



WIFI Module

IEEE 802.11 a/b/g/n/ac 2T/2R

Model Number: WCTA1M2501

Product Description

The WCTA1M2501 is a complete dual-band(2.4GHz and 5GHz)WIFI 2×2 MIMO module. This module provides a high level of integration with a dual-stream IEEE 802.11ac MAC/ base band /radio and Bluetooth 5.0.The WLAN operation supports 20MHz,40MHz and 80MHz channels for data rates up to 866.7Mbps. It fully complies with IEEE 802.11 a/b/g/n/ac feature rich wireless connectivity at high standards,delivers reliable,cost-effective, throughput from an extended distance.

Product Features

- ◆ Complies with IEEE 802.11b/g/n for 2.4GHz and IEEE 802.11a/n/ac 5GHz Wireless LAN.
- ◆ Bluetooth v5.0
- ◆ Two transmit and Two receive path(2T2R)
- ◆ Works with all existing network infrastructure.
- ◆ Capable of up to 128-Bit WEP Encryption.
- ◆ Freedom to roam while staying connected.
- ◆ UP to 866.7 Mbps High-Speed Transfer Rate in 802.11ac mode of operation.
- ◆ Operating Systems: Linux,Win7, Win8, Win10,XP
- ◆ Low power consumption.
- ◆ Easy to install and configure.
- ◆ High speed USB 2.0 interface

Product Specification

Model	WIF+BT Module
Product Name	WCTA1M2501
Standard	802.11 a /b/g/n/ac
Interface	USB
Data Transfer Rate	1,2,5,5.6,11,12,18,22,24,30,36,48,54,60,90,120 and maximum of 866.7Mbps
Modulation Method	GFSK,π/4-DQPSK,8DPSK(bluetooth) DQPSK,DBPSK,CCK(802.11b) QPSK,BPSK,16QAM,64QAM with OFDM (802.11g) QPSK,BPSK,16QAM,64QAM with OFDM (802.11n) QPSK,BPSK,16QAM,64QAM with OFDM (802.11a) QPSK,BPSK,16QAM,64QAM,256QAM with OFDM (802.11ac)
Frequency Band	BLUETOOTH 2402~2480 MHz WIFI 2.4G: 2412~2472 MHz 5G: 5180 MHz -5240 MHz, 5260 MHz -5320 MHz, 5500 MHz -5700 MHz, 5745 MHz -5825 MHz
Operation Mode	Infrastructure
Security	WEP, TKIP, AES, WPA, WPA2
Operating Voltage	3.3V±10%
Current Consumption	<1000mA
Antenna Type	PCB
Operating Temperature	0 ~ 60°C ambient temperature
Storage Temperature	-40 ~ 80°C ambient temperature
Humidity	5 to 95 % maximum (non-condensing)

NOTICE:

◆ please keep this product and accessories attached to the places which children can't touch;





- ◆do not splash water or other liquid onto this product, otherwise it may cause damage;
- ◆do not put this product near the heat source or direct sunlight, otherwise it may cause deformation or malfunction;
- ◆please keep this product away from flammable or naked flame;
- ◆please do not repair this product by yourself. Only qualified personnel can be repaired.

FCC Statement

FCC standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247 and FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2016

FCC Regulatory Compliance:

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.

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

If power exceeds the limit and the distance(Over 20cm distance in actual use between the device and user) is compliance with the requirement.

RF Exposure Compliance:

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 and any part of your body.

Notice to OEM integrator If the FCC ID 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. The end product shall have the words "Contains Transmitter Module FCC ID: 2AC23-WCTA1".

The device must be professionally installed.

The intended use is generally not for the general public. It is generally for industry/commercial use.

The connector is within the transmitter enclosure and can only be accessed by disassembly of the transmitter that is not normally required. The user has no access to the connector.

Installation must be controlled. Installation requires special training.

Any company of the host device which installs this modular with unlimited modular approval should perform the test of radiated & conducted emission and spurious emission, etc. according to FCC part 15C: 15.247 and 15.209 & 15.207, 15B Class B requirement, only if the tests result comply with FCC part 15C: 15.247 and 15.209 & 15.207, 15B Class B requirement, then the host can be sole legally.



When the module is installed inside another device, the user manual of the host device contains the following:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation

Antennas:

2.4G	5G	BT
PCB Antenna & 3 dBi	PCB Antenna & 4 dBi	PCB Antenna & 1 dBi

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

Canada Statement

RSS-Gen Issue 5, RSS-247 Issue 2

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.

The term "IC: " before the certification/registration number only signifies that the Industry Canada technical specifications were met.

This product meets the applicable Industry Canada technical specifications.

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. 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.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'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.

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 display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains IC: 12290A-WCTA1" 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: 12290A-WCTA1 » ou d'une formulation similaire exprimant le même sens, comme suit.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 rf, les utilisateurs peuvent obtenir l'information canadienne sur l'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.



Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

B1 for indoor use only

B1 pour usage intérieur uniquement This radio transmitter IC: 12290A-WCTA1 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.

Antennas:

2.4G	5G	BT
PCB Antenna & 3 dBi	PCB Antenna & 4 dBi	PCB Antenna & 1 dBi

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

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:12290A-WCTA1" 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:12290A-WCTA1 » ou d'une formulation similaire exprimant le même sens, comme suit

The device for operation in the band 5180-5240 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems
for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5745-5820 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate;

Les dispositifs fonctionnant dans la bande 5180-5240 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5 745 à 5 820 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée, selon le cas;

Frequency bands 5470-5600 MHz and 5650-5725 MHz

Until further notice, devices subject to this section shall not be capable of transmitting in the band 5600-5650 MHz. This restriction is for the protection of Environment Canada's weather radars operating in this band.

Bandes 5470-5600MHz et 5650-5725MHz

Jusqu'à nouvel ordre, les équipements visés par la présente section ne peuvent pas être transférés sur la bande de 5 600 à 5 650 MHz, afin de protéger l'environnement des radars météorologiques exploités par le Canada sur cette bande.

CE Statement

Herby, Hui Zhou Gaoshengda Technology Co., LTD declares that this WIFI Module, WCTA1M2501 is in compliance with the essential requirements and other relevant provisions of



Directive 2014/53/EU.

In accordance with Article 10(2) and Article 10(10), this product allowed to be used in all EU member states.

Use the WIFI Module in the environment with the temperature between 0°C and 60°C
5150-5250MHz is restricted to indoor use only.

Operation Frequency

For BT/BLE:

2402MHz~2480MHz

For 2.4G WIFI:

2412MHz~2472MHz (802.11b/802.11g/802.11n(HT20))

2422MHz~2462MHz (802.11n(HT40))

For 5G WIFI:

5150MHz-5350MHz, 5470MHz-5725MHz, 5725MHz~5875MHz, 5250MHz~5350MHz,

Max output power:

BT: 0.007W

BLE: 0.0026W

2.4G WIFI: 0.0406W

5G WIFI: 0.0466W

Manufacturer: Hui Zhou Gaoshengda Technology Co., LTD

Address: NO.75 Zhongkai Development Area, Huizhou, Guangdong, China

E-mail: guanh@gaosd.cn

DECLARATION OF CONFORMITY

I hereby declare that the product

Product:

Product Name: WIFI Module

Model: WCTA1M2501

Brand Name: N/A

Hardware Version: V1.0

Software Version V1.0

(Name of product, type or model, batch or serial number)

satisfies all the technical regulations applicable to the product within the scope of Council Directives 2014/53/EU, 2014/35/EU and 2014/30/EU:and declare that the same application has not been lodged with any other notified body.

EN 62368-1:2014+A11:2017

EN 62311:2020

ETSI EN 301 489-17 V3.2.4 (2020-09)

ETSI EN 301 489-3 V2.1.1 (2019-03)

ETSI EN 301 489-1 V2.2.3 (2019-11)

ETSI EN 300 328 V2.2.2 (2019-07)



ETSI EN 301 893 V2.1.1 (2017-05)

ETSI EN 300 440 V2.2.1 (2018-07)

All essential radio test suites have been carried out.

NOTIFIED BODY: MiCOM Labs Inc

Address:

575 Boulder Court,

Pleasanton, California 94566

USA

Identification Number: 2280

MANUFACTURER or AUTHORISED REPRESENTATIVE:

Address:

Hui Zhou Gaoshengda Technology Co., LTD

NO.75 Zhongkai Development Area, Huizhou, Guangdong, China

This declaration is issued under the sole responsibility of the manufacturer and, if applicable, his authorised representative.

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(Name, telephone and fax number)

2021-06-15

(Place, date of issue)

(Signature)

Hui Guan, engineer

(Name and title in block letters)