



Model: ZBT-WE2806-A

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Editor: Mr Hu

# 产品规格书

深圳市智博通电子有限公司  
Shenzhen Zhibotong Electronics Co.,LTD.

## catalog

1 Summary.....	3
1.1 Brief overview.....	3
1.2 Guideline.....	3
2 Photos.....	3
3 Features.....	4
4 Hardware.....	4
4.1 Hardware interface introduction.....	4
4.2 Led indication light introduction.....	5
4.3 Hardware platform introduction.....	6
4.4 Hardware watchdog function introduction.....	6
5 4G mobile communication function.....	6
6 Description of power supply and power consumption.....	7
7 WIFI wireless parameter introduction.....	7
8 Introduction of structural parameters and accessories.....	8
9 Product working environment requirements.....	8
10 Software configuration information.....	8

## 1 Summary

### 1.1 Brief overview

This document describes WE2806-A electrical characteristics, RF performance, size and application environment. Under the introduction of this document, end users or developers can quickly understand the hardware functions of WE2806-A.

WE2806-A is a 4G wireless router special for home using. It accesses the Internet through dial-up 4G internet or 100Mbps WAN port dial-up, and it shares the Internet network through wireless and 100Mbps wired LAN.

### 1.2 Guideline

Related standards:

- USB2.0 Bus standard
- SIM/USIM interface standard
- IEEE802.11n/g/b
- IEEE802.3/802.3u
- 4G mobile communication standard, determined by the selected 4G mobile communication module

## 2 Photo



### 3 Product main features

- Using MT7628NN program, MIPS24KEc framework CPU, the main frequency is up to 580MHZ
- MT7628NN chip integrates 2.4G WIFI function, the rate is up to 300Mbps
- MT7628NN chip integrates 64MB DDR2, with 8MB Nor Flash
- 1WAN, 3LAN 100M adaptive network port, support automatic flip (Auto MDI/MDIX)
- Support "one-key flash mode", that is, long press the reset button to restart the router ,and it will enter the recovry mode.
- Built-in one mini-PCle interface, realize 4G dial-up Internet access via USB2.0 bus
- Built-in mini-PCle interface, its power can be controlled by GPIO
- Two external NANO SIM card (small card) interfaces, support SIM/USIM card
- External high gain omnidirectional antenna, wireless signal 360 degrees without dead angle
- This product supports the hardware watchdog function, and it will automatically restart the device when system is dead.

### 4 Hardware

#### 4.1 Hardware interface introduction

Interface	1*10/100WAN port (Auto MDI/MDIX) Supports IEEE 802.3/802.3u
	3*10/100LAN ports (Auto MDI/MDIX) Supports IEEE 802.3/802.3u
SIM card slot	2*NANO SIM card(smaller)slot ,supports SIM/USIM
Power	DC5.0*2.1MM port
Button	1*Reset button
Antannas	2pcs 2.4G wifi antennas
	2*omni directional 5dbi 4G mobile communication antennas, compatible with 3G/2G mobile data communication
	1 *omnidirectional 5dbi GPS antenna
4G module port	Built-in 1*mini-PCles slot, supports USB2.0 BUS

#### 4.2 Indicator function introduction

WAN LED	Connect to the Internet port is always on, flashing when there is data communication, the network port comes with LED	
LAN1 LED	Connect to the Internet port is always on, flashing when there is data communication, the network port comes with LED	
LAN2 LED	Connect to the Internet port is always on, flashing when there is data communication, the network port comes with LED	
LAN3 LED	Connect to the Internet port is always on, flashing when there is data communication, the network port comes with LED	
2.4G WIFI LED	It is always on when the 2.4G WIFI is turned on, flashing when there is data communication, when 2.4G is closed or it is with problem,the led light is closed. The first light on the left side of the upper row	
4G LED	The 4G mobile communication module flashes when there is data communication, the 4G mobile communication module fails or does not light when the 4G mobile communication module is not connected, the second light on the left side of the upper row	
SIM card 1 LED	The 4G module is currently communicating with the SIM card 1. This LED is always on, and in other cases, this LED is off. The third light on the left side of the upper row	
SIM card 2 LED	The 4G module is currently communicating with the SIM card 2. This LED is always on, but otherwise it is off. The third light on the left side of the upper row	
Power LED	It is always on when the power is turned on, and it does not turn on when the power supply is faulty or is not connected to the power supply.	
4G1 Signal strength 1	The second light on the left side of the row below	The three LED lights are green, one light is on, indicating that the 4G module 1 signal is weak, two lights are on, indicating that the 4G module 1 signal is moderate, and three lights are on, indicating that the 4G module 1 signal is strong.
4G Signal strength 2	The third light on the left side of the row below	
4G Signal strength 3	The fourth lamp on the left side of the row	

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#### 4.3 Hardware

processor	MT7628NN MIPS24KEc Architecture CPU, CPU reach to 580MHZ
2.4G WIFI chipset	MT7628NN integrated 2.4G WIFI function IEEE 802.11n/g/b, maximum rate 300Mbps
RAM	DDR3 64MB (max 256MB)
FLASH	Nor Flash 8MB (max 32MB)
	Don't supports NAND Flash

#### 4.4 Hardware watchdog function introduction

This hardware product has designed a hardware watchdog function. The hardware watchdog will automatically turn on after power-on, and detect the heartbeat level output by the routing system every 1 second. If the routing system itself fails (such as a crash), it also Naturally, the heartbeat level can no longer be output. At this time, if the hardware watchdog has not detected the heartbeat level within 120 seconds, it will shut itself down for 15 seconds and restart the entire system.

The routing system can independently control the power supply of the 4G module. When the routing system detects a dialing failure of the 4G module, it will automatically power off the failed 4G module, and then power on again to restart the 4G module.

### 5 4G mobile communication function

This product has a built-in mini-PCIe interface, which can be used to expand 4G mobile communication functions. The built-in mini-PCIe interfaces all support USB2.0 bus. Different 4G modules can be used to support 4G frequency bands in different countries. For specific and detailed 4G functions, please communicate with Zhibotong customer service, and refer to the 4G module specifications.

## 6 Description of power supply and power consumption

	Test Conditions	Minimum value	Rated value	Maximum	Unit
Operating Voltage	T A = 25° C	6	12	32	V
Absolute working voltage	T A = 25° C	5.5		36	V
Working current	VIN=12V, T A = 25° C	0.4	0.6	1	A

Please use the ZBT standard power adapter to for this product. If you do not use the ZBT standard power supply, please strictly follow the above power supply specifications to power on this product, otherwise it will damage the product. If you use batteries or vehicle power supply, please be sure to take anti-static and anti-surge measures.

## 7 WIFI wireless parameter introduction

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

	Explanation	Maximum	Rated value	Minimum value	unit
working frequency		2484		2412	MHz
Receive sensitivity	11 Mbps CCK	-86	-87.5	-89	dBm
	54 Mbps OFDM	-72	-74	-76	dBm
	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

## 8 Introduction of structural parameters and accessories

Weight (KG)	0.90KG	
Size	L*W*H=170MM*108.5MM*27MM	
Color	Black	
Sapre parts	Power adapter	12V/1A 1PCS
	User manual	1PCS
	Certificate of conformity	1PCS
	LAN cable	1PCS
	Antenna	2*2.4G 5DB detachable antennas
		2*4G 5DB detcahble antennas

## 9 Product working environment requirements

Operating temperature	0℃ to 40℃
storage temperature	-40℃ to 70℃
Working humidity	10% ~ 90%RH Non-condensing
Storage humidity	5% to 90%RH non-condensing

## 10 Software configuration information

IP	192.168.1.1
User name/Password	root/admin
2.4G SSID	WIFI-XXXXXX (X is the last 6 digits of MAC address), no password by default
5.8G SSID	NA



The above is the general default preparation information of the product. The WIFI SSID may be different when using our OS firmware or OPENWRT firmware, 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.