Model：ZBT-WE2805-A

Version：V1.0

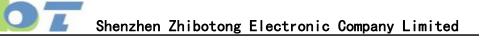# Product Specification

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Contents

1 Overview

1.1 Preview

This document describes ZBT-WE2805-A's electrical characteristics, RF performance, size, application environment and so on. From this document, end users or developers can quickly understand the hardware functions of this router.   .

ZBT-WE2805-A is a 4G routing product for home used. It accesses the Internet through 4G mobile communication dial-up or 100Mbps WAN port dial-up, and then shares the wireless WiFi and internet network to user or device.

And also,it can be supported wired Ethernet .Customers can be connected WAN port by wired Ethernet cable to share wireless WiFi and wired network to user or device.

1.2 Guideline

Related standards:

- USB2.0 bus standard
- SIM/USIM slot standard
- IEEE802.11n/g/b
- IEEE802.3/802.3u
- 4G mobile communication standard depend on the 4G mobile communication module which we selected

2. Product Image

3 .Selling point

- Adopt MT7628NN chipset,MIPS24KEc architecture CPU，main frequency is up to 580MHZ
- Support 2.4G, rated up to 300Mbps
- Support 802.11 N/G/B protocols.
- MT7628NN chipset integrates 64MB DDR2, match with 8MB Nor Flash
- 1*WAN and 2*LAN 100Mbps adaptive network port, support automatic flip （Auto MDI/MDIX）
- Support "one-click flash mode"，Long press the reset button to boot and then will enter the rescue flash mode
- Built-internal 4G module to support 3G&4G function,
- One nano SIM card slot, support SIM/USIM card
- External high gain omnidirectional antenna with 360º wireless signal
- This product supports hardware watchdog function, when the routing system fails, it will restart the device automatically.

4. Hardware function

4.1 Hardware interface introduction

Network port	1*WAN,100Mbps support automatic flip（Auto MDI/MDIX） IEEE 802.3/802.3u,802.n/g/b
	2*LAN,100Mbpssupport automatic flip（Auto MDI/MDIX） IEEE 802.3/802.3u,802.11n/g/b
SIM card slot	1*SIM slot，support SIM/USIM..
Power	DC5.0*2.1MM port

Reset button	1* reset button
Antenna	2*2.4G & 5dbi external Omnidirectional antennas
	2*4G 5dbi internal Omnidirectional antennas
4G module interface	It is directly SMT LCC+LGA 4G module to support 3G&4G function.

4.2 Indicator light introduction

WAN LED	Connect to the Internet port, the indicator will be always light, and it will flash when there is data communication, the network port with LED
LAN1 LED	Connect to the Internet port, the indicator will be always light, and it will flash when there is data communication, the network port with LED
LAN2 LED	Connect to the Internet port, the indicator will be always light, and it will flash when there is data communication, the network port with LED
2.4G WIFI LED	Turn on 2.4G WIFI function,the indicator will be always light, and it will flashes when there is data communication, Turn off 2.4G WIFI or 2.4G WIFI function fails, the indicator will be off. The first light on the left side of the upper row
4G LED	Fast flashing (on and off once in 600ms):No SIM card or network registration failed Slow flashing (once at 3000ms and off once at 75ms):Standby mode Fast flashing (on and off once in 75ms):Dialing is normal, data link is established Constant light:Sleep state
Power LED	It is always on when the power is connecting, and it will be off when the power supply is faulty or is not connected to the power.,The first light on the left side of the below row

4.3 Hardware platform introduction

Processor	Adopt MT7628NN Chipset,MIPS24KEc architecture CPU,main frequency is up to 580MHZ
2.4G WIFI chip	MT7628NN chipset integrates 2.4G WIFI function, rated up to 300Mbps
RAM	DDR2 64MB

FASH	Nor Flash 8MB
	Do not support NAND Flash

4.4 Hardware watchdog function introduction

This hardware product has designed the hardware watchdog function. The hardware watchdog will automatically turn on after power on.And detect the heartbeat level output by the routing system once every 1 second. If the routing system itself fails (such as a crash), it will not be able to output the heartbeat level. At this time, if the hardware watchdog has not detected a heartbeat within 120 seconds Level, it will automatically shut down, restart the entire system in 15 seconds.

The routing system can independently control the power supply of each 4G module. When the routing system detects any module dialing failure, 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 been SMT one 4G module to support 4G mobile communication functions. Adapter USB2.0 bus. Changing different 4G modules can support the 4G frequency bands of different countries. For more detailed 4G functions, please contact Zhibotong customer service, and refer to the specification of 4G module .

6 Description of power supply and power consumption

	Test Conditions	Min Value	Rated value	Max Value	Unit
Working Voltage	T A＝25°C	6	12	14	V
Absolute working voltage	T A＝25°C	5.5		16	V
Working current	VIN=12V，T A＝25°C	0.4	0.6	1	A

Please use the ZBT standard power adapter to supply power for this product. If you do not use the ZBT standard power adapter, please strictly follow the above power supply specifications to supply power for 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 transmission power of 2.4G WIFI , reception sensitivity, and power frequency .

	Description	Max Value	Rated value	Min Value	Unit
working frequency		2484		2412	MHz
reception	11 Mbps CCK	-86	-87.5	-89	dBm

sensitivity	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）	1.02KG	
Size	L*W*H=168.61*129.02*17.94mm	
Color	Gray	
Including parts	Power adapter	12V/1A　1PCS
	Instructions	1PCS
	Certificate of conformity	1PCS
	Net cable	1PCS
	Antenna	2.4G　external antennas 2PCS
		4G external 5DB antennas 2PCS inside of router

9 Product working environment requirements

Working temperature	-0℃ to 40℃
Storage	-40℃to 70℃

temperature	
Working humidity	10% to 90%RH Non-condensing
Storage temperature	5% to 90%RH Non-condensing

10 Software configuration 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 preparation information of the product. The WIFI SSID may be different when using our OS firmware or OPENWRT firmware, but the default IP，WEB login name and password of this product remain unchanged. For other detailed software functions, please refer to the product description.