MERCUSYS®

User Guide

BE9300 Whole Home Mesh Wi-Fi 7 System

Contents

About This Guide

This guide provides a brief introduction to Halo Whole Home Mesh Wi-Fi System and the Halo app, as well as regulatory information.

Note: Features available in Halo may vary by model and software version. Halo availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual Halo experience.

Conventions

In this guide, the following conventions are used:

Convention	Description
Halo	Stands for Halo Whole Home Mesh Wi-Fi System/Unit.
Underline	Hyperlinks are in teal and underlined. You can click to redirect to a website or a specific section.
Red	Key information appears in teal, including management page text such as menus, items, buttons and so on.
Note:	Ignoring this type of note might result in a malfunction or damage to the device.
Tips:	Indicates important information that helps you make better use of your device.

More Info

- Specific product information can be found on the product page at https://www.mercusys.com.
- Our Technical Support contact information can be found at the https://www.mercusys.com/support.

- 5G Speed Disclaimer

  Maximum 5G download and upload speeds depend on external factors such as the local 5G network coverage, data plan, real-time network capacity, client limitations, and environmental factors.

- Speed/Coverage/Device Quantity Disclaimer

  Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Actual wireless data throughput and wireless coverage, and quantity of connected devices are not guaranteed and will vary as a result of network conditions, client limitations, and environmental factors, including building materials, obstacles, volume and density of traffic, and client location.

- Wi-Fi 7 Disclaimer

  Use of Wi-Fi 7 (802.11be), Wi-Fi 6 (802.11ax), and features including Multi-Link Operation (MLO), 320 MHz Bandwidth, 4K-QAM, Multi-RUs, OFDMA, and MU-MIMO requires clients to also support the corresponding features.

- Seamless Roaming Disclaimer

  Clients need to support 802.11k/v/r and may require additional set up. Performance may vary depending on the client device.

- Please note that the Halo H series and S series cannot work together.

Appearance

Each Halo has an LED that changes color according to its status, 3 WAN/LAN auto-sensing ports, a power slot, and a Reset button.

See the explanation below:

LED Status

Solid Yellow:
Halo is starting up.

Pulsing Yellow:
Halo is being reset.

Solid Blue:
Halo is setting up.

Pulsing Blue:
Halo is ready for setup.

Solid White:
Halo is registered and all is well.

Pulsing White:
Halo is updating its firmware, please wait.

Solid Red:
Halo has an issue.

Pulsing Red:
Halo is disconnected from main Halo.

Ethernet Ports:
For connecting Halo to your modem, the Ethernet outlet or other internet devices.

Power Slot:
For connecting Halo to the power socket via the provided power adapter.

Reset Button:
Single press to reset Halo to factory default settings.

Set Up Your Halo

Follow the steps below to set up your Halo Whole Home Mesh Wi-Fi System.

1. Download and install the MERCUSYS app

Scan the QR code below or go to Google Play or the Apple App Store to download the **MERCUSYS** app.

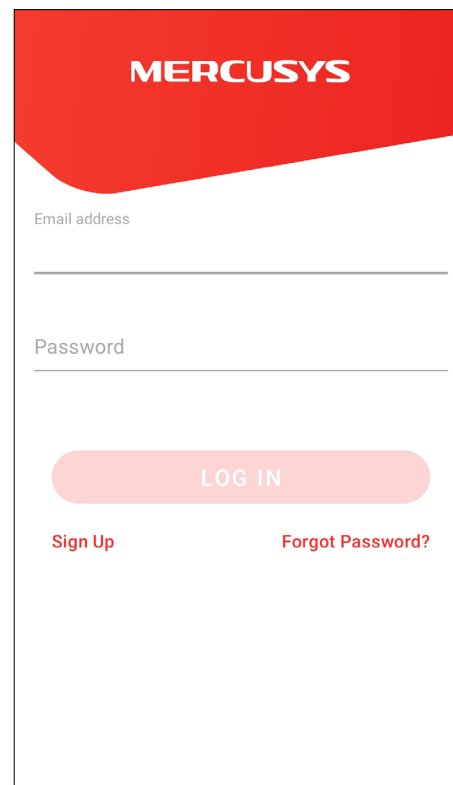Install the app on your phone or tablet.

OR

2. Log in or sign up with Mercusys ID

Open the app. Use your Mercusys ID to log in.

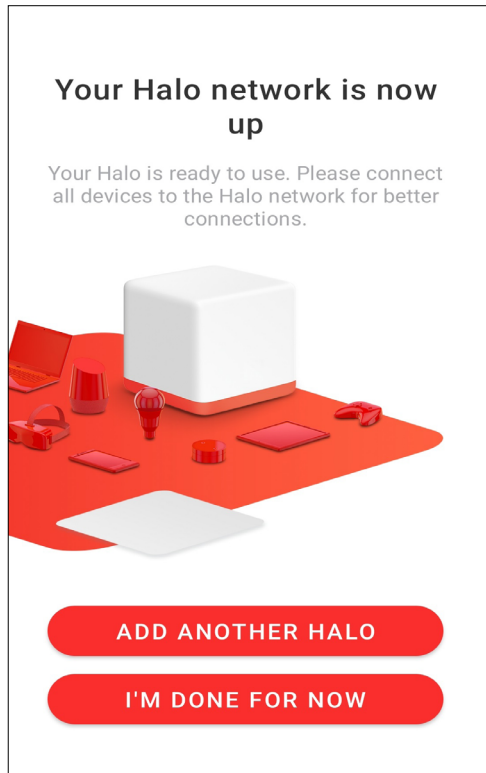Note: If you don't have a Mercusys ID, tap Sign Up. The app will guide you through the rest.

3. Connect and configure Halo Device

Tap **"LET'S BEGIN"** and follow the step-by-step instructions to connect and configure your Halo.

4. Done! To add more Halo(s), tap ADD ANOTHER HALO.

Your Halo network is now up

Your Halo is ready to use. Please connect all devices to the Halo network for better connections.
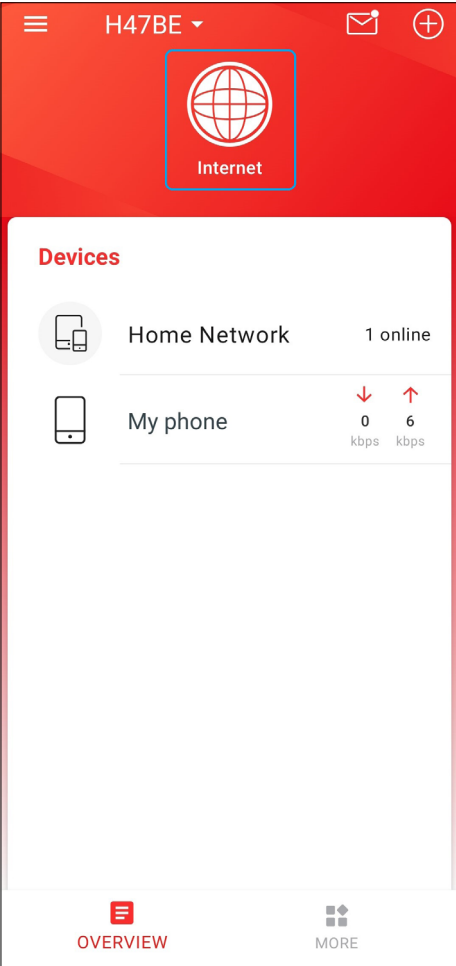
ADD ANOTHER HALO

I'M DONE FOR NOW

Dashboard

After you successfully set up your Halo network, you will see the dashboard of the app. Here you can check the working status of all the Halos, manage the connected devices, add more Halos, and more.
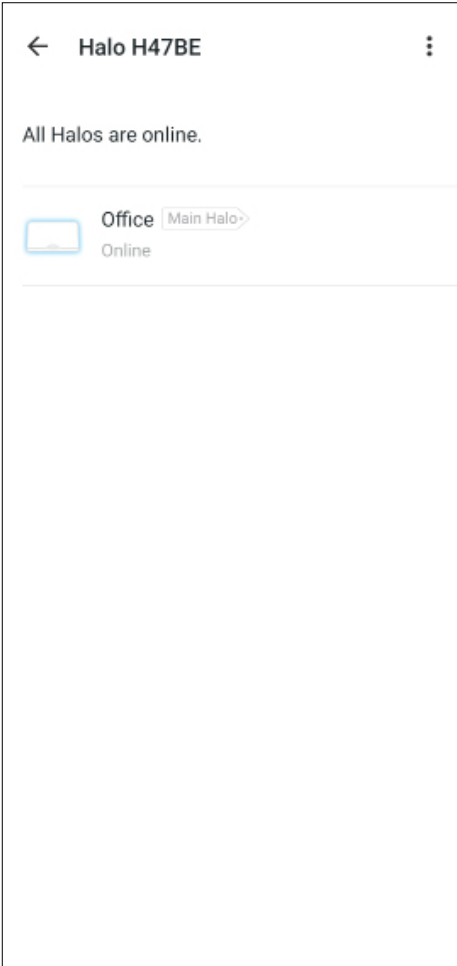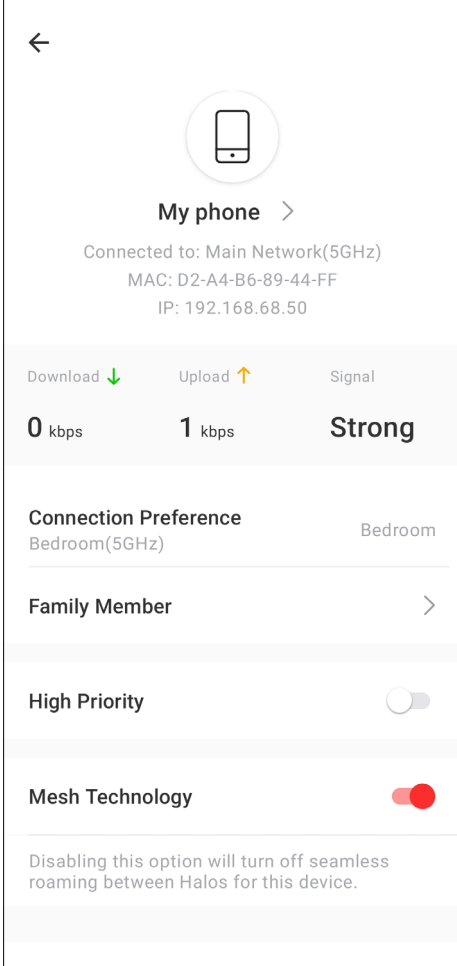
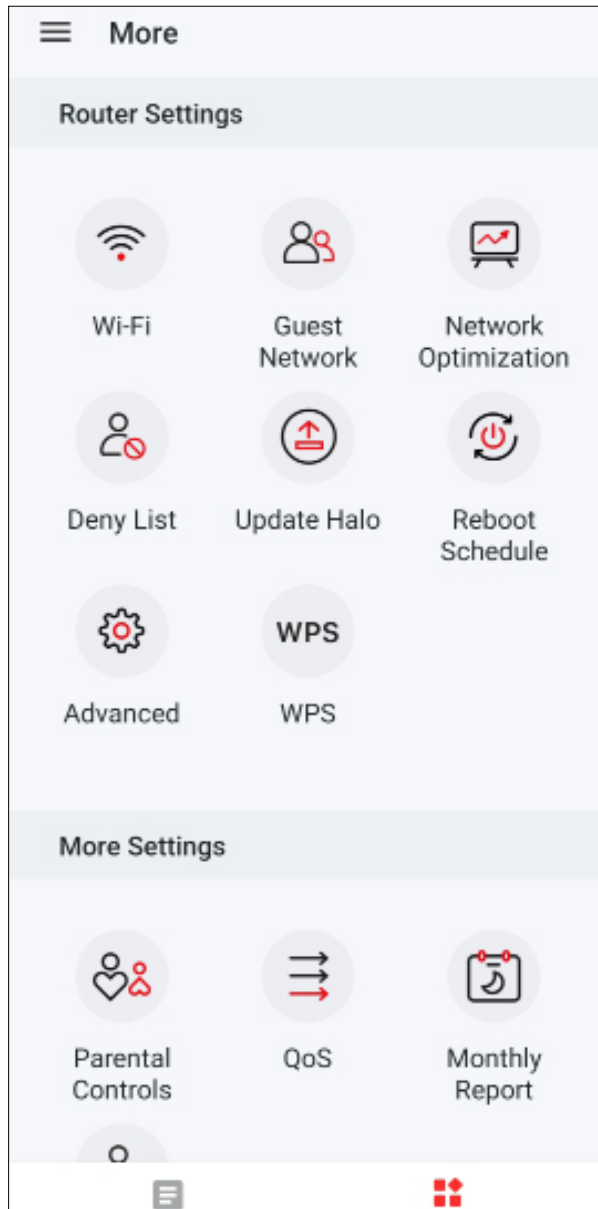**Tap your Device to view connected devices**
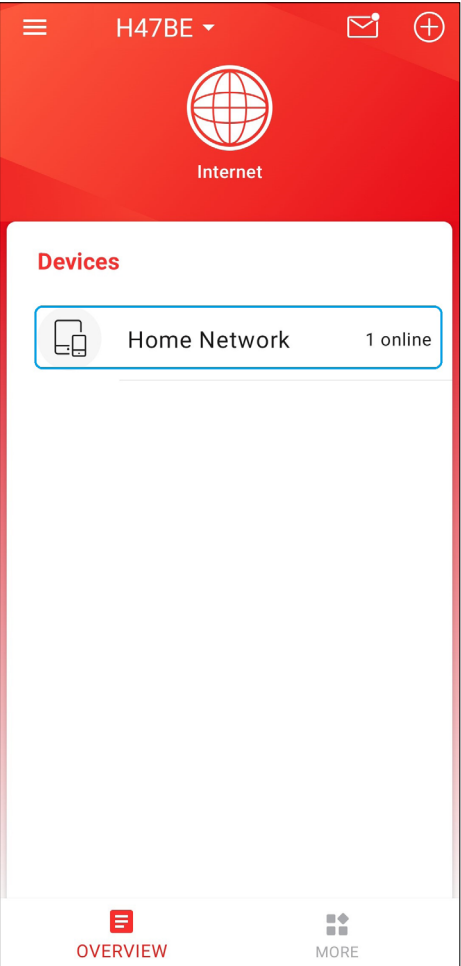
Tap 🌐 to check all Halo status

Select a Halo to view the details

Tap connected device to view details

Screen 1:

H47BE ▾

Internet

Devices

📱 Home Network   1 online

OVERVIEW   MORE

Screen 2:

H47BE ▾

Internet

Devices

📱 Home Network   1 online

📱 My phone   ↓ 0 kbps   ↑ 6 kbps

OVERVIEW   MORE

Screen 3:

← Halo H47BE ⋮

All Halos are online.

Office [Main Halo ›]
Online

Screen 4:

←

📱

My phone ›

Connected to: Main Network(5GHz)
MAC: D2-A4-B6-89-44-FF
IP: 192.168.68.50

Download ↓   Upload ↑   Signal
0 kbps   1 kbps   **Strong**

Connection Preference
Bedroom(5GHz)   Bedroom

Family Member ›

High Priority ⬜

Mesh Technology 🔴

Disabling this option will turn off seamless roaming between Halos for this device.

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Tap ⚏ to set up more features

Tap ☰ to open the manger menu
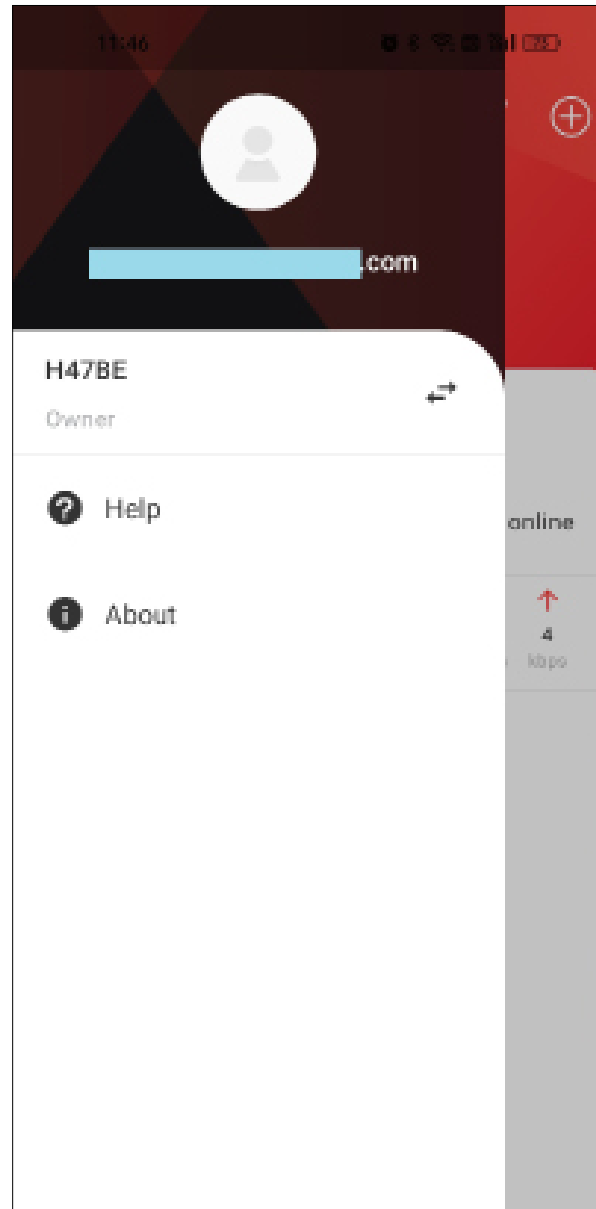
Tap ＋ on the right upper corner to add more devices

☰ More

Router Settings

Wi-Fi
Guest Network
Network Optimization

Deny List
Update Halo
Reboot Schedule

Advanced
WPS

More Settings

Parental Controls
QoS
Monthly Report

11:46

⊕

H47BE

Owner

? Help

ℹ About

online

↑
4
kbps

← Set Up Device

What device do you want to set up?

Halo >

Router >

Range Extender >

3G/4G Router >

Mobile Wi-Fi >
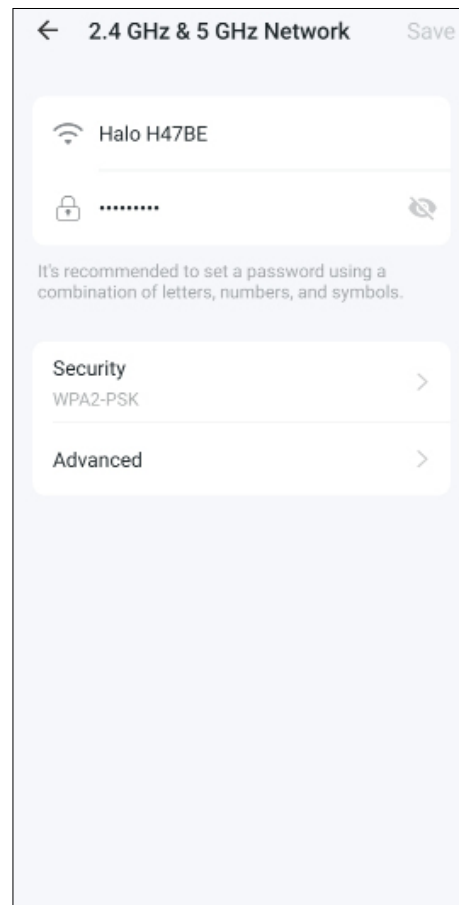
See compatibility list

8
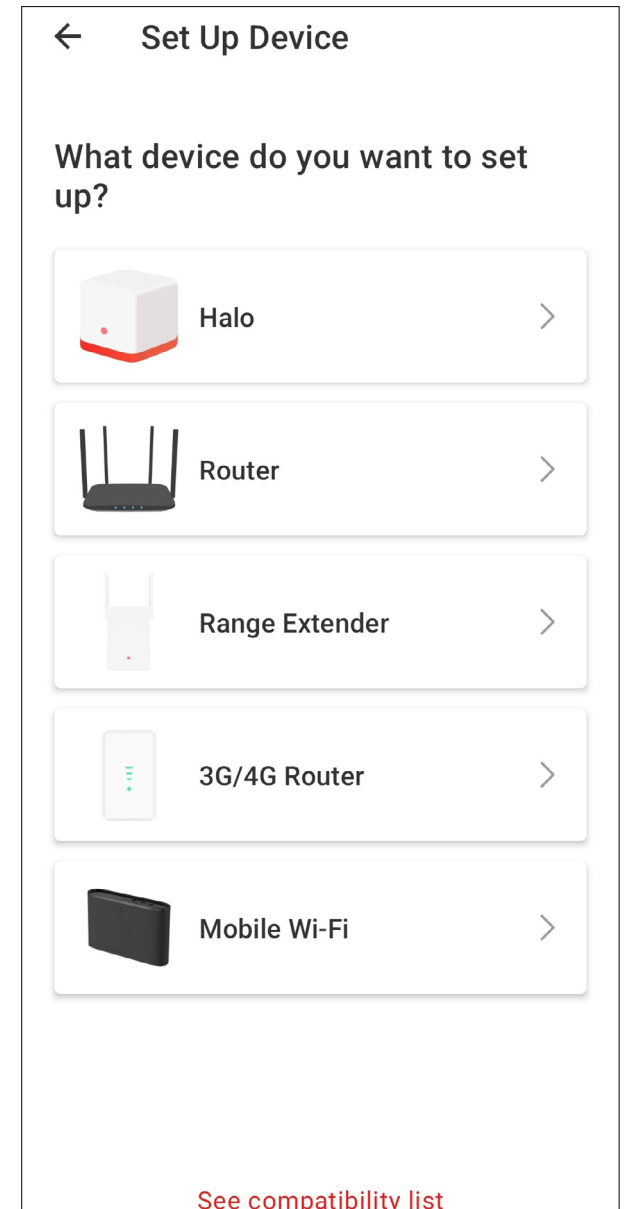
Wi-Fi Settings

You can change the network name, password, security settings of your network, share the network details easily with family and friends, and enable MLO (Multi-Link Operation) network.

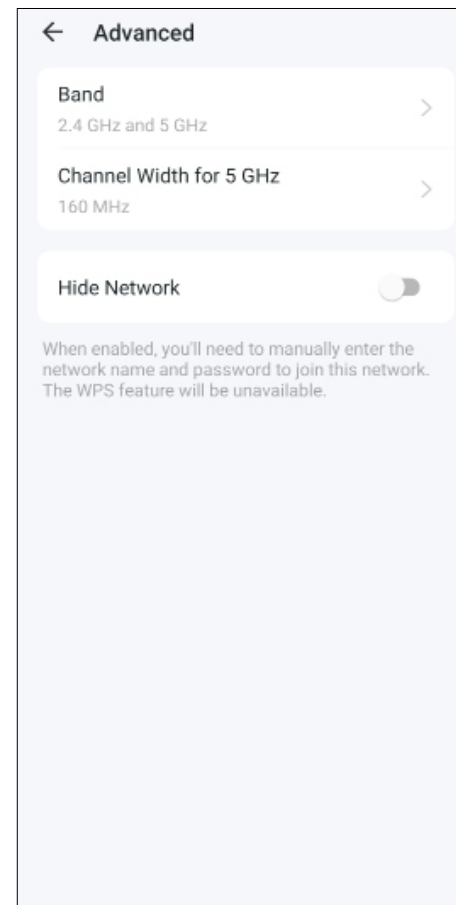### Configure 2.4GHz & 5GHz and 6 GHz network settings

Tap your network name.
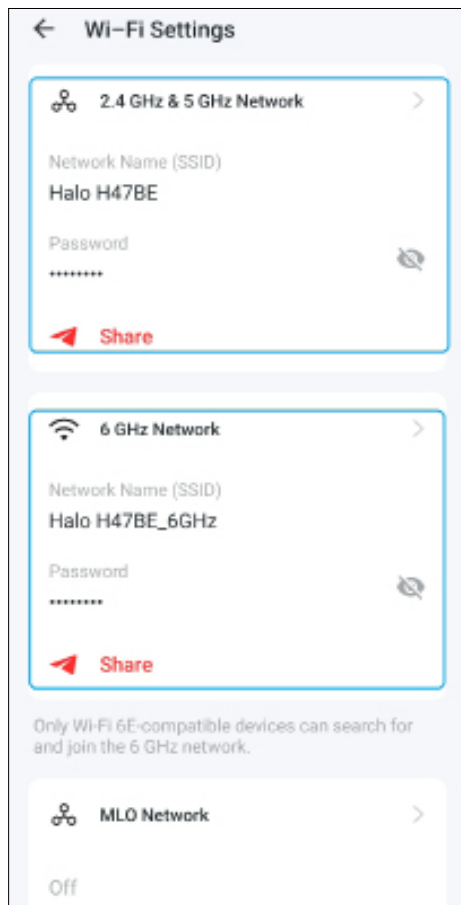
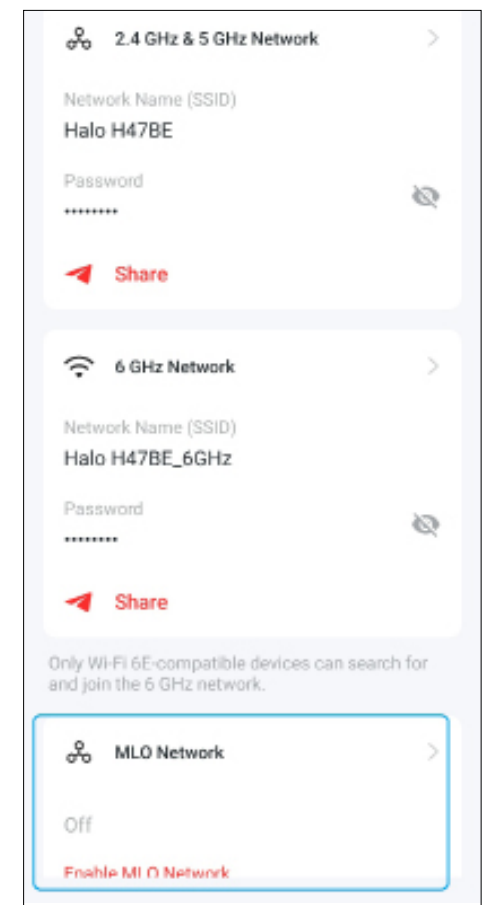You can change the network name and password.

You can also hide this network from Wi-Fi lists in Advanced settings.

Enable MLO network

Turn it on to simultaneously send and receive data across different bands.
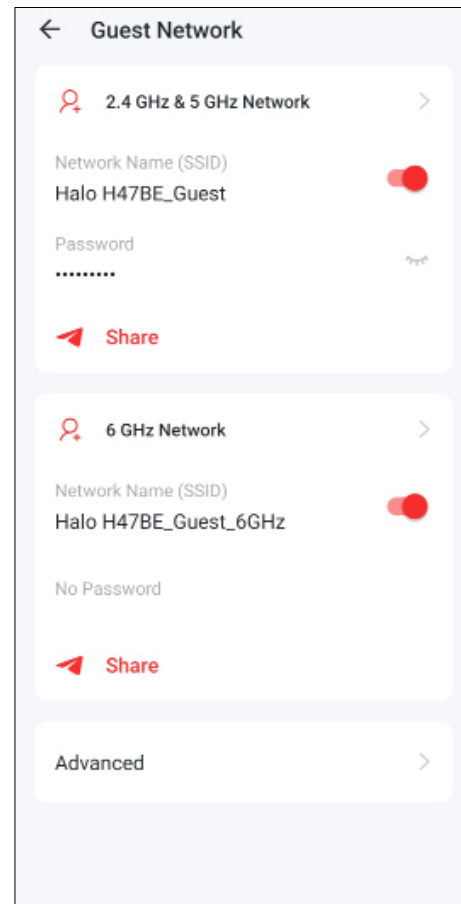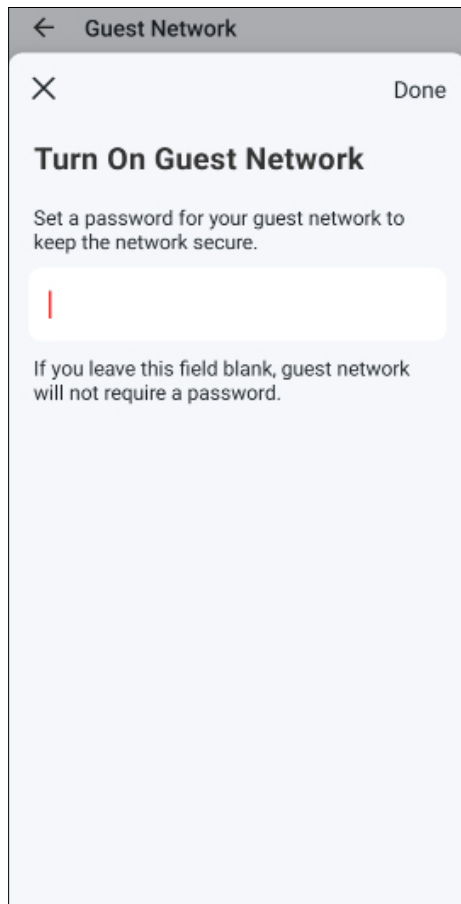
Guest Network

You can set guest networks for your 2.4GHz & 5GHz and 6 GHz networks. In Advanced settings, you can set bandwidth limit for these guest networks.
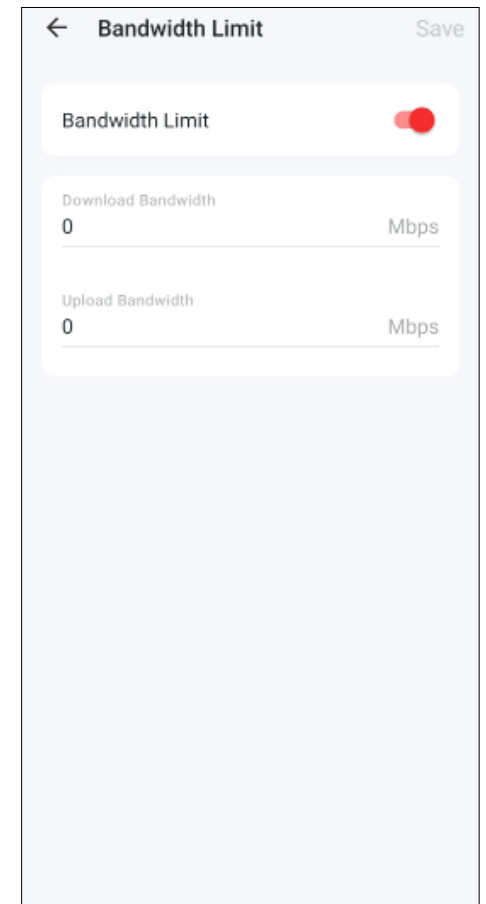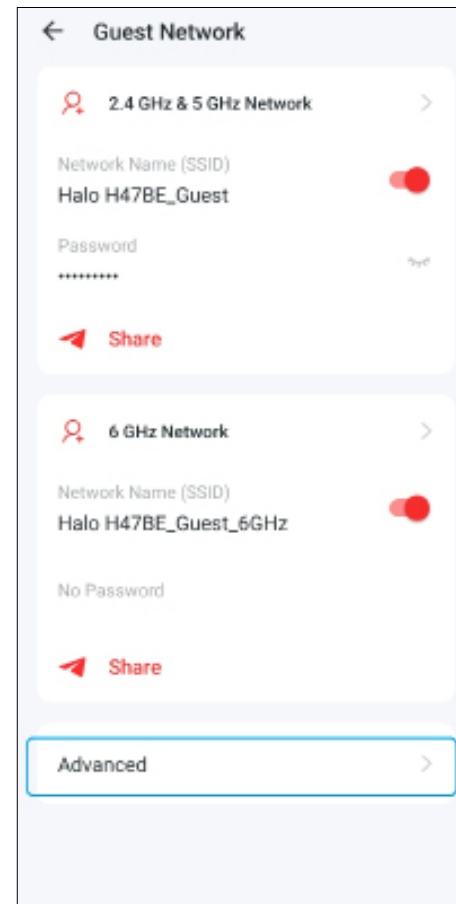
Configure guest network

Turn on the Guest Network. Then you can change the network name and password, and set turn-on duration.
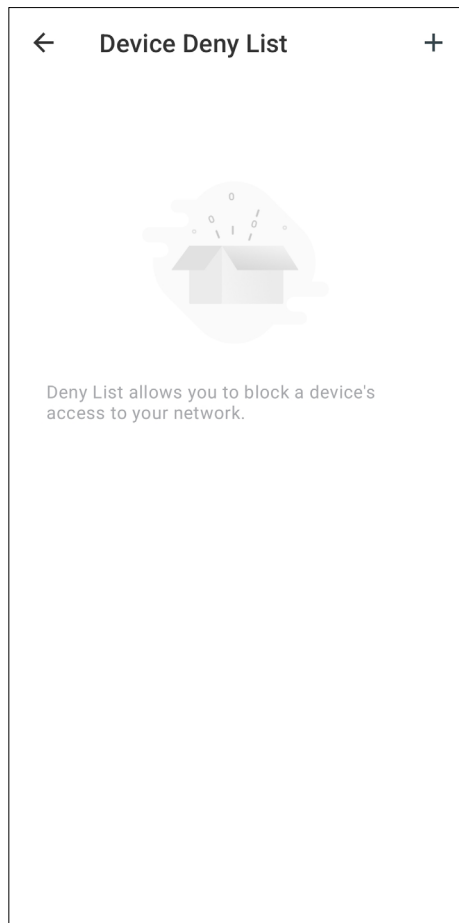
Set bandwidth limit

Turn it on in Advanced and set download and upload bandwidth limits.
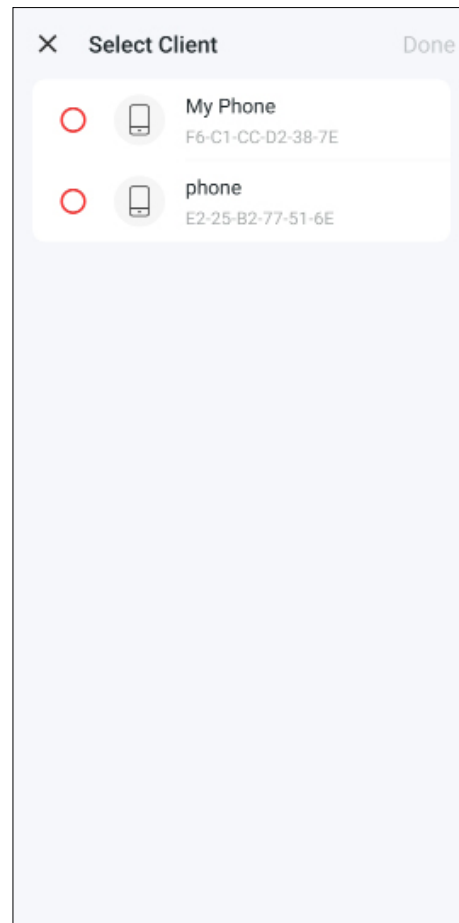
10

Blacklist

Compile a blacklist to avoid devices on the list to access to your network, ensuring the safety of your personal information shared in the network.
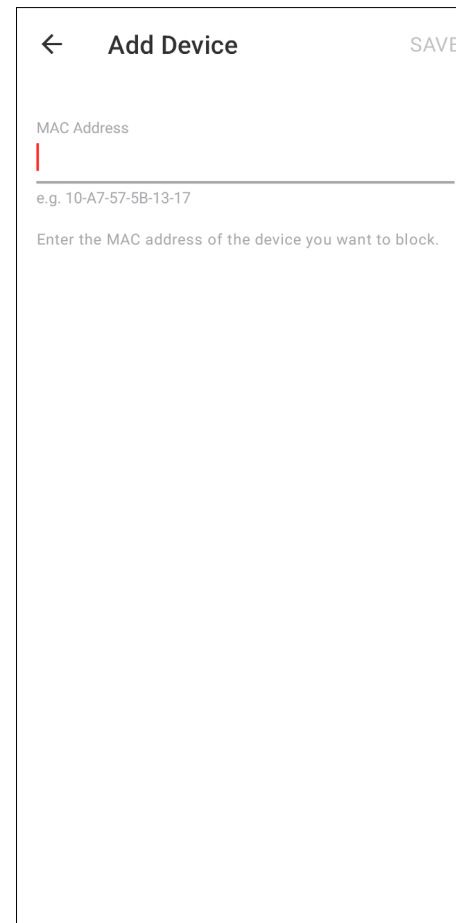
Tap ⊞ > Blacklist

Add clients to blacklist
Tap + on the right upper corner and select Clients.

Add other devices to blacklist
For device doesn't appear on the client list, enter its MAC address.

Manage the blacklist
Tap ⋮ to remove the client from your blacklist.

←	Device Deny List	+

Deny List allows you to block a device's access to your network.

✕ Select Client	Done
○ 📱 My Phone F6-C1-CC-D2-38-7E	
○ 📱 phone E2-25-B2-77-51-6E	

←	Add Device	SAVE

MAC Address

|

e.g. 10-A7-57-5B-13-17

Enter the MAC address of the device you want to block.

←	Device Deny List	+

📱 ALN-AL00
E2-AC-28-EC-03-9A ⋮

📱 HONOR_V20-3f73ed6c4c
12-45-D3-42-CD-F7 ⋮

11
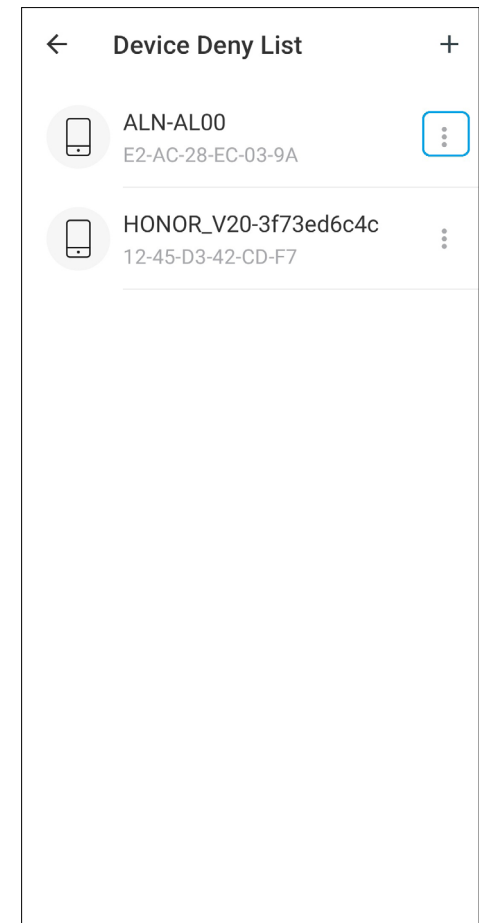
Online Update

Update Halo when prompted in the MERCUSYS app.

Tap ⊞ > Update Halo
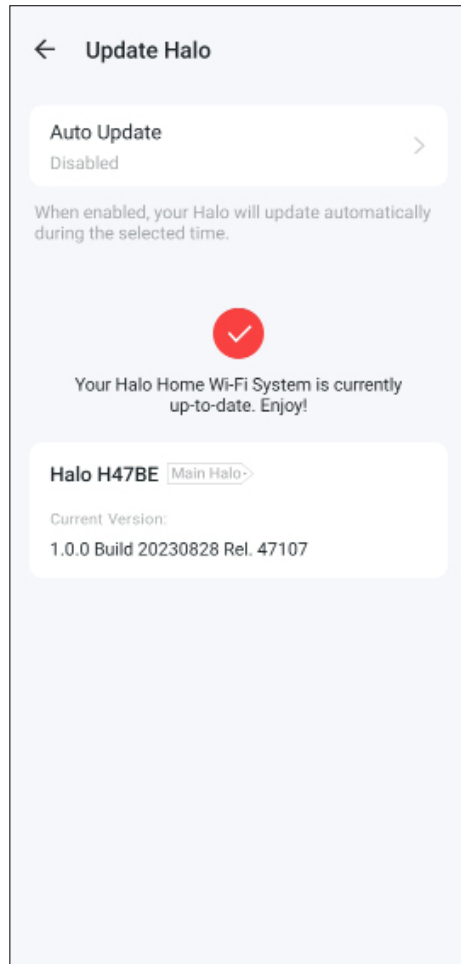
Advanced Features

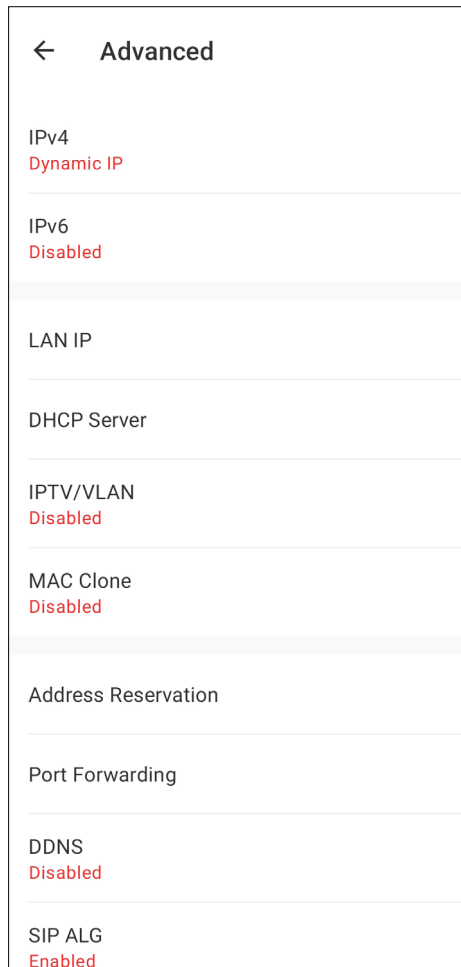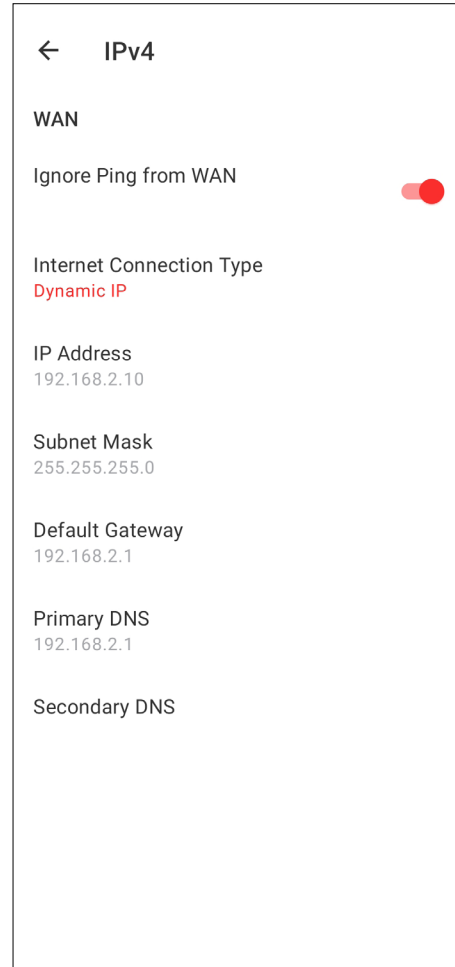Additional features are available under the Advanced menu. You can modify WAN settings (IPv4 & IPv6), add IPv6 firewall rules, modify LAN IP, set up DHCP server, enable VLAN/IPTV/MAC Clone mode, reserve the same IP address for a specific device, set up port forwarding rules to make your local computers accessible to other devices over the internet, SIP ALG, fast roaming and beamforming, control Halo's LED, change the working mode, and configure the notification settings.
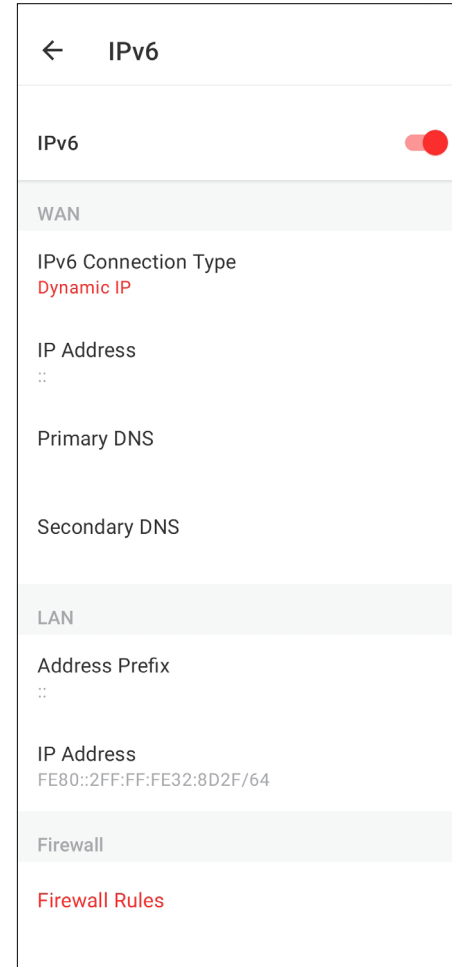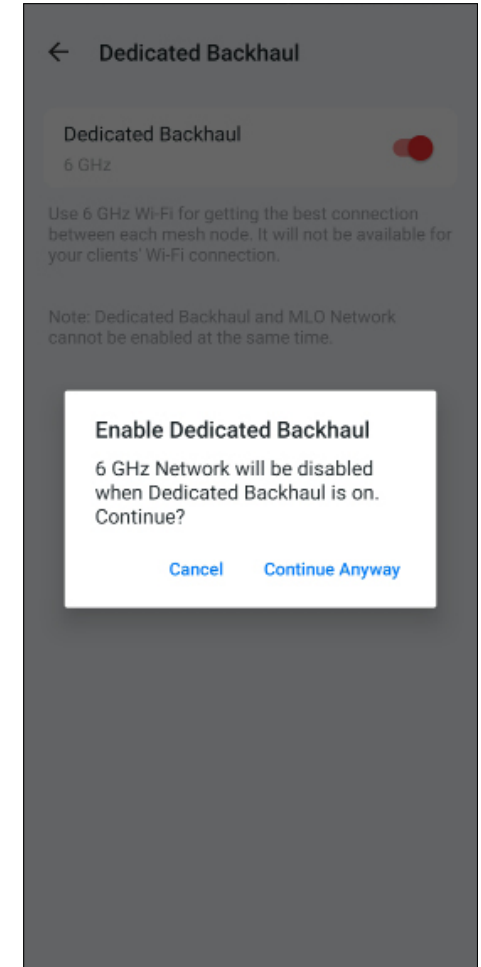
Tap ⊞ > Advanced

Modify IPv4 settings

Modify IPv6 settings

Enbale decicaded backhaul

← **Advanced**

IPv4
Dynamic IP

IPv6
Disabled

LAN IP

DHCP Server

IPTV/VLAN
Disabled

MAC Clone
Disabled

Address Reservation

Port Forwarding

DDNS
Disabled

SIP ALG
Enabled

← **IPv4**

WAN

Ignore Ping from WAN ⬤

Internet Connection Type
Dynamic IP

IP Address
192.168.2.10

Subnet Mask
255.255.255.0

Default Gateway
192.168.2.1

Primary DNS
192.168.2.1

Secondary DNS

← **IPv6**

IPv6 ⬤

WAN

IPv6 Connection Type
Dynamic IP

IP Address
::

Primary DNS

Secondary DNS

LAN

Address Prefix
::

IP Address
FE80::2FF:FF:FE32:8D2F/64

Firewall

Firewall Rules

← **Dedicated Backhaul**

Dedicated Backhaul ⬤
6 GHz

Use 6 GHz Wi-Fi for getting the best connection between each mesh node. It will not be available for your clients' Wi-Fi connection.

Note: Dedicated Backhaul and MLO Network cannot be enabled at the same time.

Enable Dedicated Backhaul
6 GHz Network will be disabled when Dedicated Backhaul is on. Continue?

Cancel   Continue Anyway

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Modify LAN IP

← LAN IP   SAVE

LAN IP
192.168.68.1   ✕

Subnet Mask
255.255.252.0

Set DHCP server

← DHCP Server   SAVE

1 IP address assigned.

Start IP
192.168.68.50   ✕

End IP
192.168.71.250

Default Gateway
192.168.68.1

Primary DNS (Optional)

Secondary DNS (Optional)

Enable IPTV/VLAN mode

← IPTV/VLAN   SAVE

IPTV/VLAN   ●

ISP Profile   ›
Select

Note: When IPTV is configured, the selected port of the Halo can only be used to support the IPTV service.

Enable MAC Clone

← MAC Clone   SAVE

MAC Clone   ●

Use Client MAC Address   ◉

MAC Address
Select Client

Use Custom MAC Address   ○

Tips: Make sure you select or enter the MAC address specified by your ISP.

Reserve IP addresses for specific devices

Set up port forwarding rules

Register a DDNS domain name

← **Address Reservation**

Address Reservation allows you to reserve an IP address for a device. The device will always receive the same IP address when it connects to Halo, which makes administering and troubleshooting the device easier.

← **Port Forwarding**   ADD

Port Forwarding allows you to make computers and devices on your local network accessible to other devices over the internet, whilst ensuring your network remains protected.

‹   MERCUSYS DDNS

DDNS(Dynamic DNS) allows you to create a friendly domain name that can be used instead of an IP address to access your Halo and local resources over the internet.

Register

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Enable SIP ALG

← **SIP ALG**

SIP ALG ⬤

When enabled, clients can communicate with SIP (Session Initiation Protocol) servers via NAT.

Enable Fast Roaming

← **Fast Roaming**

Fast Roaming ◯

Fast roaming with IEEE 802.11r allows wireless devices to switch connection to different Halos seamlessly.

Note:

1. Turning on this feature may result in some older wireless device being disconnected from the Halo network.

2. If some devices are disconnected from Halo network after turning on/off this feature, try forgetting the Halo network on these devices and then join the network again.

Enable Beamforming

← **Beamforming**

Beamforming ⬤

Beamforming concentrates Wi-Fi signal towards connected devices for stronger connections.
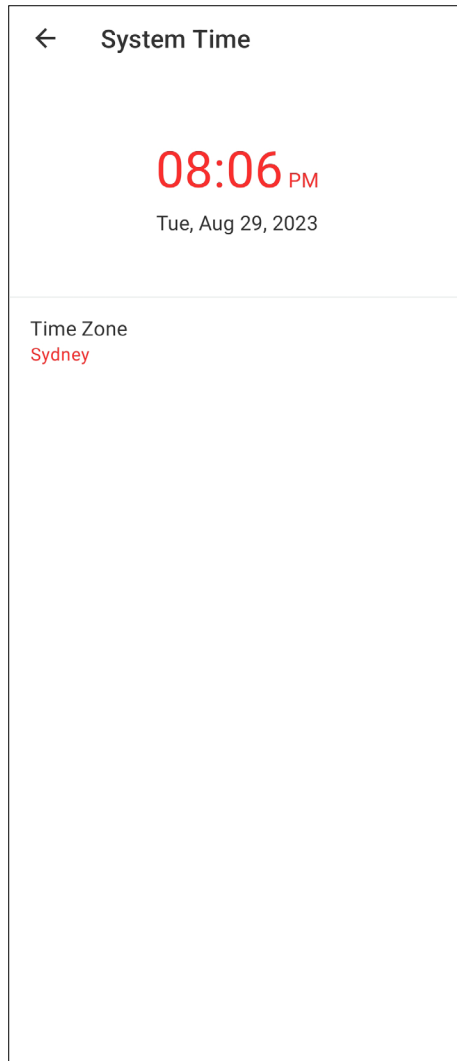
Enable LED controls

← **LED Control**

LED ⬤

Night Mode ⬤
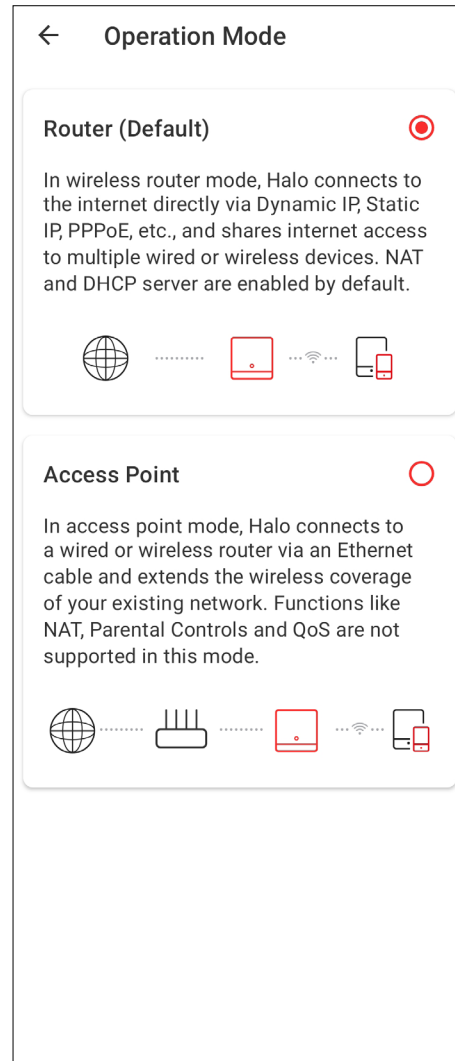
Everyday, the LED will be off during this time period.

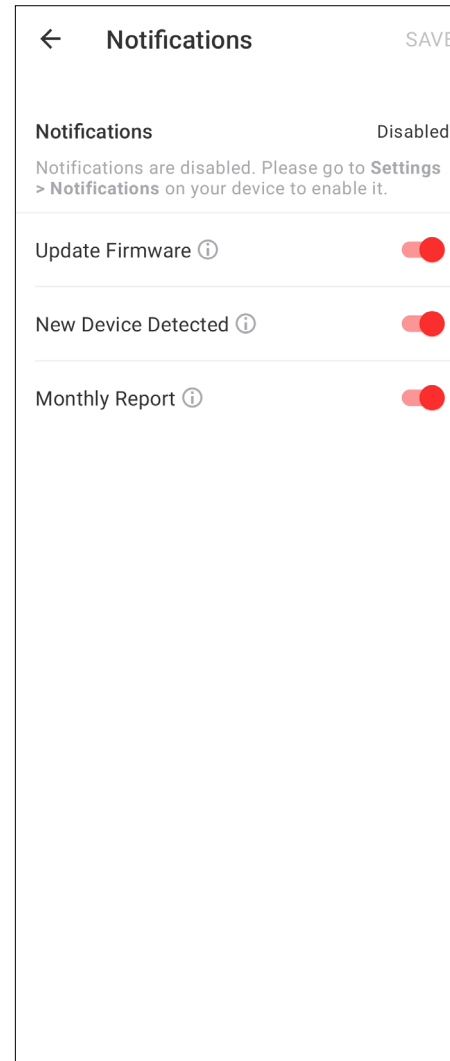From
22:00

Until
07:00 (Next Day)

Set system time zone

← **System Time**

08:06 PM

Tue, Aug 29, 2023

Time Zone
Sydney

Change the operating mode

← **Operation Mode**

Router (Default) ⊙

In wireless router mode, Halo connects to the internet directly via Dynamic IP, Static IP, PPPoE, etc., and shares internet access to multiple wired or wireless devices. NAT and DHCP server are enabled by default.

Access Point ○

In access point mode, Halo connects to a wired or wireless router via an Ethernet cable and extends the wireless coverage of your existing network. Functions like NAT, Parental Controls and QoS are not supported in this mode.

Set notifications

← **Notifications** SAVE

Notifications Disabled

Notifications are disabled. Please go to **Settings > Notifications** on your device to enable it.
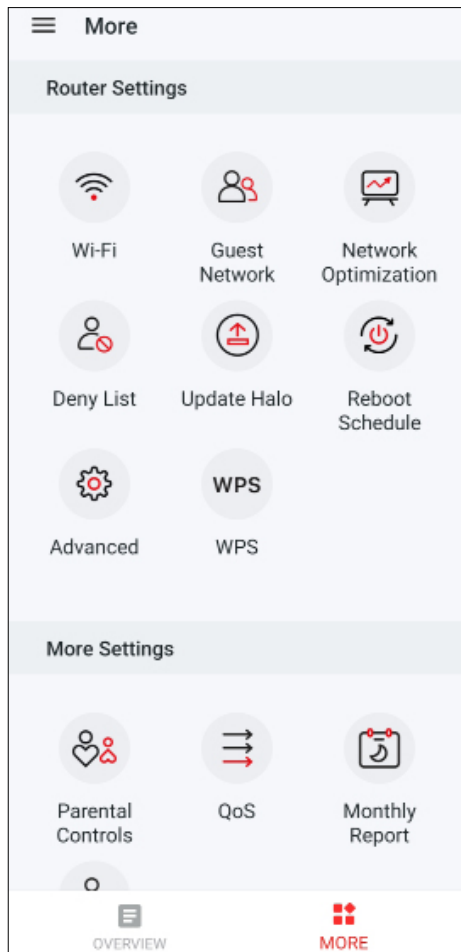
Update Firmware ⓘ

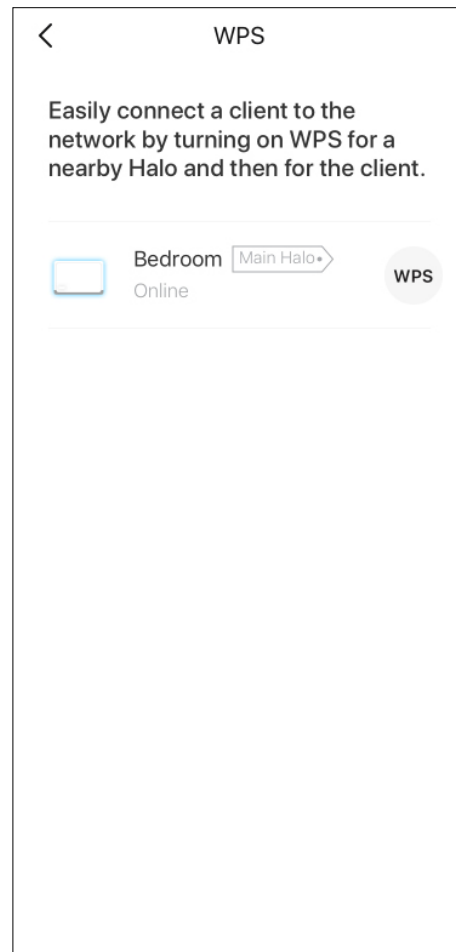New Device Detected ⓘ

Monthly Report ⓘ

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WPS

Easily connect a client to the network by turning on WPS for a nearby Halo and then for the client.

Tap ⚏ > WPS

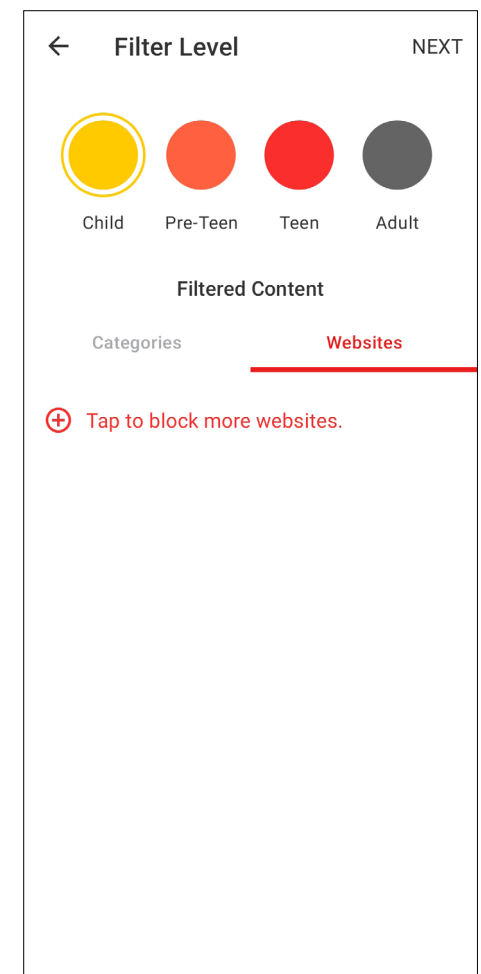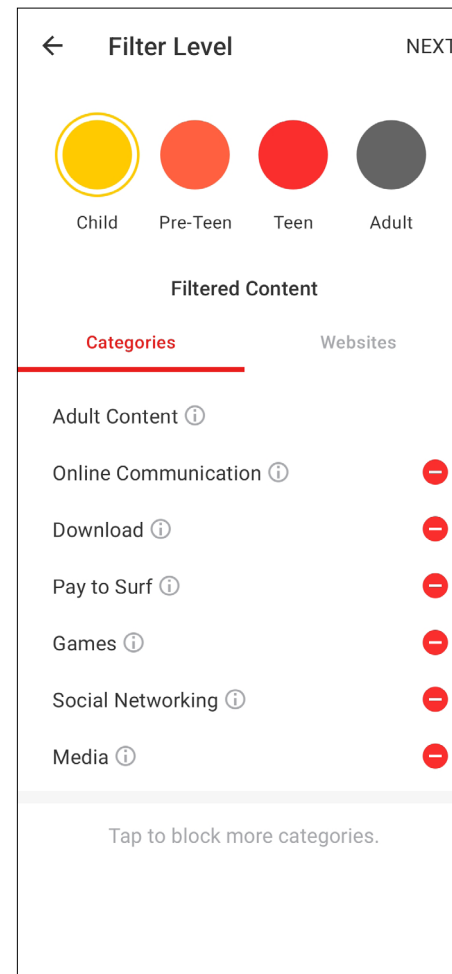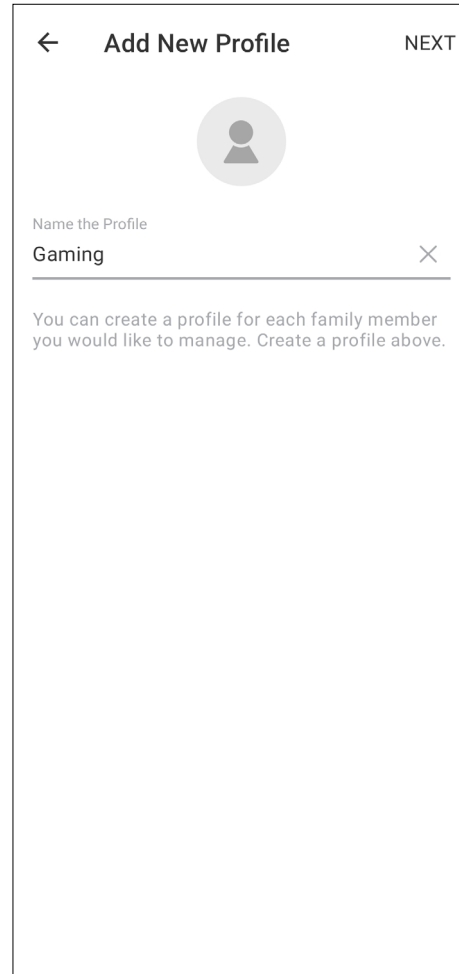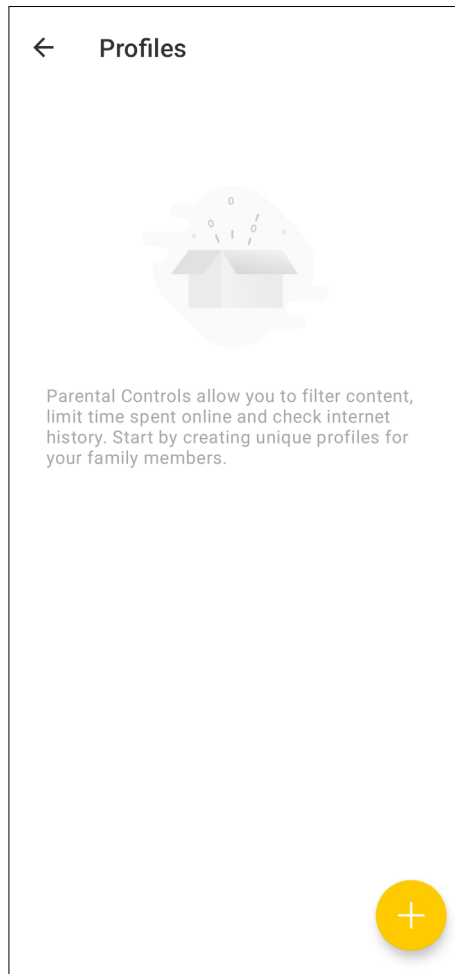Tap the WPS icon on Halo app and then on the client

Parental Controls

Create profiles for family members and specify the devices that belong to them. Set individualized parental controls including when and for how long each person can access the internet. Block inappropriate content and pause the internet if necessary.
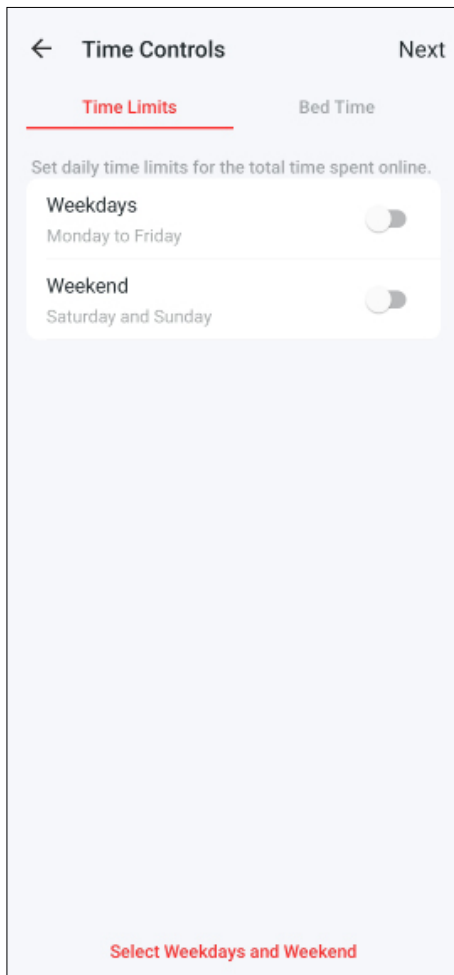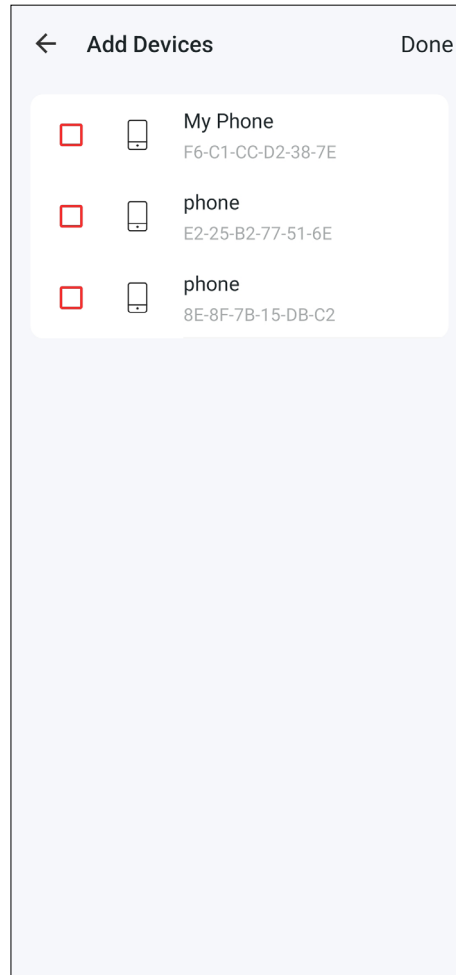
Tap ⊞ > Parental Controls

Add new profile

← Profiles

Parental Controls allow you to filter content, limit time spent online and check internet history. Start by creating unique profiles for your family members.

← Add New Profile   NEXT

Name the Profile

Gaming   ✕

You can create a profile for each family member you would like to manage. Create a profile above.

Set filter level

← Filter Level   NEXT

Child   Pre-Teen   Teen   Adult

Filtered Content

Categories   Websites

Adult Content ⓘ

Online Communication ⓘ   ⊖

Download ⓘ   ⊖

Pay to Surf ⓘ   ⊖

Games ⓘ   ⊖

Social Networking ⓘ   ⊖

Media ⓘ   ⊖

Tap to block more categories.

Add more filter websites

← Filter Level   NEXT

Child   Pre-Teen   Teen   Adult

Filtered Content

Categories   **Websites**

⊕ Tap to block more websites.

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Set time controls

Add control device

Time Controls   Next

Time Limits   Bed Time

Set daily time limits for the total time spent online.

Weekdays
Monday to Friday

Weekend
Saturday and Sunday

Select Weekdays and Weekend

Add Devices   Done

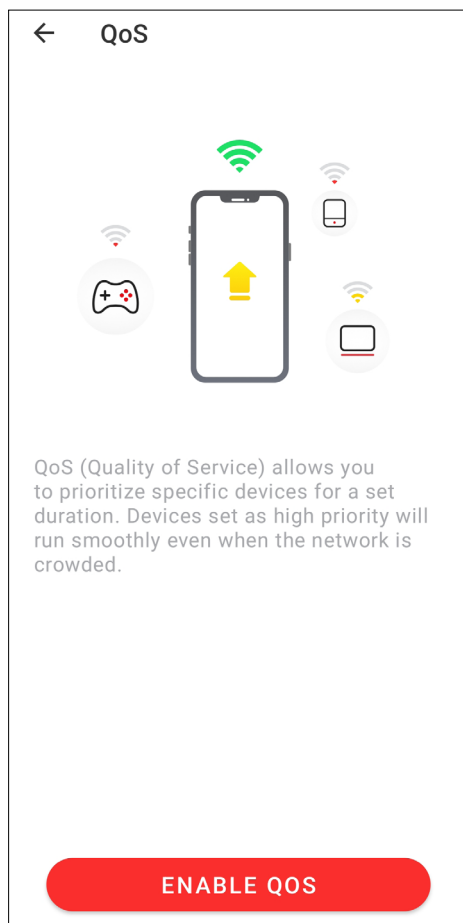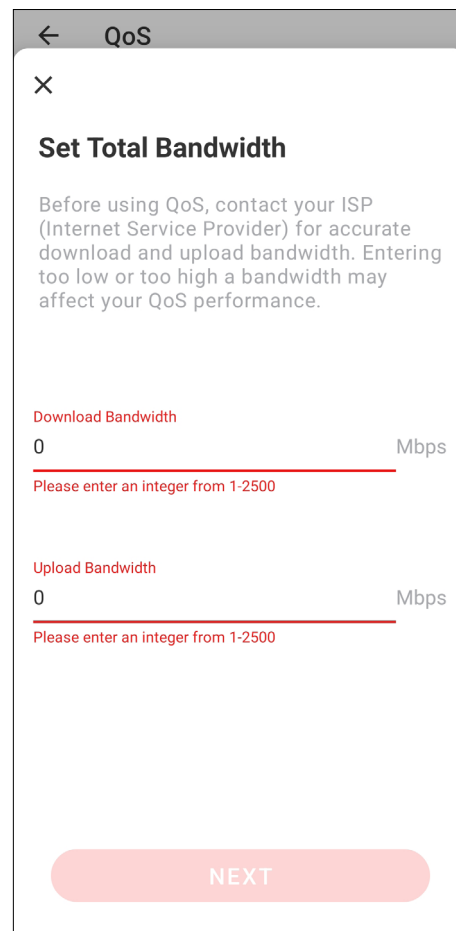**My Phone**
F6-C1-CC-D2-38-7E

phone
E2-25-B2-77-51-6E

phone
8E-8F-7B-15-DB-C2

QoS

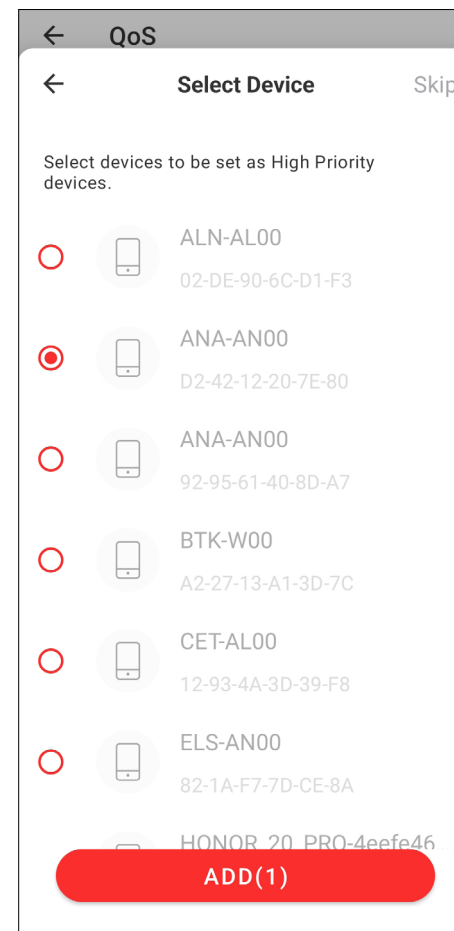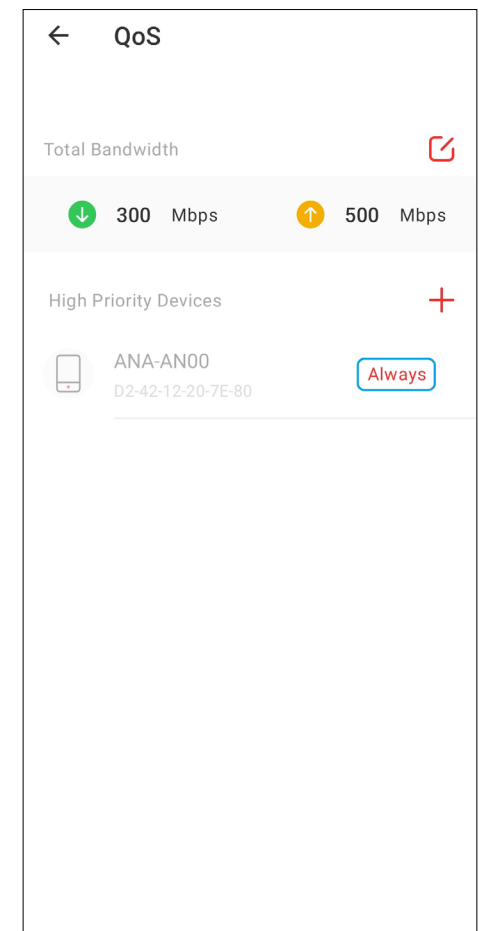Prioritize the connection of a particular device for a set duration, such as a family member's laptop for one hour during a video call.

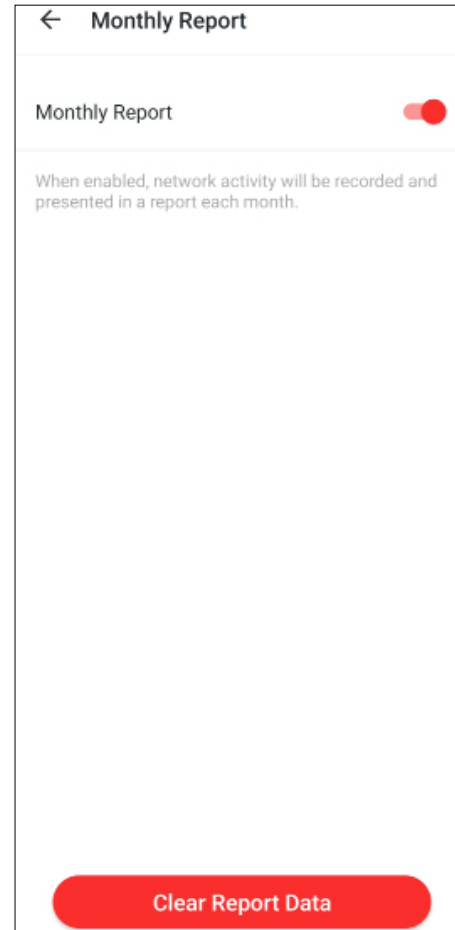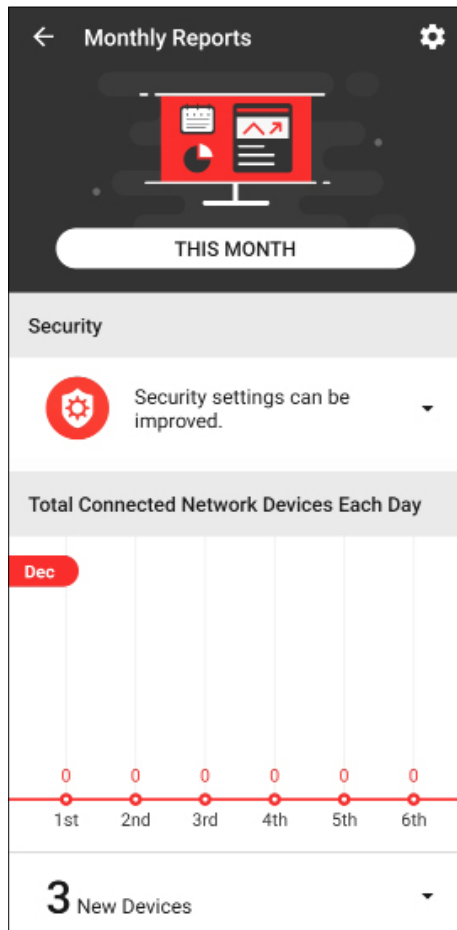| Tap ▦ > QoS	Set bandwidth	Select devices	Tap to set time schedule

Tap ▦ **> QoS**

← QoS

QoS (Quality of Service) allows you to prioritize specific devices for a set duration. Devices set as high priority will run smoothly even when the network is crowded.

ENABLE QOS

Set bandwidth

← QoS

✕

Set Total Bandwidth

Before using QoS, contact your ISP (Internet Service Provider) for accurate download and upload bandwidth. Entering too low or too high a bandwidth may affect your QoS performance.

Download Bandwidth
0   Mbps

Please enter an integer from 1-2500

Upload Bandwidth
0   Mbps

Please enter an integer from 1-2500

NEXT

Select devices

← QoS

← **Select Device**   Skip

Select devices to be set as High Priority devices.

○ ALN-AL00
   02-DE-90-6C-D1-F3

◉ ANA-AN00
   D2-42-12-20-7E-80

○ ANA-AN00
   92-95-61-40-8D-A7

○ BTK-W00
   A2-27-13-A1-3D-7C

○ CET-AL00
   12-93-4A-3D-39-F8

○ ELS-AN00
   82-1A-F7-7D-CE-8A

   HONOR_20_PRO-4eefe46

ADD(1)

Tap to set time schedule

← QoS

Total Bandwidth   ☑

⬇ 300 Mbps   ⬆ 500 Mbps

High Priority Devices   +

ANA-AN00   Always
D2-42-12-20-7E-80

Monthly Report

Review the monthly usage statistics, such as security threats and total connected network devices each day.

Tap ⊞ > Monthly Report
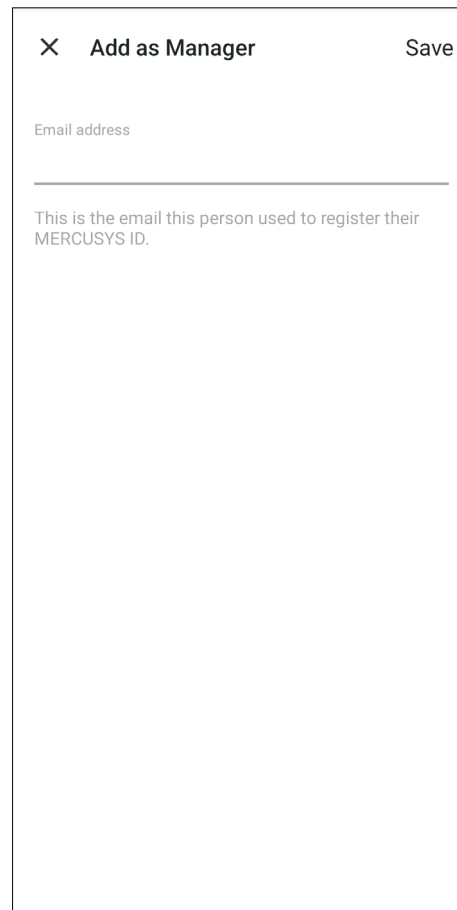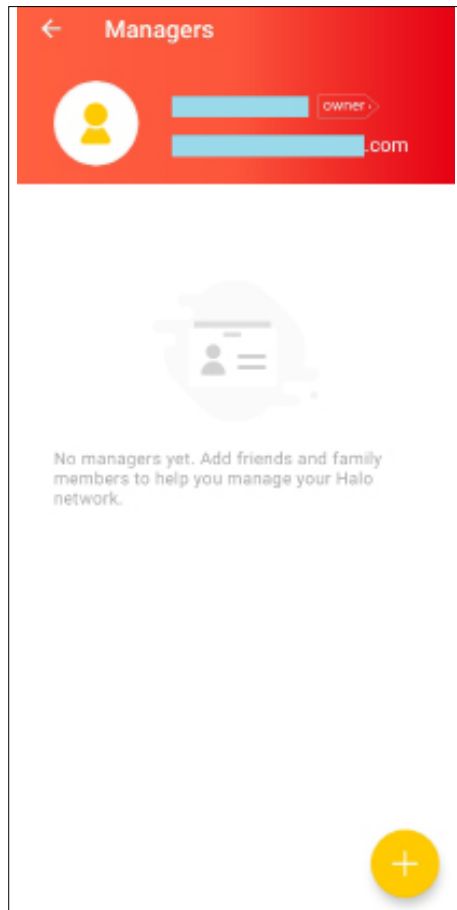
Enable or disable monthly report

Managers

Add friends and family members to help manage your network. Each manager should have their own Mercusys ID.

Tap ⊞ > Managers

Add managers

Authentication

CE Mark Warning

This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

OPERATING FREQUENCY(the maximum transmitted power)

2400MHz~2483.5MHz/ 20dBm

5150MHz~5250MHz / 23dBm

5250MHz~5350MHz/ 23dBm

5470MHz~5725MHz / 30dBm

6105MHz~6425MHz / 23dBm

Frequency band 5150 - 5250 MHz:

Indoor use: Inside buildings only. Installations and use inside road vehicles and train carriages are not permitted. Limited outdoor use: If used outdoors, equipment shall not be attached to a fixed installation or to the external body of road vehicles, a fixed infrastructure or a fixed outdoor antenna. Use by unmanned aircraft systems (UAS) is limited to within the 5170 - 5250 MHz band.

Frequency band: 5250 - 5350 MHz:

Indoor use: Inside buildings only. Installations and use in road vehicles, trains and aircraft are not permitted. Outdoor use is not permitted.

Frequency band: 5470 - 5725 MHz:

Installations and use in road vehicles, trains and aircraft and use for unmanned aircrafts systems (UAS) are not permitted.

Frequency band: 6105 - 6425 MHz:

Restricted to indoor use, including in trains with metal-coated windows and aircraft.

Outdoor use, including in road vehicles, is not permitted.

EU Declaration of Conformity

MERCUSYS hereby declares that the device is in compliance with the essential requirements and other relevant provisions of directives 2014/53/EU, 2009/125/EC, 2011 /65/EU, (EU) 2015/863, and EC Decision (EU) 2021/1067.

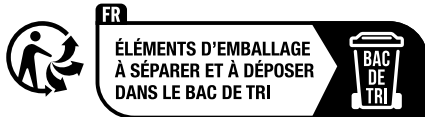The original EU Declaration of Conformity may be found at https://www.mercusys.com/en/support/ce/

RF Exposure Information

This device meets the EU requirements (2014/53/EU Article 3.1a) on the limitation of exposure of the general public to electromagnetic fields by way of health protection.

The device complies with RF specifications when the device used at 20 cm from your body.

National restrictions

Attention: This device may only be used indoors in all EU member states and EFTA countries, and Northern Ireland.

AT	BE	BG	CH	CY	CZ	DE	DK
EE	EL	ES	FI	FR	HR	HU	IE
IS	IT	LI	LT	LU	LV	MT	NL
NO	PL	PT	RO	SE	SI	SK	UK(NI)

ÉLÉMENTS D'EMBALLAGE À SÉPARER ET À DÉPOSER DANS LE BAC DE TRI

UKCA Mark

UK Declaration of Conformity

MERCUSYSk hereby declares that the device is in compliance with the essential requirements and other relevant provisions of the Radio Equipment Regulations 2017.

The original UK Declaration of Conformity may be found at https://www.mercusys.com/support/ukca/

National restrictions

Attention: This device may only be used indoors in Great Britain.

Korea Warning Statements:

당해 무선설비는 운용중 전파혼신 가능성이 있음.

NCC Notice & BSMI Notice:

注意！

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前述合法通信，指依電信管理法規定作業之無線電通信。

低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

應避免影響附近雷達系統之操作。

安全諮詢及注意事項

- 請使用原裝電源供應器或只能按照本產品注明的電源類型使用本產品。
- 清潔本產品之前請先切斷電源。請勿使用液體、噴霧清潔劑或濕布進行清潔。
- 注意防潮，請勿將水或其他液體潑灑到本產品上。
- 插槽與開口供通風使用，以確保本產品的操作可靠並防止過熱，請勿堵塞或覆蓋開口。
- 請勿將本產品置放於靠近熱源的地方。除非有正常的通風，否則不可放在密閉位置中。
- 不要私自拆開機殼或自行維修，如產品有故障請與原廠或代理商聯繫。

限用物質含有情況標示聲明書

設備名稱: Equipment name: BE9300 Whole Home Mesh Wi-Fi 7 System	型號（型式）: Type designation (Type) Halo H47BE					
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
PCB	○	○	○	○	○	○
外殼	○	○	○	○	○	○
電源供應器	—	○	○	○	○	○
其他及其配件	—	○	○	○	○	○

備考1. 超出0.1 wt %" 及 "超出0.01 wt %" 系指限用物質之百分比含量超出百分比含量基準值。

Note 1："Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2. "○" 系指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2："○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3. "－" 系指該項限用物質為排除項目。

Note 3：The "－" indicates that the restricted substance corresponds to the exemption.

Продукт сертифіковано згідно с правилами системи УкрСЕПРО на відповідність вимогам нормативних документів та вимогам, що передбачені чинними законодавчими актами України.

EAE

Safety Information

• Keep the device away from water, fire, humidity or hot environments.

• Do not attempt to disassemble, repair, or modify the device. If you need service, please contact us.

• Do not use damaged charger or USB cable to charge the device.

• Do not use any other chargers than those recommended.

• Do not use the device where wireless devices are not allowed.

• Adapter shall be installed near the equipment and shall be easily accessible.

• Use only power supplies which are provided by manufacturer and in the original packing of this product. If you have any questions, please don't hesitate to contact us.

• Operating Temperature: 0℃~40℃ (32℉~104℉)

• This product uses radios and other components that emit electromagnetic fields. Electromagnetic fields and magnets may interfere with pacemakers and other implanted medical devices. Always keep the product and its power adapter more than 15 cm (6 inches) away from any pacemakers or other implanted medical devices. If you suspect your product is interfering with your pacemaker or any other implanted medical device, turn off your product and consult your physician for information specific to your medical device.

Please read and follow the above safety information when operating the device. We cannot guarantee that no accidents or damage will occur due to improper use of the device. Please use this product with care and operate at your own risk.

Explanation of the symbols on the product label

Symbols may vary from products.

Note: The product label can be found at the bottom of the product and its I.T.E. power supply.

Symbol	Explanation
☐	Class II equipment

Symbol	Explanation
	Class II equipment with functional earthing
	Alternating current
	DC voltage
	Polarity of output terminals
	Indoor use only
	Dangerous voltage
	Caution, risk of electric shock
	Energy efficiency Marking
	Protective earth
	Earth
	Frame or chassis
	Functional earthing
	Caution, hot surface

Symbol	Explanation
⚠	Caution
📖i	Operator's manual
⏻	Stand-by
⏼	"ON"/"OFF" (push-push)
▭	Fuse
▭ N	Fuse is used in neutral N
♻	RECYCLING This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment. User has the choice to give his product to a competent recycling organization or to the retailer when he buys a new electrical or electronic equipment.
⚠	Caution, avoid listening at high volume levels for long periods
🔌	Disconnection, all power plugs
m	Switch of mini-gap construction
µ	Switch of micro-gap construction (for US version) Switch of micro-gap / micro-disconnection construction (for other versions except US)

Symbol	Explanation
ε	Switch without contact gap (Semiconductor switching device)