Model Number: M8103S-C

1. Brief overview

M8103S-C is a WIFI6 home router that accesses the Internet through the WAN port, and then shares the Internet network through wireless WiFi 6 and 1000Mbps wired LAN.

Relevant standard specifications:

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

IEEE802.3/802.3u/802.ab

PCI-Express bus standard

2. Photo

3. Feature

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

Using independent WIFI6 chip, MT7976CN, speed up to 3000Mbps

Using high-speed 256MB DDR3, with 128MB SPI NAND Flash

1WAN+3LAN 1000M adaptive network port, support automatic flip (Auto MDI/MDIX)..

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

Support "one key" MESH networking...

External high-gain WIFI antenna, wireless signal 360 degrees without dead angle

4. Hardware specs

4.1 Interface

Interface	1 WAN port, 1000Mbps supports automatic flip (Auto MDI/MDIX) Compliant with IEEE 802.3/802.3u/802.ab
	3 LAN ports, 1000Mbps support automatic flip (Auto MDI/MDIX) Compliant with IEEE 802.3/802.3u/802.ab
Power	DC5.0*2.1MM
Button	1*Reset，MESH *1
Antennas	2 omnidirectional 5dbi 2.4G antennas
	2 omnidirectional 5dbi 5.8G antennas

4.2 Introduction to the function of indicator lights

MESH LED	1. The red light is on during the boot process, the boot is completed, the red light is off and the green light is on 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 main device network is normal, the green and blue lights are on at the same time (cyan) 4. The MESH connection of the slave device is successful, the green light and the red light are on at the same time (orange) when the distance is far away, the green light and the blue light are on at the same time (cyan) when the distance is suitable
WAN LED	Connected to the Internet port is always on, and flashes when there is data communication
LAN1 LED	Connected to the Internet port is always on, and flashes when there is data communication
LAN2 LED	Connected to the Internet port is always on, and flashes when there is data communication
LAN3 LED	Connected to the Internet port is always on, and flashes when there is data communication
2.4G LED	2.4G WIFI is always on after startup, and flashes when there is data communication
5.8G LED	5.8G WIFI is always on after startup, and flashes when there is data communication
POWR LED	The power indicator light is always on when the power supply is normal, but not on when the power supply is abnormal.

4.3 Hardware

CPU	MT7981B　ARM Cotext-A53 dual core CPU，1.3GHZ main frequency
WIFI chipset	MT7976CN　IEEE 802.11n/g/b/a/ac/ax,MAX speed 3000Mbps
RAM	DDR3 256MB
FLASH	Nor Flash 16MB(Optional)
	SPI NAND Flash 128MB

5 Power supply and power consumption description

	Test Conditions	minimum	Rated value	maximum value	Unit
Work Voltage	T A = 25°C	9	12	15	V
Absolute working voltage	T A = 25°C	7.5		16	V
Working current	VIN=12V，T A = 25°C	0.6	0.8	1	A

Please use the standard power adapter to supply power to this product. If the standard power supply is not used, please supply power to this product in strict accordance with the above power specifications, otherwise the product will be damaged. If you use a battery or vehicle power supply for power supply, be sure to take anti-static and anti-surge measures.

6 WIFI wireless parameter introduction

6.1 WIFI EVM indicator

	Mode Description	index parameter	Unit
EVM	802.11B 11Mbps	≤ -1 5 dB	dBm
	802.11G 54 Mbps	≤ -25 dB	dBm
	802.11N HT20@ MCS7	≤ -28 dB	dBm
	802.11N HT40@ MCS7	≤ -28 dB	dBm
	802.11AC VHT20@ MCS8	≤ -30 dB	dBm

	802.11AC VHT40@ MCS9	≤ -32 dB	dBm
	802.11AC VHT80@ MCS9	≤ -32 dB	dBm
	802.11AX HE20@MCS 11	≤ -35 dB	dBm
	802.11AX HE40@MCS 11	≤ -35 dB	dBm
	802.11AX HE80@MCS 11	≤ -35dB	dBm

6.2 WIFI 2.4G

Compatible with IEEE 802.11 b/g/n/ac/ax; supports 20MHz, 40MHz, adopts 2T2R MU-MIMO antenna technology, and the highest connection rate is up to 574Mbps. The following is the description of the power frequency, receiving sensitivity and transmitting power of 2.4G WIFI.

	illustrate	maximum value	Rated value	minimum	unit
Working frequency		2484		2412	MHz
Receive sensitivity	802.11B 11Mbps	-86	-87	-88	dBm
	802.11G 54 Mbps	-71	-73	-75	dBm
	802.11N HT20@ MCS7	-68	-70	-72	dBm
	802.11N HT40@ MCS7	-66	-68	-70	dBm
	802.11AC VHT20@ MCS8	-64	-66	-68	dBm
	802.11AC VHT40@ MCS9	-62	-64	-66	dBm
	802.11AX HE20@MCS11	-60	-62	-64	dBm
	802.11AX HE40@MCS11	-58	-60	-62	dBm
Transmit power	802.11B 11Mbps	22	21	20	dBm
	802.11G 54 Mbps	20	19	18	dBm
	802.11N HT20@ MCS7	19	18	17	dBm
	802.11N HT40@ MCS7	19	18	17	dBm
	802.11AC VHT20@ MCS8	18	17	16	dBm
	802.11AC VHT40@ MCS9	18	17	16	dBm
	802.11AX HE20@MCS11	17	16	15	dBm
	802.11AX HE40@MCS11	17	16	15	dBm

6.3 WIFI 5.8G

Compatible with IEEE 802.11 a/ac/ax, supports 20MHz, 40MHz, 80MHz, 160MHz modulation mode 4096-QAM / OFDMA, adopts 2T3R MU-MIMO antenna technology, and the highest connection rate is up to 2400Mbps. The following is the description of the power frequency, receiving sensitivity and transmitting power of 5.8G WIFI.

	illustrate	maximum value	Rated value	minimum	unit
working frequency		5825		5180	MHz
Receive sensitivity	802.11G 54 Mbps	-70	-72	-74	dBm
	802.11N HT20@ MCS7	-68	-70	-72	dBm
	802.11N HT40@ MCS7	-66	-68	-70	dBm
	802.11AC VHT20@ MCS8	-64	-66	-68	dBm
	802.11AC VHT40@ MCS9	-62	-64	-66	dBm
	802.11AC VHT80@ MCS9	-60	-62	-64	dBm
	802.11AX HE20@MCS 11	-58	-60	-62	dBm
	802.11AX HE40@MCS 11	-55	-57	-59	dBm
	802.11AX HE80@MCS 11	-53	-55	-57	dBm
transmit power	802.11G 54 Mbps	20	19	18	dBm
	802.11N HT20@ MCS7	19	18	17	dBm
	802.11N HT40@ MCS7	18	17	16	dBm
	802.11AC VHT20@ MCS8	18	17	16	dBm
	802.11AC VHT40@ MCS9	17	16	15	dBm
	802.11AC VHT80@ MCS9	16	15	14	dBm
	802.11AX HE20@MCS 11	18	17	16	dBm
	802.11AX HE40@MCS 11	17	16	15	dBm

	802.11AX HE80@MCS 11	16	15	14	dBm

8 Structural parameters and accessories introduction

Weight（KG）	TBD	
Size	L*W*H=204*182.2*75.48MM	
Color	Black	
Structural parameters and accessoriesIntroductionAccessories	Power adapter	12V/1A 1PCS
	User manual	1PCS
	Lan Cable	8P8C* 1PCS

9 Product working environment requirements

Operating temperature	0℃ ~ 40℃
storage temperature	-40℃~ 70℃
Working humidity	10% ~ 90%RH Does not condense
Storage humidity	5% ~90%RH Does not condense

10 Software configuration information

Default IP	192.168.1.1
User name/PW	root/admin
2.4G SSID	WIFI6-XXXXXX (X is the last 6 digits of MAC)，No password by default
5.8G SSID	WIFI6-5G-XXXXXX (X is the last 6 digits of MAC)，No password by default