# Product model: M8102S-A-4G-AU

## 1. Brief introduction:

M8102S-A-4G-AU is a 4G+WIFI6 CPE router, which can access the Internet through 4G mobile communication dial-up or 1000Mbps WAN port, and then share the Internet network through wireless WiFi 6 and 1000Mbps wired LAN. Specially for use in Oceania countries.

Related standard specifications:

1)USB3.0/USB2.0 bus standard

2)PCI-Express bus standard

3)SIM/USIM interface standard

4)IEEE802.11n/g/b/a/ac/ax

5)IEEE802.3/802.3u/802.ab

6)PCI Express M.2 Specification Rev1.1

7)4G mobile communication standard, specifically determined by the selected 4G mobile communication module

**4G Frequencies Supported:**

LTE-FDD:B1/B2/B3/B4/B5/B7/B8/B28/B66
LTE-TDD :B40
WCDMA:B1/B2/B4/B5/B8
GSM/EDGE:B2/B3/B5/B8

## 2. Product image (Product size: 340x162x34mm)

## 3. Product main features

1) Using MT7981B solution, ARM Cortext-A53 dual-core CPU, main frequency up to 1.3GHZ

2)Adopt independent WIFI6 chip, MT7976CN, the speed is up to 3000Mbps

3)High-speed 1GB DDR4, with 128MB SPI NAND Flash

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

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

6)Support "one-key" MESH networking...

7)Built-in 1 M.2/Mini-PCIE standard interfaces (choose one of the two), which can be used to connect to 4G mobile communication modules

8)External high-gain WIFI antenna, 360-degree wireless signal without dead angle

## 4. Hardware function

## 4.1 Hardware Interface Introduction

| | |
|---|---|
| RJ45 ports | 1*WAN port, 1000Mbps supports automatic flip (Auto MDI/MDIX)<br><br>Conforms to IEEE 802.3/802.3u/802.ab |
| | 4* LAN port, 1000Mbps supports automatic flip (Auto MDI/MDIX)<br><br>Conforms to IEEE 802.3/802.3u/802.ab |
| power interface | DC5.5*2.1MM |
| Button | 1 reset button, 1 MESH button |
| 4G interface | Default 1 *PCIE slot (Can choose to use M.2) |

## 4.2 Indicator light function introduction

| | |
|---|---|
| MESH LED | 1. The red light is on during the boot process, when the boot is completed, the red light is off and the green light is on<br><br>2. Press the mesh button to enter the mesh pairing state, the green light flashes once a second, and the other lights are off |

| | |
|---|---|
| | 3. The network of the main device is normal, and the green light and blue light are on at the same time (cyan)<br><br>4. The MESH connection from the device is successful. If the distance is far away, the green light and red light will be on at the same time (orange), and the green light and blue light will be on at the same time (cyan) if the distance is suitable. |
| 4G LED | The 4G network is always on, and flashes when there is data communication |

## 4.3 Hardware Platform Introduction

| | |
|---|---|
| Processor | MT7981B ARM Cotext-A53 dual-core CPU, 1.3GHZ main frequency |
| WIFI Chip | MT7976CN IEEE 802.11n/g/b/a/ac/ax,Max. 3000Mbps |
| RAM | DDR4 1GB |
| Flash | Nor Flash 16MB(Choosable) |
| | SPI NAND Flash 128MB |
| | EMMC 8GB (Choosable) |

## 4.4 Hardware watchdog function introduction

This hardware product is designed with a hardware watchdog function. After the hardware watchdog is powered on, it will automatically start up and detect the heartbeat level output by the routing system that jumps once every second.

If the routing system itself fails (such as a crash), it will 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 down by itself for 15 seconds and then restart the entire system.

When the routing system is running normally, but the 4G module dialing is abnormal, the routing system will control the power supply of the 4G module through GPIO, so that the module will automatically restart to fix the 4G dialing abnormality.

| Specific function of hardware watchdog | |
|---|---|
| Routing system exception | Module dialing exception |
| restart the whole system | Only restart the module |