

Model: ZBT-WG2107

产品规格书

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1 Overview

1.1 Brief overview

This document describes the electrical characteristics, RF performance, size and application environment of WG2107. Under the introduction of this document description, end users or developers can quickly understand the hardware functions of WG2107.

WG2107 is a 4G router positioned for high network security. It can access the Internet through 4G mobile communication dial-up or 1000Mbps WAN port dial-up. The router has a built-in mini-PCIe interface with a PCIE bus interface, which can be used to connect to the national encryption module. Perform national encryption algorithm encryption.

1.2 Guideline

Relevant standard specifications:

USB2.0 bus standard TF Card interface standard SIM/USIM interface standard PCI- Express bus standard IEEE802.11n/g/b/a/ac IEEE802.3/802.3u/802.ab Mini PCI Express Card Electro mechanical Specification Revision 1.0-2003 4G mobile communication standard, which is determined by the selected 4G mobile communication module



2 产品图片





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3 Main Feature

Using MT7621A solution, MIPS dual-core CPU, main frequency up to 880MHZ;

Using independent WIFI chip, 2.4G is MT7603EN, 5.8G is MT7613AEN;

2.4G rate up to 300Mbps, 5.8G rate up to 867Mbps, dual-band rate collectively referred to as 1200Mbps;

Using high-speed 256MB DDR3, with 16MB Nor Flash;

1WAN, 4LAN full 1000M adaptive network port, support automatic flip (Auto MDI/MDIX);

Support USB2.0 and TF card storage interface, can be used to expand SAMBA or FTP network storage function;

It can also be used to connect the USB-key of the encryption module to realize user management of the encryption module;

Support "one-key flashing mode", that is, long press the reset button to enter rescue flashing mode;

Built-in 3 PCIe interfaces, 2 for connecting to 4G module, 1 for connecting to encryption module;

Dual external Nano SIM card (small card) interfaces, and 2 built-in eSIM SMD card interfaces, both support SIM/USIM cards;

4 Hardware specs

4.1 Interface introduction

	1*WAN port, 1000Mbps supports (Auto MDI/MDIX) Supports IEEE 802.3/802.3u/802.ab
Interface	4*LAN port, 1000Mbps Supports (Auto MDI/MDIX) Supports IEEE 802.3/802.3u/802.ab
USB port	1*USB2.0 port ,This USB interface cannot be used with dual modules (default dual module version, USB HUB is not patched), single module or special module can be expanded by adding USB HUB chip.

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TF card slot	1*Standard TF card interface
SIM card slot	Nano SIM card (small card) interface 2, eSIM (6*8mm) card 2, support SIM/USIM
Power	DC5.5*2.1MM
Button	1*Reset button
Antennas	2 omnidirectional 5dbi 2.4G antennas
	2 omnidirectional 5dbi 5.8G antennas
	4 omnidirectional 5dbi 4G mobile communication antennas, compatible with 3G/2G
PCIe port	Built-in 3 PCIe interfaces, 2 support USB 2.0 bus for connecting 4G
1 010 poin	modules; the other supports PCIe bus for connecting encryption module

4.2 Indication light

WAN LED	Integrated on the RJ45 network port, it is always on when connected to		
WAN LED	the network port, and flashes when there is data communication		
LANI LED	Integrated on the RJ45 network port, it is always on when connected to		
LANI LED	the network port, and flashes when there is data communication		
	Integrated on the RJ45 network port, it is always on when connected to		
LANZ LED	the network port, and flashes when there is data communication		
LAN2 LED	Integrated on the RJ45 network port, it is always on when connected to		
LAN3 LED	the network port, and flashes when there is data communication		
LANA LED	Integrated on the RJ45 network port, it is always on when connected to		
LAN4 LED	the network port, and flashes when there is data communication		
Dowon LED	Always on when the power is on, off when the power fails or is not		
Power LED	connected to the power		
	Always on when the 2.4G WIFI function is turned on, flashing when		
2.4G WIFI LED	there is data communication, and off when the 2.4G WIFI is not turned on		
	or the 2.4G WIFI function fails		
	Always on when the 5.8G WIFI function is turned on, flashing when		
5.8G WIFI LED	there is data communication, and off when the 5.8G WIFI is not turned on		
	or the 5.8G WIFI function fails		
	Steady on when the routing system recognizes and successfully mounts		
Security LED	the encryption module, and does not light when the encryption module		
	fails or is not connected to the encryption module		
	Steady on when the 4G module 1 is successfully mounted on the routing		
4G1 LED	system, and off when the 4G module 1 is not connected or the 4G module		
	1 is faulty		
	Steady on when the 4G module 2 is successfully mounted on the routing		
4G2 LED	system, and off when the 4G module 2 is not connected or the 4G module		
1			



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2 is faulty

4.3 Hardware

Processor		MT7621A MIPS dual CPU, 880MHZ main frequency					
2.4G W	IFI	MT7602EN JEEE 802 11 m/c/h MAY 200Mhm					
chipset		MIT/005EN IEEE 802.111/g/0,MAA 500Mops					
5.8G W	IFI	MT7612AENL LEEE 902 11cc/c MAX 967Mhrs					
chipset		41/613AEN IEEE 802.11ac/a,MAX 86/Mbps					
RAM		DDR3 256MB					
Flash		Nor Flash 16MB					

5 4G network

This product has built-in two USB2.0 bus PCIe interfaces, which can be used to expand 4G mobile communication functions. The specific frequency band supported by 4G mobile communication is determined by the selected 4G module. As shown in "Product Picture" in point 2 of this document, 4G module 1 corresponds to SIM card interface 1 and eSIM interface 1, and 4G module 2 corresponds to SIM interface 2 and eSIM interface 2. In this way, dual-module dual-SIM cards can be realized through software. Traffic overlay or 4G network backup.

5.1 4G Module technical parameters

The module of this product adopts the Quectel EC200T series LTE Cat 4 module specially designed for IoT and M2M applications. It supports a maximum downlink rate of 150 Mbps and a maximum uplink rate of 50 Mbps, and is compatible with Quectel's multi-network standard LTE Standard EC2x (EC25, EC21 and EC20 R2.1) series modules and UMTS/HSPA+ UC200T series modules, to achieve seamless switching between 3G network and 4G network.

5.1.1 Supported frequency bands

The EC200T series includes three models, EC200T-CN, EC200T-EU and EC200T-AU, to meet the frequency band coverage of different countries and regions.

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Bands info	EC200T-CN(China/India)
LTE-FDD:	<i>B1/B3/B5/B8</i>
LTE-TDD:	<i>B34/B38/B39/B40/B41</i>
WCDMA:	<i>B1/B5/B8</i>
GSM/EDGE:	<i>B3/B8</i>
Bands info	EC200T-EU(European)
LTE-FDD:	<i>B1/B3/B7/B8/B20/B28</i>
LTE-TDD:	<i>B38/B40/B41</i>
WCDMA:	<i>B1/B8</i>
GSM/EDGE:	<i>B3/B8</i>
Bands info	EC200T-AU(Latin America/Australia/New Zealand)
LTE-FDD:	<i>B1/B2/B3/B4/B5/B7/B8/B28/B66</i>
LTE-TDD:	<i>B40</i>
WCDMA:	<i>B1/B2/B4/B5/B8</i>
GSM/EDGE:	<i>B2/B3/B5/B8</i>

5.1.2 speed(EC200T-CN/EU/AU)

Data	LTE-FDD	LTE-TDD	DC-HSPA+	WCDMA	EDGE	GPRS
Rates(Max)						
Downlink:	150Mbps	130Mbps	21Mbps	384Kbps	236.8Kbps	85.6Kbps
Uplink:	50Mbps	30Mbps	5.76Mbps	384Kbps	236.8Kbps	85.6Kbps

5.1.3 Certifications

	EC200T-CN	ЕС200Т-Е U	EC200T-AU
Carrier	China: Telecom/Mobile	/	/
Certification	Warehousing		
Mandatory	China: SRRC/NAL/CCC	Australia: RCM	USA: FCC
certification			European: CE
			Australia: RCM
		New Zealand: RCM	New Zealand: RCM
			Brazil: Anatel
Others	RoHS/WHQL	RoHS/WHQL	RoHS/WHQL

5.1.4 Others

(U)SIM card detection (optional)

Supply voltage: 3.4~4.5V, typical 3.8V

Working temperature: -35~+75°C

6 Encryption module function introduction

This product has a built-in mini-PCIe interface of PCIe bus, which can be used to connect the national secret encryption module. The routing system encrypts the network data passing through the routing system by calling the algorithm of the national secret encryption module to ensure the security of network data and can be used for financial services. industries or industries that have strict requirements on network data security. The national secret algorithm supported by the specific encryption module is related to the selected encryption module.

7 WIFI Wireless parameter introduction

7.1 WIFI 2.4G

Compatible with IEEE 802.11 b/g/n, supports IEEE 802.11 d/h/k; supports 20MHz, 40MHz, adopts 2T2R MIMO antenna technology, and the highest connection rate is up to 300Mbps. The following is the description of the power frequency, receiving sensitivity and transmitting power of 2.4G WIFI.

	illustrate	maximu m value	Rated value	minimum	unit
working		in value	Vulue		
frequency		2484		2412	MHz
Receive sensitivity	11 Mbps CCK	-86	-87.5	-89	dBm
	54 Mbps OFDM	-72	-74	-76	dBm

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	BW=20MHz MCS 7	-70	-72	-74	dBm	
	BW=40MHz MCS 7	-68	-70	-71	dBm	
transmit power	11 Mbps CCK	19	18	17	dBm	
	54 Mbps OFDM	17	16	15	dBm	
	BW=20MHz MCS 7	17	16	15	dBm	
	BW=40MHz MCS 7	16	15	14	dBm	

7.2 WIFI 5.8G

Compatible with IEEE 802.11 a/ac, supports IEEE 802.11 d/e/h/i/k/r/w; supports 20MHz, 40MHz, 80MHz, adopts 2T2R MIMO antenna technology, and the highest connection rate is up to 867Mbps. The following is the description of the power frequency, receiving sensitivity and transmitting power of 5.8G WIFI.

	illustrate	maximu m value	Rated value	maximu m value	unit
working frequency		5825		5180	MHz
	54 Mbps OFDM	-72	-74	-75	dBm
Receive	BW=20MHz MCS 7	-70	-72	-73	dBm
sensitivity	BW=40MHz MCS 7	-69	-70	-71	dBm
	BW=80MHz MCS 9	-58	-59	-60	dBm
	54 Mbps OFDM	19	18	17	dBm
transmit power	BW=20MHz MCS 7	18	17	16	dBm
	BW=40MHz MCS 7	17	16	15	dBm
	BW=80MHz MCS 9	16	15	14	dBm

8 Power supply and power consumption description

Test Can litians	maximu	Rated	maximu	unit
Test Conditions	m value	value	m value	um

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	Operating Voltage	$TA = 25^{\circ}C$	6	12	32	V
	Absolute working voltage	$TA = 25^{\circ}C$	5.5		36	V
	Working current	VIN=12V, $TA = 25^{\circ}C$	0.6	1	2	А

Please use the standard power adapter of ZBT to supply power to this product. If the standard power supply of ZBT is not used, please supply power to this product in strict accordance with the above power specifications, otherwise the product will be damaged. If you use a battery or vehicle power supply for power supply, be sure to take anti-static and anti-surge measures.

9 Structural parameters and accessories introduction

Weight (KG)	1.31KG			
Size	L*W*H=235	*W*H=235MM*165MM*22.2MM		
Color	Silver			
	Power adapter	12V/2.5A 1PCS		
	certificate	1PCS		
Accessorie	cable	Category 5e network cable 1PCS		
s	Antennas	4G mobile antenna compatible with 3G\2G frequency band 4PCS		
		2.4G antennas* 2PCS		
		5.8G antennas* 2PCS		

10 Product working environment requirements

Operating	0°C 40°C
temperature	0 C ~ 40 C
storage	40°C 70°C
temperature	-40 C~ 70 C
Working	
humidity	10% to 90%KH non-condensing

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Storage humidity

5% to 90%RH non-condensing

Default IP	192.168.1.1
User/Pw	root/admin
2.40 \$510	WIFI-XXXXXX (X is the last 6 digits of the MAC address), no password
2.40 SSID	by default
5 °C SSID	WIFI-5G-XXXXXX (X is the last 6 digits of the MAC address), no
5.80 SSID	password by default

11 Software information

The above is the general default configuration information of the product. The WIFI SSID of our company's OS firmware or OPENWRT firmware may be different, but the default IP and WEB login name and password of this product remain unchanged. For other detailed software functions, please refer to the product description.