

## **WiFi AH module datasheet V1.0**

## Model: WAHMV1, WAHMV2, WAHMV3

## 1. Applications:

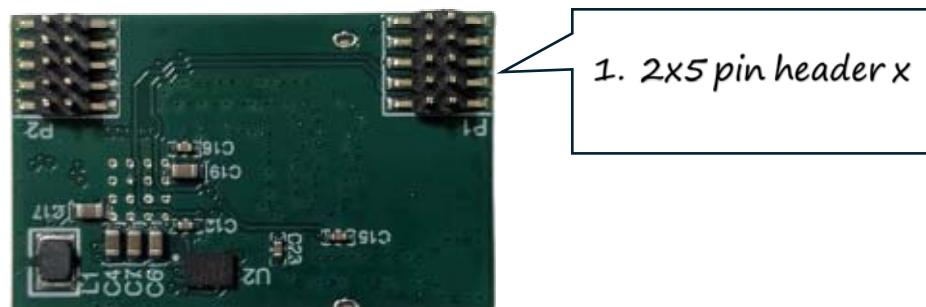
- Home Automation
  - Health and wellness monitoring
  - Smart Building, Smart Agriculture
  - Industrial automation
  - IOT

## 2. Profiles

## 2.1 Top view



## 2.2 Rear view



### 3. WiFi Specifications

- IEEE 802.11 ah (HaLow)
- Low supply current: RX 15mA @ 3.3V, TX 190mA @ 3.3V (+15 dBm Pout)
- Frequency band: 750 ~ 950 MHz (The frequency depends on the country, please advise when place the order)
- Modulation bandwidth: 1/2/4 MHz
- RX noise figure < 6dB
- RX gain range: > 100dB
- RX IIP3: -17dBm (@ LNA max. gain)
- Linear output power: +15 dBm
- TX gain range: > 30 dB
- EVM < -30 dB @ +15 dBm (w/ 64 QAM, DPD)
- Integrated RF PLL phase error < 0.7 degree
- Dimension: 29 x 19.8 x 2.4 mm
- Pitch of pin header: 1.27 mm

### 4. Pin definitions



**Warning: The pin header is fragile, please insert the socket carefully.**

## **Caution:**

Use the Product in the environment with the temperature Between -10°C and 50°C; Otherwise, it may damage your product. Products can only be used below 2000m altitude

For the following equipment:

Product Name: WiFi 802.11ah HaLow Module

Brand Name: /

Model No.: WAHMV1, WAHMV2 or WAHMV3

UConnect International Co., Ltd.

E-mail: jason@uconnect.com.tw

hereby declares that this [Name: WiFi 802.11ah HaLow Module, Model: WAHMV1, WAHMV2 or WAHMV3] is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.



The full text of the EU declaration of conformity is available at the user manual

This product is intended for sale and application in a business environment.

RED Article 10 2

-This product can be used across EU member states

RED Article 10 10

-The product is class 1 product, No restrictions

The RF distance between body and product is 20cm

Frequency Range: 863MHz-865MHz, 865MHz-868MHz

RF Output Power: 12.41dBm(ERP)

## **List of applicable FCC rules**

FCC Part 15.247

## **Specific operational use conditions**

This product is a Single-modular transmitter policy independent of any host. Not applicable.

## **Limited module procedures**

This product is a Single-modular transmitter. It is not a limited module. Not applicable.

## **Trace antenna designs**

This product has two external antennas. Not applicable.

## **RF exposure considerations**

This equipment complies with the FCC RF 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 any part of your body.

## **Antennas**

This product has two external antennas. The antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

No	Antenna Type	Frequency Range	Gain	Impedance
1	External Antenna	Bandwidth: 1MHz: 903.5-926.5MHz Bandwidth: 2MHz: 903-925MHz Bandwidth: 4MHz: 906-926MHz	2.34dBi	50ohm

## **Label and compliance information**

FCC ID label on the final system must be labeled with "Contains FCC ID:

XJ8-WAHMV1" or "Contains transmitter module FCC ID: XJ8-WAHMV1".

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

Contact UConnect International Co.,Ltd. will provide stand-alone modular transmitter test mode. Additional testing and certification may be necessary when multiple modules are used in a host.

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

To ensure compliance with all non-transmitter functions the host manufacturer is responsible for ensuring compliance with the module(s) installed and fully operational. For example, if a host was previously authorized as an unintentional radiator under the Supplier's Declaration of Conformity procedure without a transmitter certified module and a module is added, the host manufacturer is responsible for ensuring that the after the module is installed and operational the host continues to be compliant with the Part 15B unintentional radiator requirements. Since this may depend on the details of how the module is integrated with the host, UConnect International Co.,Ltd. shall provide guidance to the host manufacturer for compliance with the Part 15B requirements.

**FCC Warning**

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: 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.

**NOTE 1:** Any 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.

**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

**Note 1:** This module certified that complies with RF exposure requirement under mobile or fixed condition, this module is to be installed only in mobile or fixed applications.

A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

A fixed device is defined as a device is physically secured at one location and is not able to be easily moved to another location.

**Note 2:** Any modifications made to the module will void the Grant of Certification, this module is limited to OEM installation only and must not be sold to end-users, end-user has no manual instructions to remove or install the device, only software or operating procedure shall be placed in the end-user operating manual of final products.

**Note 3:** Additional testing and certification may be necessary when multiple modules are used.

**Note 4:** The module may be operated only with the antenna with which it is authorized. Any antenna that is of the same type and of equal or less directional gain as an antenna that is authorized with the intentional radiator may be marketed with, and used with, that intentional radiator.