



Model No.: Z800AX-T

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Product Specification

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1. Summary

1.1 Brief overview

This document describes the electrical characteristics, RF performance, size, and application environment of Z800AX-T. Under the introduction of this document, end users or developers can quickly understand the hardware functions of Z800AX-T.

Z800AX-T is high end 5G Wifi6 router for home/office/enterprise application solution. Industrial metal case. It can support 4G/5G network and 1000Mbps Ethernet network. Support 802.11 AX wifi6 standard.

1.2 Reference standard

Related standard specifications:

- USB3.0/USB2.0 Bus standard
- PCI-Express Bus standard
- SIM/USIM Interface standard
- IEEE802.11n/g/b/a/ac/ax
- IEEE802.3/802.3u/802.ab
- PCI Express M.2 Specification Rev1.1
- 5G mobile communication standard, determined by the selected 5G mobile communication module

2. Product Pictures













3. Main features of the product

- Adopt Qualcomm IPQ8072A chipset solution, Quad core Arm Cortex A53s CPU, the main frequency is up to 2.2 GHz
- Adopt independent WiFi chip, 2.4G is qcn5024, 5.8G is qcn5054
- 2.4G rate up to 1147Mbps, 5.8G rate up to 2402Mbps, 2.4G&5.8G both supports MU-MIMO
- Large RAM 1GB DDR4 with 8MB nor flash and 256MB Nand flash.
- 1*WAN, 4*LAN all 1000Mbps adaptive network ports, support automatic flip (Auto MDI/MDIX)
- Built-in M.2 standard interface, can be used to connect 5G mobile communication module.
- External standard SIM card interface, support SIM/USIM card

- 5G module power supply is independently controlled by GPIO
- IPQ8072 with watchdog function, which can reboot automatically in case of crash.
- External high gain omnidirectional antenna, wireless signal 360 degrees without dead angle.
- Support MESH automatic networking when multiple products are used at the same time.

4. Hardware function

4.1 Hardware interface introduction

Ethernet Port	1*WAN port,1000Mbps supports auto flip (Auto MDI/MDIX) Compliant with IEEE 802.3/802.3u/802.ab
	4*LAN ports,1000Mbps support auto flip (Auto MDI/MDIX) Compliant with IEEE 802.3/802.3u/802.ab
SIM card Interface	1*Stand sim card slot, support SIM/USIM
Button	1*Reset,1*Mesh
Antennas	4* external omnidirectional 5dbi 2.4G antennas 4* external omnidirectional 5dbi 5.8G antennas
	4*external omnidirectional 5dbi 5G mobile communication antennas,Compatible with 4G / 3G band.
M.2 Interface	Built-in M.2 slot. It supports USB3.0 bus and can be used to expand 5g module.

4.2 Indicator function introduction

WAN LED	Connected to the Internet port is always on, flashing when there is data communication, integrated in the top left of RJ45 network port.
LAN1 LED	Connected to the Internet port is always on, flashing when there is data communication, integrated in the top left of RJ45 network port.

LAN2 LED	Connected to the Internet port is always on, flashing when there is data communication, integrated in the top left of RJ45 network port.
LAN3 LED	Connected to the Internet port is always on, flashing when there is data communication, integrated in the top left of RJ45 network port.
LAN4 LED	Connected to the Internet port is always on, flashing when there is data communication, integrated in the top left of RJ45 network port.
5G LED	1.When red lighting means during start up. 2. When green lighting means the rebooting is finished. 3.When cyan lighting means connected to the Internet,

4.3 Hardware platform introduction

Processor	IPQ8072A chipset solution, Quad core Arm Cortex A53s CPU, the main frequency is up to 2.2 GHz
2.4G WIFI chipset	2.4G:qcn5024,IEEE 802.11ax/n/g/b, maximum speed 1147Mbps, 4T4R
5.8G WIFI chipset	5.8G:qcn5054,IEEE 802.11ax/ac/a, maximum speed 2402Mbps, 4T4R
Ram	DDR4 1GB
Flash	256MB

4.4 Introduction of watchdog function

When the routing system runs normally, but the 5g module dials not normally, the routing system will automatically restart the 5g module by controlling the power supply of the 5g module to repair the 5g dialing not normally.

When the system is not normal, the watchdog function of ipq8072a will restart the whole system.

5.5G mobile communication function

This product has built-in m.2 interface, which can be used to expand 5g mobile communication function. The built-in m.2 interface supports USB3.0 bus. Whether the 5g mobile communication supports NSA or SA and what



frequency band it supports are decided by the 5g module.

6. Description of power supply and power consumption

	Test Conditions	Min	Rated value	Max	Unit
Operating Voltage	$T_A = 25^{\circ}C$	6	12	14	V
Absolute working voltage	$T_A = 25^{\circ}C$	5.5		16	V
Working current	$V_{IN}=12V, T_A = 25^{\circ}C$	0.8	1.5	2.5	A

Please use the ZBT standard power adapter to supply power to this product. If not use the ZBT standard power supply, please strictly follow the above power supply specifications to supply power to 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

7.1 WIFI 2.4G

Compatible with IEEE 802.11 b/g/n, support IEEE 802.11 d/h/k; support 20MHz, 40MHz, using 4T4R MUMO antenna technology, the maximum connection rate is up to 1147Mbps. The following is a description of the power frequency, reception sensitivity, and transmission power of 2.4G WIFI.



	Explanation	Max	Rated value	Min	Unit
Working Frequency		2484		2412	MHz
Receive Sensitivity	11 Mbps CCK	-86	-87.5	-89	dBm
	54 Mbps OFDM	-72	-74	-76	dBm
	HE20, MCS 11	-68	-70	-72	dBm
	HE40, MCS 11	-66	-68	-70	dBm
Transmit Power	11 Mbps CCK	25	24	23	dBm
	54 Mbps OFDM	23	22	21	dBm
	HE20, MCS 11	20	19	18	dBm
	HE40, MCS 11	19	18	17	dBm

7.2 WIFI 5.8G

Compatible with IEEE 802.11 a/ac/ax, support IEEE 802.11 d/e/h/i/k/r/w; support 20MHz, 40MHz, 80MHz, adopt 4T4R MUMO antenna technology, the highest connection rate is up to 2402Mbps. The following is a description of the power frequency, receiving sensitivity, and transmit power of 5.8G WIFI.

	Explanation	Max	Rated value	Min	Unit
Working Frequency		5825		5180	MHz
Receive Sensitivity	54 Mbps OFDM	-72	-74	-75	dBm
	HE20, MCS 11	-70	-72	-73	dBm
	HE40, MCS 11	-68	-69	-70	dBm
	HE80, MCS 11	-57	-58	-59	dBm
Transmit Power	54 Mbps OFDM	23	22	21	dBm
	HE20, MCS 11	21	20	19	dBm
	HE40, MCS 11	20	19	18	dBm



	HE80, MCS 11	19	18	17	dBm
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8. Introduction of structural parameters and accessories

Weigh (KG)	1.22KG	
Case Size	L*W*H=240MM*135MM*25MM	
Color	Black	
Accessories	Power Adapter	12V/2.5A 1PCS
	Manual	1PCS
	Certificate of conformity	1PCS
	Cable	Category 5 network cable 1PCS
	SIM card holder	1PCS

9. Product working environment requirements

Operating temperature	0℃ to 40℃
Storage temperature	-40℃ to 70℃
Working humidity	10% to 90%RH Non-condensing
Storage humidity	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 MAC address), no password by default
5.8G SSID	WIFI-5G-XXXXXX (X is the last 6 digits of MAC address), no password by default



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.