

ZDGFMT7612U User Manual

Product Name : IEEE 802.11 a/b/g/n/ac 2.4GHz+5GHz 2T2R USB Module

Model : ZDGFMT7612U

1. Introduction

Thank you for using the Wi-Fi module product provided by Qingdao Intelligent&Precise Electronics Co.,Ltd. Before use, please read this user manual carefully. Please follow the technical specifications when using the module in your design and develop activities. Qingdao Intelligent & Precise Electronics Co., Ltd has the right to change the contents of this manual in accordance with the needs of the technical development.

FCC statement

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 RF Radiation Exposure Statement Caution: To maintain compliance with the FCC's RF exposure guidelines, place the product at least 20cm from nearby persons.

Warning: 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.

IC statement

This device complies with Industry Canada licence-exempt RSS standard(s).

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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Cet équipement est conforme aux limites d'exposition au rayonnement du CI établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.

Restrictions information

The device for operation in the band 5150-5350 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Le dispositif destiné à fonctionner dans la bande 5150-5350 MHz est uniquement destiné à être utilisé à l'intérieur pour réduire les risques de brouillage préjudiciable aux systèmes mobiles par satellite co-canal.

Label

Host labeling requirement:"Contains transmitter module FCC ID: 2AJVQ-ZDGFMT7612U".

Host labeling requirement:"Contains transmitter module IC: 22470-ZDGFMT7612U".

2. Product Information

2.1 Product Information

ZDGFMT7612U Wi-Fi USB module is a wireless signal module device, and works at 2.4GHz (2.400 ~ 2.4835 GHz)/5GHz (5.150 ~ 5.85GHz). ZDGFMT7612U comply with IEEE 802.11a、802.11b、802.11g、802.11n and 802.11ac standard. It support up to 867Mbps physical layer transmitting rate. ZDGFMT7612U support USB 2.0, which has up to 480Mbps data rate.

ZDGFMT7612U has 2T2R structure, has two onboard PIFI Antennas. It could provide stable wireless link with high throughput.

ZDGFMT7612U is a wireless Wi-Fi signal module. It could transmit and receive Wi-Fi wireless signal. It is widely used to multi-media device, such as smart TV. Equipped with ZDGFMT7612U, a smart TV could access to Wireless Local Network, which is also called WLAN or WIFI network. ZDGFMT7612U helps multi-media device achieve to send & receive data package in a wireless way.

2.2 Feature

- IEEE standard: IEEE 802.11a/b/g/n/ac client device without radar detection
- operating Frequency 2.4GHz/5GHz
- support up to 867Mbps
- 2T2R mode
- Support 20MHz, 40MHz, 80MHz in 5GHz band, and 20MHz, 40MHz band width in 2.4GHz band.
- support USB 2.0 high data rate mode, 10-pin interface
- low power consumption
- support Wi-Fi direct link
- support WPA/WPA2/WPS2.0/WAPI security
- ROH
- MAC /baseband/RF: MT7612U

3. Product Specification

3.1 Parameter

WLAN Standard	IEEE802.11a/b/g/n/ac	
Data Interface	USB 2.0	
Modulation Mode	WIFI: 802.11b:CCK, DQPSK, DBPSK 802.11a, 802.11g:64QAM, 16QAM, QPSK, BPSK 802.11n: 64QAM, 16QAM, QPSK, BPSK 802.11ac: 256QAM, 64QAM, 16QAM, QPSK, BPSK	
*Working Frequency	2400-2483.5MHz for US and Canada 5150-5350MHz for US and Canada 5470-5725MHz for US only 5725-5850MHz for US and Canada	
Typical Tx Power	2.4GHz Band	17dBm±3dB for SISO mode (Ant0); 16dBm±2dB for MIMO mode (Ant0 or Ant1);
	5GHz Bands	14dBm±3dB for SISO mode (Ant0); 14dBm±2dB for MIMO mode (Ant0 or Ant1);
Receiver Sensitivity	11b @ 11Mbps: (Max.): -84dBm, (Typical): -87dBm (PER<8%) 11g @ 54Mbps: (Max.): -69dBm, (Typical): -74dBm (PER<10%) 11n @ MCS7 (2.4g HT20): (Max.): -67dBm, (Typical): -73dBm (PER<10%) 11n @ MCS7 (2.4g HT40): (Max.): -64dBm, (Typical): -68dBm (PER<10%) 11a @ 54Mbps: (5g): -69dBm, (Typical): -74dBm (PER<10%) 11n @ MCS7 (5g HT20): (Max.): -67dBm, (Typical): -71dBm (PER<10%) 11n @ MCS7 (5g HT40): (Max.): -64dBm, (Typical): -66dBm (PER<10%)	

	11ac @ MCS9 (5g HT80): (Max.) : -51dBm , (Typical) : -58dBm (PER<10%)
Working Voltage	5V±10% I/O supply voltage
Antenna Gain	Ant0: 2.9dBi, Ant1:2.9dBi
Antenna type	Two onboard PIFI antennas
Working Temperature	-10~+70°C
Storage Temperature	-40~+125°C

4. Hardware information

4.1 Structure dimension (Unit: mm)

PCB Material: FR-4, Surface treatment: OSP

Appearance Dimension (mm): 46.5 (+/- 0.3) x40 (+/- 0.3)

PCB thickness: 1.0mm (+/-0.15mm)

Via: Φ4mm (+/-0.15mm)

Antenna Height: 3.3mm (+/-0.15mm)

4.2 PIN definition

NO	Description
1	WIFI_REG_ON
2	BT_HOST_WAKE
3	VCC
4	BTDN
5	BTDP
6	GND
7	GND
8	3D_SYNC
9	BT_REG_ON
10	WLAN_DEV_WAKE

4.3 Block Diagram

