



Product type: ZBT-WE2007-T

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## 产品规格书

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## **1 overview**

### **1.1 Brief overview**

This document describes the electrical characteristics, RF performance, dimensions and application environment of the ZBT-WE2007-T. With the introduction of this document description, end users or developers can quickly understand the hardware features of the ZBT-WE2007-T.

The ZBT-WE2007-T is home wireless router designed to access the Internet via 4G mobile dial-up and then share the Internet network via wireless WiFi 4 and 100Mbps wired LAN.

### **1.2 Reference Standards**

#### **Related standards specifications.**

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



## 2 .Product Images





### 3 Main product features

- adapt MT7620N solution, MIPS24KEc architecture CPU, up to 580MHZ main frequency
- main chip with integrated baseband 2.4G WIFI rate up to 300Mbps
- with 64MB DDR2, with 8MB Nor Flash
- 1WAN,2LAN full 100M adaptive network port,support Auto MDI/MDIX
- Support "one key brushing mode", i.e. long press the reset button to boot into rescue brushing mode
- has a built-in LCC module interface (40.6mmx30mmx1.5mm) / Mini-PCIE standard interface (either one), which can be used to connect to 4G mobile communication modules and achieve 4G dial-up internet access via USB2.0 bus
- external standard Nano SIM (small card) and internal eSIM (QFN-8 6mmx5mm) card interface, supports SIM/USIM cards
- external WiFi and 4G antenna, wireless signal 360 degrees without dead space
- This product supports hardware watchdog function, which can automatically restart the device in case of routing system failure



## 4 Hardware Features

### 4.1 Hardware interface introduction

Network port	2 LAN ports, 100Mbps support Auto Flip (Auto MDI/MDIX) IEEE 802.3/802.3u compliant
	1 WAN port, 100Mbps with auto-flip (Auto MDI/MDIX) support IEEE 802.3/802.3u compliant
SIM card interface	1*Nano SIM card interface, 1*internal eSIM (QFN-8 6mmx5mm) card
Power connector	DC5.5*2.1MM power connector 1pc
buttons	Reset button*1
Antenna	Omni-directional 2.4G external non-removable knife antenna 2 pcs
	2 omnidirectional 4G external non-removable knife antennas
4G module interface	1*LCC chip module interface (40.6mmx30mmx1.5mm) / Mini-PCIE standard interface (one of two options)



## 4.2 Indicator light function description

LED	Red: Device is booting up on power up Green: Device is booting normally Cyan: device 4G pass-through normal Blue: device boots normally Orange: device 4G pass-through normal (using external SIM card)
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## 4.3 Hardware platform introduction

CPU	MT7620N MIPS24KEc architecture CPU with up to 580MHZ main frequency
2.4G WIFI chipset	MT7620N integrated 2.4G WIFI function IEEE 802.11n/g/b, up to 300Mbps
5.8G WIFI chipset	NA
RAM	DDR2 64MB
Flash	Nor Flash 8MB
	Not support NAND Flash



## 4.4 Hardware watchdog function introduction

The hardware watchdog is designed with a hardware watchdog function, the hardware watchdog will automatically boot up after power on and detect the heartbeat level output by the routing system once a second, if the routing system itself fails (e.g. crashes), it will naturally not be able to output the heartbeat level again, at which point the hardware watchdog will shut down for 15 seconds and restart the whole system if the heartbeat level is not detected for 120 seconds.

The routing system can independently control the power supply of the 4G module, when the routing system detects a 4G module dial-up failure, the corresponding GPIO can be used to power down the faulty 4G module, and then get a new power supply to make the 4G module restart.

Hardware watchdog specific functions	
System failure	4G module dialing fault
Power failure to reboot the system	Reboot the 4G module only





## 5 4G mobile communication capabilities

This product has a built-in LCC patch module / Mini-PCIE standard interface (either one), which can be used to extend 4G mobile communication functions, the built-in interface supports USB 2.0 bus. Different models of 4G modules can be selected to support different 4G bands in different countries. For detailed 4G functions, please communicate with Smart Bus customer service and refer to the 4G module specification to determine.

### 5.1 4G module technical parameters

This module is based on the EM03 series of all-networking Cat 4 modules from E-Link. It supports a maximum downlink rate of 150 Mbps and a maximum uplink rate of 50 Mbps, enabling seamless switching between 3G and 4G networks.

#### 5.1.1 Other features

- (U) SIM card detection (optional)

Supply voltage: 3.4~4.3V, typical 3.8V

Operating temperature: -35~+75℃



## 6 Introduction to WIFI wireless parameters

### 6.1 WIFI EVM indicators

	Model description	Indicator parameters	Unit
EVM Indicators	802.11B 11Mbps	$\leq -15$ dB	dBm
	802.11G 54 Mbps	$\leq -25$ dB	dBm
	802.11N HT20@ MCS7	$\leq -28$ dB	dBm
	802.11N HT40@ MCS7	$\leq -28$ dB	dBm



## 6.2 WIFI 2.4G

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

	Description	Maximum value	Rated value	Minimum value	unit
Operating frequency		2484		2412	MHz
Reception sensitivity	11 Mbps CCK	-86	-87.5	-89	dBm
	54 Mbps OFDM	-70	-72	-74	dBm
	BW=20MHz MCS 7	-68	-70	-72	dBm
	BW=40MHz MCS 7	-66	-68	-70	dBm
Transmitting power	11 Mbps CCK	20	19	18	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 Description of power supply and power consumption

	Test conditions	Minimum value	Rated value	Maximum value	unit
Operating voltage	T A = 25°C	6	12	15	V
Absolute working voltage	T A = 25°C	5		16	V
Operating current	VIN=12V, T A = 25°C	0.2	0.5	1	A

Please use the ZBT standard power adapter to supply power to the product. If you do not use the ZBT standard power supply, please supply power to the product in strict accordance with the above power supply specification parameters, otherwise the product will be damaged. If you use battery or vehicle power supply, please make sure to take anti-static and anti-surge measures.



## 8 Introduction to structural parameters and accessories

Weight (KG)	TBD	
Housing size	L*W*H= 171*220*47.5 MM	
Color	black	
	Power adapter	12V 1A 1PCS
	Certificate of Conformity	1PCS
	Network cables	1PCS

## 9 Product working environment requirements

Operating temperature	0℃ to 40℃
Storage temperature	-40℃ to 70℃
Working humidity	10% to 90%RH No condensation
Storage humidity	5% to 90%RH No condensation

## 10 Software Formulation Information

Default IP	192.168.1.1
Username/Password	root/admin
2.4G SSID	WIFI-XXXXXX (X is the last 6 digits of the MAC address), no password by default

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