



PRODUCTS SPECIFICATION

1. General Description

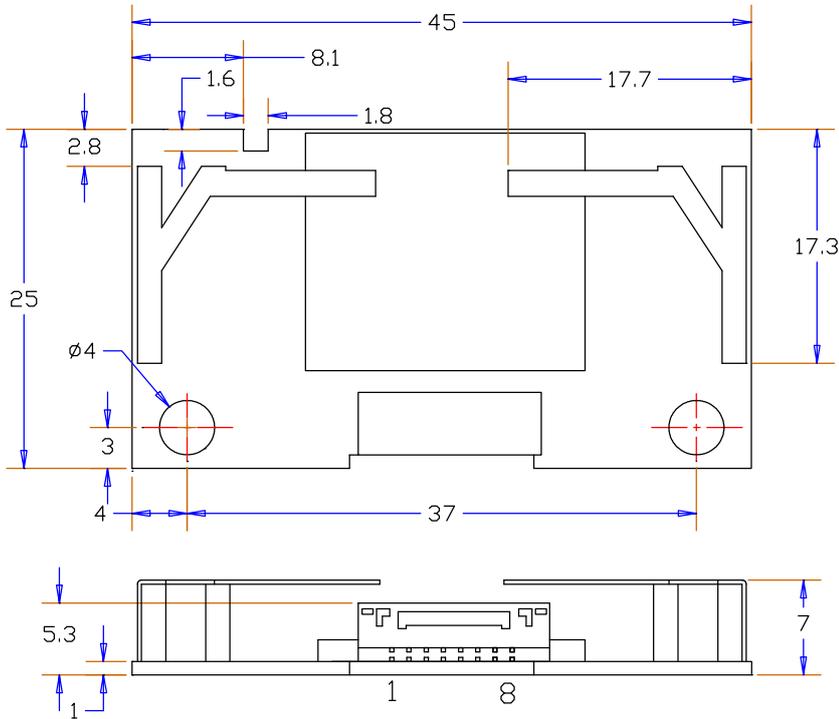
This document is to specify the product requirements for 802.11a/b/g/n/ac Module. This Card is based on **REALTEK RTL8812BU** chipset .It is a complete dual-band(2.4GHz and 5GHz)WIFI 2×2 MIMO MAC/PHY/Radio System-on-a-Chip. This module provides a high level of integration with a dual-stream IEEE 802.11ac MAC/ base band /radio. The WLAN operation supports 20MHz, 40MHz and 80MHz channels for data rates up to 866.7Mbps. It is also backward complied with IEEE 802.11a standard from 5.15~5.825GHz wideband and IEEE 802.11b/g standard from 2.4~2.5GHz. It can be used to provide up to 54Mbps for IEEE 802.11a and IEEE 802.11g, 11Mbps for IEEE 802.11b and 300Mbps for IEEE 802.11n. This device support WLAN 2.4GHz and 5GHz 2T2R and use spatial multiplexing MIMO(SM-MIMO) technology.

With seamless roaming, fully interoperability and advanced security with WEP standard, 802.11 a/b/g/n/ac USB2.0 Module offers absolute interoperability with different vendors 802.11a/b/g/n/ac.

2. Features

- Compatible with IEEE 802.11a standard to provide wireless 54Mbps data rate.
 - Compatible with IEEE 802.11g standard to provide wireless 54Mbps data rate.
 - Compatible with IEEE 802.11b standard to provide wireless 11Mbps data rate.
 - Compatible with IEEE 802.11n standard to provide wireless 300Mbps data rate.
 - Compatible with IEEE 802.11ac standard to provide wireless 866.7Mbps data rate.
 - Operation at 2.4~2.5GHz and 5.15~5.825GHz frequency band to meet worldwide regulations
 - Provides simple legacy and 20MHz/40MHz/80MHz co-existence mechanisms to ensure backward and network compatibility.
 - Supports IEEE 802.11i (WPA and WPA2), WAPI. enhanced security
 - Friendly user configuration and diagnostic utilities
 - Drivers support Windows, Linux, Android
 - ROHS compliant
 - 5600-5650MHz frequency band can not be used in Canada.
 - 2.4G and 5GHz WiFi can't transmit simultaneously
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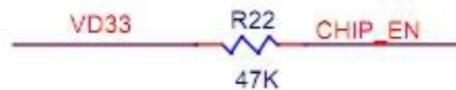
3. Mechanical Dimensions



Dimension tolerance range:

DIM(MM)	Tolerance(MM)
0-5	±0.15
5-10	±0.20
10-50	±0.30

Pin	Symbol
1	5V
2	GND
3	WL_HOST_WAKE
4	RESET
5	GND
6	D+
7	D-
8	5V



Memo: WL_HOST_WAKE has pulled high at module internal
 RESET module internal connect to main chip_en, pull high, host don't need pull high.
 RESET's voltage range 3.3v±10%, 0-0.9v is lower.
 WL_HOST_WAKE's voltage range 2.97--3.3v, 0-0.33v is lower.

The instruction manual of WC0SR2511

Model WC0SR2511

Safety regulations

:

1. It is not allowed to change the transmission frequency and increase the transmission power (including additional RF power amplifier). It is not allowed to connect the antenna or use other transmitting antennas without authorization.
2. This cannot be used when there is harmful interference to all kinds of legitimate radio communication business. Once disturbances are found, the use should be stopped immediately, and measures should be taken to eliminate disturbances before continuing use.
3. The use of micro power wireless devices must endure various radio business interference or industrial / scientific / medical application equipment radiation interference.
4. It should not be used in aircraft or airport accessories.

Caution:

1. Please keep this product and accessory accessories to a child's reach.
2. Do not spill water or other liquids onto this product, otherwise it may cause damage.
3. Please do not place this product near the source of heat or place it in direct sunlight. Otherwise, it may cause deformation or malfunction.
4. Please let this product be flammable or fire such as lighted candles.
5. Please do not repair this product by yourself, only professionals can repair it.

Abstract:

This product is a wireless receiver with USB interface, the highest theoretical speed is 866.7Mbps.

Instructions:

Connect the product to the main engine using the specified connecting line. (The main engine needs to meet the working conditions).

Standard specification:

WC0SR2511 IEEE 802.11b、802.11g、802.11n、802.11a、802.11ac

* Note: compatibility of the connected devices must be confirmed before use.

For detailed instructions, please refer to the instructions for each product.

Specifications:

Standard specification for WiFi: IEEE 802.11a/b/g/n/ac

Data rate for WiFi: 802.11b: 1, 2, 5.5, 11Mbps

802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps

802.11n (HT20/HT40): MCS0~15, at most 300Mbps

802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps

802.11ac: (HT80) at most 866.7Mbps

Size (long x width x high): 45mm*25mm*7mm

Interface: USB2.0

Frequency and channel: WiFi 2.4GHz (CH1~CH11 for US and Canada market) :
5150-5250, 5.25~5.35GHz, 5.47~5.725GHz, 5725-5850MHz

*Note: If the design and specifications are changed, no notice shall be given.; the specifications vary from area to area; the transmission speed varies depending on the distance between the products, the number of obstacles, the product configuration, the radio wave condition and the product you use; the transmission may also be interrupted because of the bad radio waves condition; The standard value of transmission speed is the maximum value of wireless standard theory, rather than the actual speed of data transmission.

The host device should be labeled with Contains “FCC ID: ARS-WC0SR2511” or Contains “IC: 9190A-WC0SR2511”

This device complies with Part 15 of the FCC / ISED’s licence-exempt RSSs 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.

Le présent appareil est conforme aux CNR d’ ISED applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

FCC/ISED/CE-RED Caution:

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

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

Operations in the 5GHz products are restricted to indoor usage only.

Radiation Exposure Statement:

This equipment complies with FCC/ISED/CE-RED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

This is a module device, when it was installed to the host device, the host device should be labeled with “ Contains FCC ID:ARS-WC0SR2511”or “Contains IC: 9190A-WC0SR2511”

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 CAUTION

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

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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person’s body.

[for ISED(IC)]

This device contains licence-exempt transmitters/receivers that comply with Innovation, Science and Economic Development Canada’s license-exempt RSSs.

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 present appareil est

conforme aux CNR d'Innovation, Science 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.

for indoor use only (5150-5250MHz)

Pour usage intérieur seulement (5150-5250MHz)

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the ISED radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'ISDE. Cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le radiateur et le corps humain.

[for FCC]

Compliance with FCC requirement 15.407(c)

Data transmission is always initiated by software, which is the passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.

[for ISED(IC)]

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the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.

La transmission des données est toujours initiée par le logiciel, puis les données sont transmises par l'intermédiaire du MAC, par la bande de base numérique et analogique et, enfin, à la puce RF. Plusieurs paquets spéciaux sont initiés par le MAC. Ce sont les seuls moyens pour qu'une partie de la bande de base numérique active l'émetteur RF, puis désactive celui-ci à la fin du paquet. En conséquence, l'émetteur reste uniquement activé lors de la transmission d'un des paquets susmentionnés. En d'autres termes, ce dispositif interrompt automatiquement toute transmission en cas d'absence d'information à transmettre ou de défaillance.

[§15.105 Information to the user.]

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

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.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Compliance with KDB996369 D03 OEM Manual

1. List of applicable FCC rules

WiFi 2412-2462MHz FCC Part 15.247 Max output power 16.71dBm

WiFi 5180-5240MHz, 5260-5320MHz, 5500-5700MHz, 5745-5825MHz FCC Part 15.407, Max output power 17.51dBm

2. Summarize the specific operational use conditions

When use this modular transmitter, please do not change the antenna and antenna gain, the power setting and country code can not be changed.

The Antenna type is Planar antenna and 2T2R

2400-2483.5MHz Peak Gain: ANTA: 2.08dBi; ANTB: 2.00dBi;

U-NII-1 Band (5150-5250MHz) Peak Gain: ANTA: 3.04dBi; ANTB: 3.06dBi;

U-NII-2A Band (5250-5350MHz) Peak Gain: ANTA: 3.04dBi; ANTB: 3.04dBi;

U-NII-2C Band (5470-5725MHz) Peak Gain: ANTA: 2.87dBi; ANTB: 2.84dBi;

U-NII-3 Band (5725-5850MHz) Peak Gain: ANTA: 3.10dBi; ANTB: 3.08dBi

3. Limited module procedure

Not applicable

4. Trace Antenna designs

Not applicable

5. RF exposure considerations

This modular transmitter should be used in the mobile conditions and 20cm from a person's body, the host product manufacture should be put those information in the end-product manual to the end users. If RF exposure statement and use conditions are not provided, then the host product manufacture is required to take responsibility of the module through a change in FCC ID(new application)

6. Antenna

The Antenna type is Planar antenna and 2T2R.

2400-2483.5MHz Peak Gain: ANTA: 2.08dBi; ANTB: 2.00dBi;

U-NII-1 Band (5150-5250MHz) Peak Gain: ANTA: 3.04dBi; ANTB: 3.06dBi;

U-NII-2A Band (5250-5350MHz) Peak Gain: ANTA: 3.04dBi; ANTB: 3.04dBi;

U-NII-2C Band (5470-5725MHz) Peak Gain: ANTA: 2.87dBi; ANTB: 2.84dBi;

U-NII-3 Band (5725-5850MHz) Peak Gain: ANTA: 3.10dBi; ANTB: 3.08dBi

7. Label and compliance information

We Had put the FCCID: ARS-WC0SR2511 on the modular transmitter and put the compliance information in this modular use manual, the host device manufacture need to provide a physical or e-label stating " contains FCCID:ARS-WC0SR2511" with their finished product and the compliance information should be attached in the end-product manual.

8. Information on test modes and additional testing requirement

When this modular transmitter installed in a host product, then can use a 4 pin-USB extend cable, the 4 pin port connect with the modular and USB port connect with a test computer which installed the test software "MP tool" then

can use the software control the modular working at test mode, select the transmit mode, channel and power setting.

9. Additional testing, Part 15 Subpart B disclaimer

The modular transmitter is only FCC authorized for the specific rule parts (FCC Part 15C and FCC Part 15E) listed on the grant, and that the host product manufacture is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certificates