

## WIFI Module

**IEEE 802.11 a/b/g/n 1T/1R**

**Model Number: D31R1601F/D31R1601**

### Product Description

The D31R1601F/D31R1601 is a complete 2.4GHz/5GHz WIFI 1×1 module. This module provides a high level of integration with a dual-stream IEEE 802.11n MAC/ base band /radio. The WLAN operation supports 20MHz,40MHz channels for data rates up to 150Mbps. It fully complies with IEEE 802.11 a/b/g/n 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, IEEE 802.11a/n for 5GHz
- ◆ One transmit and one receive path(1T1R)
- ◆ Works with all existing network infrastructure.
- ◆ Capable of up to 128-Bit WEP Encryption.
- ◆ Freedom to roam while staying connected.
- ◆ UP to 150Mbps High-Speed Transfer Rate in 802.11n mode of operation.
- ◆ Operating Systems: Linux, Windows.
- ◆ Low power consumption.
- ◆ Easy to install and configure.
- ◆ High speed usd 2.0 interface.
- ◆ ROHS compliant

### Product Specification

Model	WIFI Module
Product Name	D31R1601F/D31R1601
Standard	802.11 a/b/g/n
Interface	USB
Data Transfer Rate	MAX 150Mbps
Modulation Method	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)
Frequency Band	2.4G: 2412~2462 MHz 5G: 5150~5350MHz, 5470~5725MHz, 5725~5850MHz
Operation Mode	Infrastructure
Security	WEP, TKIP, AES, WPA, WPA2
Operating Voltage	3.3V±10%
Current Consumption	<1000mA
Antenna Type	PIFA
Operating Temperature	0 ~ 70°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

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.

This equipment 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.

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:2AC23-D31" 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 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.

The module is limited to installation in mobile application.

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 / Part 15.407 and apply for Single module approval.  
Trace antenna designs: Not applicable.

Antennas:

2.4G WIFI Antenna	5G WIFI Antenna
PIFA antenna1 & 1.72 dBi P/N: WC0D-60	PIFA antenna1 & 2.57 dBi P/N: WC0D-60
PIFA antenna2 & 2.97 dBi P/N: WC0F	PIFA antenna1 & 2.80 dBi P/N: WC0F

Only the antenna listed above can be used.

Antenna Manufacturer: Shenzhen Zhongtian Xun Communication Technology Co.,Ltd

## Canada Statement

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

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;
- (2) l' utilisateur de 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 also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains IC:12290A-D31" 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-D31» ou d' une formulation similaire exprimant le même sens, comme suit

The device for operation in the band 5150–5250 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 5725–5850 MHz shall be such that the equipment still complies with the e. i. r. p. limits as appropriate;

Les dispositifs fonctionnant dans la bande 5150–5250 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 5 725 à 5 850 MHz) doit être conforme à la limite de la p. i. r. e. spécifiée, selon le cas;