aux limites d'exposition au rayonnement RF stipulées par la FCC et l'IC pour une utilisation dans un environnement non contrôlé. Les antennes utilisées pour cet émetteur doivent être installées et doivent fonctionner à au moins 20 cm de distance des utilisateurs et ne doivent pas être placées près d'autres antennes ou émetteurs ou fonctionner avec ceux-ci. Les installateurs doivent s'assurer qu'une distance de 20 cm sépare l'appareil des utilisateurs.

Note: the OEM product manuals must include a statement in order to alert the users of FCC RF exposure compliance.

## 5.6 Antennas:

Type	Gain	Impedance	Application	Min Separation
PCB type Antenna	1.0 dBi	50 Ω	Fixed	20 cm.

The antenna is permanently attached, can't be replaced.

## 5.7 Label and compliance information:

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.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.

Warning: Changes or modifications to this unit 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.

## ISED statements:

This device 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 interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNRd'Innovation, Sciences et Développement économique 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.

The system integrator must place an exterior label on the outside of the final product housing the AEH-W4F1 Modules. Below is the contents that must be included on this label.

**OEM Labeling Requirements:**

NOTICE: The OEM must make sure that FCC labeling requirements are met. This includes a clearly visible exterior label on the outside of the final product housing that displays the contents shown in below:

Model: AEH-W4F1
Contains FCC ID: 2AGCCAEC-W4F1
Contains IC: 20778-AEHW4F1

**5.8 Information on test modes and additional testing requirements:**

When testing host product, the host manufacture should follow FCC KDB Publication 996369 D04 Module Integration Guide for testing the host products. The host manufacturer may operate their product during the measurements. In setting up the configurations, if the pairing and call box options for testing does not work, then the host product manufacturer should coordinate with the module manufacturer for access to test mode software. For wireless LAN, the product under test is set into a link/association with a partnering WLAN device, as per the normal intended use of the product. To ease testing, the product under test is set to transmit at a high duty cycle, such as by sending a file or streaming some media content. Alternatively, a Wi-Fi test set may be used. Simultaneously transmitting modules installed in the host should be all active.

**5.9 Additional testing, Part 15 Subpart B disclaimer:**

The modular transmitter is only FCC authorized for the specific rule parts (FCC Part 15.247) list on the grant, 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. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed when contains digital circuitry.