WIFI Module

Instruction

System Operation Requirements

A. Smartphone System Requirements

The following are the minimum specifications needed to successfully run the app on a smartphone:

Table 1 Smartphone requirements

Terminal device	Android	IOS
OS	Android 6 or higher	IOS 8 or higher
Resolution	1920*1080 or higher	960*640 or higher

B. Wireless Router requirements

Table 2: Wireless Router requirements

Standard	IEEE 802.11b/g/n
Frequency Range	2.402-2.483.5GHz
Security	128 bits WPA-PSK/WPA2-PSK
Output Power	802.11b: 11dBM(11Mbps) 802.11g: 15dBM(54Mbps) 802.11n: 11dBM(72.2Mbps)
Data Rate	802.11b: 11Mbps 802.11g: 54Mbps 802.11n: 72.2Mbps
Sensitivity	802.11b: 11Mbps 802.11g: 54Mbps 802.11n: 72.2Mbps
Modulation	QPSK+OFDM

Notice:

*Please try to use a certified 2.4G wireless router.

*The wireless router requirements are a general specification.

*Depending on the environment, there might be multiple WiFi access points available. It is important to ensure that the correct one is being used.

*A router firewall may have high security or parental controls configured, and these settings may block some required network ports for the device.

*The following network ports should be opened/whitelisted on your router:80/443/55020/55030(Check the router's user manual for instructions on configuring firewalls.)

* The WiFi module does not support a new Wi-Fi certifed specifcation and non-standard Wi-Fi certifcation type.

C. Description

Wifi Module in the Internet of things system is the role of home appliances access Internet, and cloud linked, relying on cloud computing to achieve intelligent home appliances .

picture 1: The function of WiFi module in the intelligent home appliance system

Network standard

802.11 b/g/n

WiFi module parameters

Work environment：-20℃-85℃

Rated voltage：DC 3.3V

Maximum dissipation power：<500mA

Voltage fluctuation：±10%

RF Frequency Oscillator

The crystal oscillator circuit is building in at WiFi module X1.

Operating frequency range：Wifi：2412-2462MHz

Modulation：WIFI: 11b:　DBPSK, DQPSK and CCK and DSSS

11a/g: BPSK, QPSK, 16QAM, 64QAM and OFDM

11n: BPSK, QPSK, 16QAM, 64QAM and OFDM

Supported channels：**1-11**

Max.tune-up power with tolerance (AV value)

802.11 b mode: 12±1.0dBm

802.11 g mode: 10±1.0dBm

802.11 HT20 mode: 9±1.0dBm

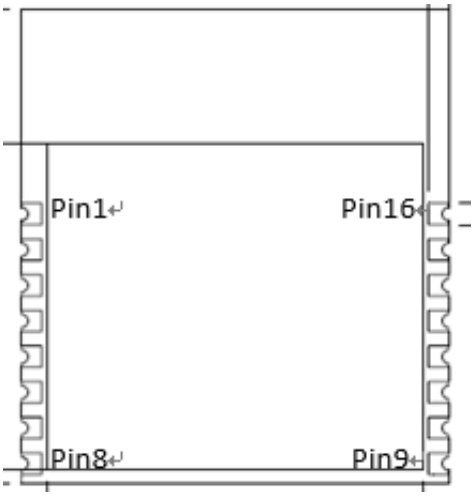
802.11 HT40 mode: 10±1.0dBm

Antenna type: integral antenna

Antenna gain：**1dBi**

Crystal frequency：**40MHz**

WiFi module Interface



Pin	Define	Description
1	GND	GND
2	IO14	PWM0
3	IO15	PWM1
4	IO0	PWM2
5	IO12	PWM3
6	IO5	PWM4
7	IO19	UART0_CTS,SPI1_CS,SPI0_CS,I2C0_SDA, TIMER5_TRIG
8	GND	GND
9	GND	GND
10	RX0	UART0_RXD,SPI1_CLK,SPI0_SCL,I2C1_SCL,TIMER4_TRIG
11	TX0	UART0_TXD,SPI1_MOSI,SPI0_MOSI,I2C1_SDA, PWM0
12	TX1	UART1_LOG_TXD
13	RX1	UART1_LOG_RXD
14	IO22	UART0_RTS,SPI1_MISO,SPI0_MISO,I2C0_SCL,PWM5
15	3.3V	VCC 3.3V
16	GND	GND

SAFETY Precautions

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.

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.

RADIATION EXPOSURE STATEMENT
This equipment complies with Canada radiation exposure limits set forth for uncontrolled environments. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet appareil comprend un ou des émetteur(s) et récepteur(s) exempts(s) de licence qui respecte(nt) les normes CNR applicables émises par Innovation, Sciences et Développement économique Canada.
Son utilisation est soumise aux deux conditions suivantes :
(1) L'appareil ne doit pas causer d'interférence.
(2) L'appareil doit accepter toute interférence, incluant celles qui peuvent altérer son fonctionnement.

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.

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

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

Please notice that 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 FCC ID: 2AGCCAEH-W0G1" any similar wording that expresses the same meaning may be used.
This equipment complies with FCC 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 & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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.

Any company of the host device which install this modular with modular approval should perform the test of radiated & conducted emission and spurious emission, etc. according to FCC part 15C, 15B class B. Only if the test result comply with FCC part 15C, 15B class B, then the host can be sold legally.

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

This radio transmitter 2AGCCAEH-W0G1 has been approved by Federal Communications Commission to operate with 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.

Antenna information
Manufacture: INNO Circuits Limited

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	integral antenna	1

Please notice that if the ISED certification 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 IC: 20778-AEHW0G1” any similar wording that expresses the same meaning may be used.

l'appareil hôte doit porter une étiquette donnant le numéro de certification du module d'Industrie Canada, précédé des mots « Contient un module d'émission », du mot « IC: 20778-AEHW0G1» ou d'une formulation similaire exprimant le même sens, comme suit

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

This radio transmitter 20778-AEHW0G1 has been approved by Innovation, Science and Economic Development Canada to operate with 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.

Antenna information

Manufacture: INNO Circuits Limited

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	integral antenna	1

Notice to OEM integrator

The module is limited to OEM installation ONLY.

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

A separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and difference antenna configurations.There is requirement that the grantee provide guidance to the host manufacturer for compliance with Part 15B requirements.The module complies with FCC Part 15.247 and apply for Single module approval.

Trace antenna designs: Not applicable.

Must use the device only in host devices that meet the FCC/ISED RF exposure category of mobile, which means the device is installed and used at distances of at least 20cm from persons.

The end user manual shall include FCC Part 15 /ISED RSS GEN compliance statements related to the transmitter as show in this manual (SAFETY Precautions).

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B, ICES 003.

Host manufacturer is strongly recommended to confirm compliance with FCC/ISED requirements for the transmitter when the module is installed in the host.

Must have on the host device a label showing Contains FCC ID: 2AGCCAEH-W0G1, Contains IC: 20778-AEHW0G1

The use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer’s instruction manual.

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

l'hôte doit utiliser l'instrument uniquement dans des dispositifs qui répondent à la fcc / (catégorie d'exposition rf mobile, ce qui signifie le dispositif est installé et utilisé à une distance d'au moins 20 cm de personnes.le manuel de l'utilisateur final doit inclure la partie 15 / (fac rss gen déclarations de conformité relatives à l'émetteur que de montrer dans ce manuel.le fabricant est responsable de la conformité de l'hôte, le système d'accueil avec le module installé avec toutes les autres exigences applicables du système comme la partie 15 b, ices - 003.accueillir le fabricant est fortement recommandé de

confirmer la conformité avec les exigences de la fcc / (émetteur lorsque le module est installé dans l'hôte.le dispositif d'accueil doivent avoir une étiquette indiquant contient FCC ID: 2AGCCAEH-W0G1 contient IC : 20778-AEHW0G1