





USER GUIDE

Home Mesh Router

Release 1.1.0



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Cambium Networks

About This User Guide

This section describes the following topics:

- Intended audience
- Purpose
- <u>Cross references</u>
- Feedback
- Related documents
- Hardware platforms
- Important regulatory information
 - Operation in the USA
 - Operation in Canada
 - Operation in the EU

This User Guide describes the features supported by Home Mesh Routers, and provides detailed instructions for setting up and configuring Home Mesh Router.

Intended audience

This guide is intended for use by the system designer, system installer, and system administrator.

Purpose

Cambium Network's Home Mesh Router documents are intended to instruct and assist personnel in the operation, installation, and maintenance of Cambium's equipment and ancillary devices. It is recommended that all personnel engaged in such activities be properly trained.

Cambium disclaims all liability whatsoever, implied or expressed, for any risk of damage, loss, or reduction in system performance arising directly or indirectly out of the failure of the customer, or anyone acting on the customer's behalf, to abide by the instructions, system parameters, or recommendations made in this document.

Cross references

References to external publications are shown in italics. Other cross references, emphasized in blue text in electronic versions, are active links to the references.

Feedback

We appreciate feedback from the users of our documents. This includes feedback on the structure, content, accuracy, or completeness of our documents. To provide feedback, visit our support website: https://support.cambiumnetworks.com.

Related documents

The table below provides details of related documents for Home Mesh Router.

Document Name	Location
Home Mesh Router Product Details	https://www.cambiumnetworks.com/products/wifi/#residential
Home Mesh Router User Guide (This document)	https://support.cambiumnetworks.com/files
Home Mesh Router Release Notes	https://support.cambiumnetworks.com/files
cnMaestro Cloud User Guide	https://docs.cloud.cambiumnetworks.com/help/5.0.0/index.htm
Software Resources	https://support.cambiumnetworks.com/files
Community	http://community.cambiumnetworks.com/
Support	https://www.cambiumnetworks.com/support/contact-support/
Warranty	https://www.cambiumnetworks.com/support/warranty/
Feedback	support@cambiumnetworks.com

Hardware platforms

lists the existing hardware platforms in Home Mesh Routers:

Hardware Platform	Description	
RV22	Dual-Band Wi-Fi 6 5 GHz (3x3:2); 2.4 GHz (2x2:2) Home Mesh Router	

Important regulatory information



Note

Operation in the band 5150-5250 MHz is only permitted for indoor use, to reduce the potential for harmful interference to co-channel mobile satellite systems.

L'utilisation dans la bande 5 150-5 250 MHz n'est autorisée que pour une utilisation en intérieur, afin de réduire le risque de brouillage préjudiciable causé aux systèmes mobiles par satellite à plusieurs canaux.

Operation in the USA



Caution

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions:

- · This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation of the device.



Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Attention

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

For products available in the USA market, only channels 1 through 11 can be operated. Selection of other channels is not possible.

This device and its antennas(s) must not be co-located or operated in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm (7.8 inches) between the radiator and your body.

Operation in Canada



Caution

This device complies with Innovation, Science and Economic Development Canada (ISEDC) licenseexempt RSSs. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation of the device.

Renseignements specifiques au Canada



Caution

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- l'appareil ne doit pas produire de brouillage, et
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

For products available in the Canada market, only channels 1 to 11 can be operated. Selection of other channels is not possible.

Pour les produits disponibles aux Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection d'autres canaux n'est pas possible.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Operation in the EU

Cambium Networks RV22 Home Mesh Router is compliant with applicable European Directives required for CE marking:

- 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC; Radio Equipment Directive (RED).
- 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive).

• Cambium Networks complies with the European Regulation 2023/988 of 10 May 2023 on General Product Safety. EU Authorized Representative: Cambium Networks Europe B.V., Muiderstraat 1, 1011PZ Amsterdam, Netherlands. Contact Information: GPSR@cambiumnetworks.com.

Introduction

Cambium Home Mesh Router is designed to deliver high performance Wi-Fi and mesh. The router uses the high efficiency 802.11ax technology for maximum compatibility with consumer devices, low latency, and high throughput. The Home Mesh Routers are developed for an optimal complete home coverage with simultaneous dual-band 2.4 GHz and 5 GHz operation. It also provides longer range, higher efficiency, and lesser interference when compared to earlier Wi-Fi technologies. The routers are designed to communicate together and create a mesh network to cover the entire area, thereby avoiding Wi-Fi black spots.

The Home Mesh Routers can be configured using cnMaestro Cloud and the cnMaestro Subscriber application. However, it always requires cnMaestro Cloud.

The cnMaestro Subscriber application is a user-friendly way for the end customers to configure important entities, such as the Wi-Fi name, password, and a guest Wi-Fi. In addition, they can perform other actions, such as grouping client devices in the home into Profiles (for example, My Kids), set web content filter rules, and schedule on/off time. They can trigger an instant Family Time to get everyone together for mealtime. And they can also run speed tests anytime to test the network.

Features supported by Home Mesh Routers

The following are the key features supported by Home Mesh Routers:

- **Speed test**—Measure the speed of the routers with the speed test option available in cnMaestro Cloud and the cnMaestro Subscriber application. To correlate speed test results, a router speed test is automatically triggered when the consumer runs the speed test from the cnMaestro Subscriber application or cnMaestro Cloud.
- Access Control List (ACL)—Create simple rules to block or allow certain traffic between the WAN, LAN, and router.
- Firewall (DoS attacks)—Protect your customers from Denial of Service (DoS) attacks by enabling the router against IP spoof, smurf attack, and ICMP fragmentation attack.
- Event logging—Log every event that occurs in the router for better troubleshooting of issues.
- SNMP v2c and v3 support—Supports SNMP v2c and v3 versions for raising alarms against thresholds.
- **Content Filtering**—Easily control the category of web content allowed or blocked for the clients assigned to the profile.
- **Family Time**—Create a group huddle time within the family by switching off Wi-Fi at scheduled times. You can also pause internet connectivity during meal time.
- Bedtime Schedule—Configure a weekly schedule for internet access to devices within a profile.
- Schedule LED—Schedule to switch off the LEDs during bedtime.

- **Optimize Wi-Fi**—The router scans all the channels, measures utilization, and decides if a channel change is required. A good Wi-Fi signal strength and low noise create a high SNR for each subscriber client device. This supports multiple HD video streams, web browsing, and security cameras on the same system.
- **Profiles**—Create a group of clients with similar functions or requirements. For example, group all IOT clients in the same profile and configure to never disable them. Create a kids profile and schedule internet access time, content filtering to only those devices. This profile enables parental control and scheduled internet access features for the clients assigned to the profile.
- Wired Mesh—In addition to the wireless mesh deployment mode, you can also deploy the Home Mesh Routers in a wired mesh mode. Create a wired mesh by connecting the node routers to the LAN ports of the mesh base router. The supported mesh deployment modes include 1-1, 1-1-1, and 1-2. You can also deploy the routers in a 1-2 mixed mode, where you can connect one node router wirelessly and another by a wired connection.
 - No configuration changes are required for RV22 routers to work in both wired and wireless mesh modes.
 - Use any LAN port on the mesh base and any LAN port on the mesh node routers to establish a wired mesh connection. When a mesh node router detects an RV22 neighbor on its LAN port, it automatically establishes a wired mesh link using the LAN ports.

For more information, see Setting up the Home Mesh Router-Wired Mesh Mode.



- Note
 - You must not use the WAN port on the mesh node router to establish a wired mesh.
 - When all LAN ports on the mesh base are connected and if it does not detect any RV22 neighbor on any of these LAN ports, then the wireless mesh mode is initiated.
 - When both deployment modes are available, the wired mesh mode of deployment takes a higher precedence.
- **Client Priority**—Prioritize traffic for profiles that include important devices, such as your work computer, gaming console, or devices used for streaming services. Add these clients to a single profile and enable the **Priority** toggle switch in the mobile application to prioritize traffic to these devices over other devices. Once configured, the priority feature is enabled or disabled on all clients managed in that profile. Any client in this profile cannot be added to another profile.

Table 1 lists the features supported by cnMaestro Cloud and the cnMaestro Subscriber application.

		_	-	
Table	1:	Feature	support	matrix

Feature	Supported on cnMaestro Cloud	Supported on cnMaestro Subscriber application		
Speed test	\checkmark	\checkmark		

Feature	Supported on cnMaestro Cloud	Supported on cnMaestro Subscriber application
Access Control List (ACL)	\checkmark	
Firewall (DoS attacks)	\checkmark	
Event logging	~	
SNMP v2c and v3 support	~	
Web content filter		\checkmark
Family Time		\checkmark
Bedtime Schedule		\checkmark
Schedule LED (LED Control)		\checkmark
Optimize Wi-Fi		\checkmark
Profiles		\checkmark
Client Priority		\checkmark

Basic architecture of the router

The basic architecture of the Home Mesh Router is as shown below.

Figure 1: Basic architecture of the router



The cnMaestro Subscriber application allows home customers to manage RV22 devices using their mobile phones. In <u>Figure 1</u>, the Subscriber is demarcated by the SM CPE. Alternatively, it could be mapped to a PON ONU, or to no explicit backhaul. In the latter case, the Subscriber would be attached to a new cnMaestro Home Site.

Workflow for creating and managing Subscribers

The workflow for creating and onboarding Subscribers, so that customers can use the mobile application, has a cnMaestro (blue) and a customer (purple) component, as shown below.

Figure 2: Subscriber workflow



A Subscriber is configured in cnMaestro Cloud, and an invite is sent to the customer's email address, which will enable home Wi-Fi management using the mobile application. The customer must download the cnMaestro Subscriber application from the Apple App store or Google Play Store. The site in the application, which maps to the Subscriber, can be customized and branded.

Feature	Details	
Onboarding	Supported using Cambium ID or Serial Number (MSN).	
Dashboard	Dashboards tailored for Home Site and RV22 Home Mesh Router.	
Configuration	Available through RV22 Home Mesh AP Groups.	
Details	Overview and network information display.	
Notifications	Alarms, AP Events, and Wi-Fi Events aggregated at System, Managed Account, Network, Site, and Device levels.	
Performance	WAN Throughput, Wireless Throughput (downlink/uplink), Clients by Band, Noise Floor, Interference, and Airtime (2.4/5 GHz) performance graphs.	
Statistics	System, Managed Service, and Network statistics available.	
Software Update	Software update provided at System, Managed Account, Network, Site, and Device levels.	
Maps	Location of Home Sites and Devices.	
Clients	Both Wired and Wireless Clients supported at Site and Device levels.	
Tools	Status, Debug, Network Connectivity, Wi-Fi Analyzer, Speed Test, and Packet Capture tools available.	
Reports	Data Reports downloaded from the System, Managed Service, Network, and Site levels.	

Table 2:	Features	for	managing	the	routers

Hardware Overview

This chapter contains the following topics:

- Package contents
- Adding a logo to the RV22 Home Mesh Router
- Installing the AX-E1000 (LRS01-E1000) Surge Suppressor with the RV22 Home Mesh Router



Warning

The WAN port of the Home Mesh Router may be damaged if a 48 VDC passive power (passive POE) is connected to the WAN port.

Package contents

The Home Mesh Router package contains the following contents:

- One RV22 Wi-Fi 6 Home Mesh Router
- One power adapter
- One RJ45 cable of approximate 1.5m length

Figure 3: RV22 front and top views



Figure 4: RV22 back view



Table 3 lists the LED status indicators of the RV22 Home Mesh Router.

Router Mode	LED Color	Description
Standalone	Solid Red	On boot
	Solid Purple	Device is up and operational
	Solid Blue	Device is up and connected to cnMaestro

Router Mode	LED Color	Description
Mesh	Purple and Red toggling alternatively	When Mesh client is looking for Mesh base
	Purple—On for 3 seconds and off for 3 seconds	When connected to Mesh base, Link signal is less than - 75dBm, and not connected to cnMaestro
	Blue—On for 3 seconds and off for 3 seconds	When connected to Mesh base, Link signal is less than - 75dBm, and connected to cnMaestro
	Solid Blue	When connected to Mesh base, Link signal is meeting RSSI requirements, and connected to cnMaestro
	Solid Purple	When connected to Mesh base, Link signal is meeting RSSI requirements, and not connected to cnMaestro

Adding a logo to the RV22 Home Mesh Router

You can customize the RV22 Home Mesh Router by adding the required logo to the router.

To add a custom logo to the router:

1. Find the latch slot at the top of the router.

Use a flat-head screwdriver to remove the clear plastic window.





2. Insert the logo in the space provided and close the window.

Recommended size for the logo: 44 mm x 44 mm



Installing the AX-E1000 (LRS01-E1000) Surge Suppressor with the RV22 Home Mesh Router

The AX-E1000 (LRS01-E1000) is a dedicated Ethernet data surge suppressor designed to protect the RV22 Home Mesh Router's WAN port from potential damage during and after installation.

The surge suppressor is required only when connecting the RV22 to a PoE injector, such as one used with a subscriber module (SM) or similar devices. The PoE injector may generate a differential current pulse that could damage the WAN port of the Home Mesh Router.



Attention

- Failure to install the surge suppressor voids the warranty for the RV22 Home Mesh Router.
- Ensure the connections are secure and that the IN and OUT ports are aligned as specified. Incorrect orientation may impair functionality.



Note

The surge suppressor is not required when connecting the RV22 Home Mesh Router to a modem or an Optical Network Terminal (ONT).

Installation instructions

- 1. Connect the **IN** port of the AX-E1000 (LRS01-E1000) to the **1 GbE LAN** port on the Cambium PoE injector.
- 2. Connect the **OUT** port of the AX-E1000 (LRS01-E1000) to the **WAN** port on the RV22 Home Mesh Router.





Configuring Home Mesh Router

Before shipping the Home Mesh Routers to the subscribers, they must be configured with AP groups, Wi-Fi profiles, and associated with the corresponding subscriber.

Configuring the routers involves the following steps:

- 1. Configuring WLAN profiles (SSIDs)
- 2. Configuring AP groups
- 3. Onboarding the Home Mesh Router to cnMaestro
 - a. <u>Subscriber application branding</u>
 - b. Adding a subscriber service profile
 - c. Adding a subscriber
 - d. Claiming the Home Mesh Router

Configuring the WLAN Profiles (SSIDs)

WLANs allow you to configure home and guest access SSIDs for the Home Mesh Router. This WLAN profile (Wi-Fi profile) is associated with an AP group that contains configuration, which is applied on the Home Mesh Routers. When applied on the routers, these SSIDs act as default SSIDs on all routers associated with the AP group.

To configure a Wi-Fi profile, complete the following steps:

1. Sign in to cnMaestro.

The home page appears.

Cambium Networks [™]			Register	Help	Sign In
		Cn Maestro™ Network Management Monitor. Operate. Co Sign In Re	for the Wireless nfigure. Manag	s Fabric e.	
Documentation Everything you need to know about Cambium enMaestro.	Community Define the discussion with network operators around the world and share your expertise.	Support Context Technical Support team 24x7 to resolve issues and keep your network running smoothly.	Trai Learn more abb Portfolio through classroon	ning nut our Camt e-learning an n sessions.	vium nd live

2. Click Configuration > Wi-Fi Profiles.

The AP Groups page under Wi-Fi Profiles appears, by default.

=	Configuration > Wi-Fi P	onfiguration > Wi-Fi Profiles c							
A Home	AP Groups WLANs As	P Groups WLANs Association ACL Access Control Policies Custom Applications X							
Monitor and Manage	Q, Search		Device Type: At .	WLAN: AI	•			Add	Import Sync
-	Name	Ŧ	Туре	AP Status	Clients Now	Clients 24 HR	Throughput (DL/UL)	WLANs	Auto Sync
9 Mag	BV22-grp	0	RV22 Home Mesh	0 of 0 offline	0	0	0 Kbps / 0 Kbps	Rv22	ON
<u> </u>	RV22 - Group	٢	RV22 Home Mesh	0 of 1 offline	0	2	0 Kbps / 0 Kbps	RV22_	ON
Onboard	RV22: 3	O	RV22 Home Mesh	0 of 1 offline	0	0	0 Kbps / 0 Kbps	RV22-TP-Doc	ON
Configuration	Default RV22 Home Mesh	0	RV22 Home Mesh	0 of 0 offline	0	0	0 Kbps / 0 Kbps	Default RV22 Home	ON
Wi-Fi Profiles							Showing 1 - 7 Tota	ik 7 10 ∨ ⊂ Pri	wious 1 Next >
NSE Groups									
Switch Groups									
Terrelater									
Þ7 🖸									

3. Click the WLANs tab.

The WLANs page appears.

=	Configuration > Wi-Fi Prof	onfiguration > Wi-Fi Profiles								
🔒 Home	AP Groups WLANs Assoc	iation ACL Access Control Policies C	Custom Applications X							
Monitor and Manage	Q, Search	Device Type: All 🗸					Add	Import	Syn	c
	Name	÷ Туре	AP Status	Clients Now	Clients 24 HR	Throughput (DL/UL)				
9 Map		RV22 Home Mesh	0 of 0 offline	0	0	0 Kbps / 0 Kbps		^ ₪	/	ē
		RV22 Home Mesh	0 of 0 offline	0	0	0 Kbps / 0 Kbps		₫ 🖸	/	ō
Managed Services	RV22-TP-Doc	RV22 Home Mesh	0 of 1 offline	0	0	0 Kbps / 0 Kbps		₫ ©	1	ē
Configuration V	Default RV22 Home Mesh	RV22 Home Mesh	0 of 0 offline	0	0	0 Kbps / 0 Kbps		₫ 🖸	1	ē
Wi-Fi Profiles										
NSE Groups										

4. Click Add.

The WLANs > Add New window appears.

In the WLANs > Add New window, configure the WLAN parameters as described in Table 4.

WLANs ?	> Add New	
WLANS S	> Add New	Basic Information Type* RV22 Home Mech Name* Scope* Scope* Scope to all Managed Accounts Description
		SSIDs Home Access SSD' The SSD of this WLAN (up to 32 characters)
		Security" WHX2 Pre Shared Key (ABS, CCM) Pessword" WHX2 Pre-shared security passphrase or key Guest Access
		Band Steering Steering clerits connectivity to 5 GHz band

Table 4: WLAN parameters

Parameter	Description		
Basic Information			
Туре	ype of device for which the WLAN profile is configured.		
	Select RV22 Home Mesh from the dropdown list.		
Name	Name of the WLAN profile.		
Scope	Specifies the availability of the WLAN profile across managed accounts.		
	The following values are supported:		

Parameter	Description				
	 Base Infrastructure—The WLAN profile is available only for the global account. It is not shared with other managed accounts. Shared—The WLAN profile is shared across all managed accounts. It can be mapped to devices in the managed account, but it cannot be modified. To modify the configuration, it must be copied into the managed account and then updated. Managed Account—The WLAN profile is available only for that specific managed account. 				
	-	modified.			
Description	Brief descrip	otion for the WLAN profile.			
SSIDs—Home Acco	ess				
Configure the defau configured.	ult SSID that i	s used to connect devices wirelessly. Only one home SSID can be			
SSID	Unique name of the SSID for this WLAN.				
	Supports a maximum of 32 characters.				
	You must either configure the default SSID or enter a customized SSID.				
	The default RV22_1234	The default SSID: RV22_ <last 6="" device="" digits="" mac="" of="">. For example, RV22_123456.</last>			
Security	Security me	Security method used for encryption.			
	The followin	g security methods are supported:			
	• Oper	1			
	WPA Pre-Shared Key (AES, CCM)				
	WPA2 Pre-Shared Keys (AES, CCM)				
	• WPA	WPA/WPA2 Pre-shared Keys (TKIP, AES)			
	• WPA	Pre-Shared Key (TKIP, AES)			
	Default: WP	A2 Pre-Shared Keys (AES, CCM)			
		Note			

Parameter	Description			
	If you select Open , you must disable 802.11r roaming under AP Groups > Radio configuration.			
Password	Security passphrase or key used to connect to this SSID.			
	You must either configure the default password or enter a customized bassword.			
	Default password: password			
SSIDs—Guest Acco	ess			
Configure the gues	t SSID to allow any guest devices to access the wireless network.			
Enable Guest	Determines whether the guest access is enabled.			
Access	Select the check box to enable guesst access.			
SSID	Unique name of the guest SSID for this WLAN.			
	Supports a maximum of 32 characters.			
Password	Security passphrase or key used to connect to this guest SSID.			
Band Steering	Determines whether the band steering is enabled for the wireless clients.			
	When enabled, APs steer wireless clients to connect to the 5 GHz band.			

5. Click Save.

Configuring AP Groups

AP groups apply the same configuration to multiple Home Mesh Routers. AP groups contain configuration, such as administrator password, event logging, radio settings, WAN mappings, and DNS mode.

The following are part of the AP group:

- Basic
- Management
 - Administrator Access
 - Time Settings
 - Event Logging
 - SNMP
- Radio
- Network
 - WAN Configuration
 - LAN Configuration
- Security
 - DoS Protection
 - Access Control List (ACL)

To configure an AP group, complete the following steps:

1. Sign in to cnMaestro.

The home page appears.



2. Click Configuration > Wi-Fi Profiles.

The AP Groups page under Wi-Fi Profiles appears, by default.

=	Configuration > Wi-Fi P	rofiles					
A Home	AP Groups WLANs As	P Groups WLANs Association ACL Access Control Policies Custom Applications X					
Monitor and Manage	Q, Search	Device Type:	AT w WLAN: AT w			Add	Import Sync
E Inventory	Name	— Туре	AP Status Clients Now	Clients 24 HR	Throughput (DL/UL)	WLANs	Auto Sync
0.11	RV22-grp	RV22 Home Mesh	0 of 0 offline 0	0	0 Kbps / 0 Kbps	<u>Rv22</u>	ON
¥ wap	RV22Group	RV22 Home Mesh	0 of 1 offline 0	2	0 Kbps / 0 Kbps	RV22	ON
Onboard	8V22- 5	o RV22 Home Mesh	0 of 1 offline 0	0	0 Kbps / 0 Kbps	RV22-TP-Doc	ON
Managed Services >		0					
🔅 Configuration 🗸	Default RV22 Home Mesh	RV22 Home Mesh	0 of 0 offline 0	0	0 Kbps / 0 Kbps	Default RV22 Home	ON
Wi-Fi Profiles					Showing 1 - 7 Tot	ik7 10 ¥ ⊂Pri	Next >
NSE Groups							
Switch Groups							
Teccelates							
Þy 🖸							

3. Click Add.

The Add New window appears with multiple tabs. By default, the Basic tab is selected.

4. In the Add New window > Basic tab, select RV22 Home Mesh in the Type dropdown list and configure the parameters described in Table 5.

<u>AP Groups</u> > A	d New
Basic	Туре
Management	RV22 Home Mesh
Radio	Name*
Network	Scope*
Security	Shared scope means the AP Group is accessible to all Managed Accounts
	Auto sync Automatically push configuration changes to devices sharing this AP Group Country*
	United States For appropriate regulatory configuration
	LED Whether the device LEDs should be ON during operation Description
	WLAN*
	Save

Table 5: Basic parameters

Parameter	Description				
Туре	Type of devi	Type of device for which the AP group is configured.			
	Select RV22	Select RV22 Home Mesh from the dropdown list.			
Name	Hostname o	f the device.			
	Supports a n	naximum of 64 characters			
Scope	Specifies the	e availability of the AP group across managed accounts.			
	The followin	g values are supported:			
	• Base is not	Infrastructure—AP group is available only for the global account. It shared with other managed accounts.			
	 Share mapp To ma accou 	 Shared—AP group is shared across all managed accounts. It can be mapped to devices in the managed account, but it cannot be modified. To modify the configuration, it must be copied into the managed account and then updated. 			
	• Mana accou	ged Account—AP group is available only for that specific managed unt.			
		Note Once the scope has been configured on a AP group, it cannot be modified.			
Auto sync	Specifies wh saving.	nether configuration is applied to the router automatically after			
	Select the ch	neck box to enable auto sync.			
Country	Country of o	peration of the device.			
	To be set by	the administrator only.			
	The allowed depend on t on the SKU o	The allowed operating channels and the respective transmit power levels depend on the country of operation. The list of countries supported depends on the SKU of the device (FCC and ROW).			
		Note Radios remain disabled unless this parameter is configured.			
LED	When enabled, turns on the device LEDs during operation.				
Description	Brief descrip	tion for the AP group.			
WLAN	WLAN profile	e to be associated with this AP group.			

Parameter	Description
	WLAN profile contains SSID details of the wireless network.
	Select the WLAN from the dropdown list. If no WLAN is configured, create one by clicking the add ()) icon. For more information, See <u>Configuring WLAN</u> profiles (SSIDs).

5. Click the **Management** tab on the left pane and configure the following parameters:

AP Groups > Add Net	N		
Basic	Administrator Accord		
Management ()	Administration Access		
Padio	Configure password for authentication of GUI and CLI sessions (max 32 characters)		
Radio	Remote Management Access Enable remote access through WAN Interface		
Network	SSH Enable SSH access to the device CLI		
Security	HTTP Enable HTTP access to the device GUI		
	HTTP Port		
	80 Port for HTTP access to the device GUI (1-65535)		
	HTTPS Enable HTTPS access to the device GUI		
	HTTPS Port		
	443 Port for HTTPS access to the device GUI (1-65535)		
	Disable Hardware Reset Button When enabled the physical hardware reset button will not let the user to do factory-reset the device		
€ Time Settings			
	E Event Logging		
	Save Close		

Table 6: Management parameters

Parameter	Description	
Administrator Acce	Administrator Access-related parameters	
Admin Password	Password for authentication of the router.	
Disable Hardware Reset Button	Determines whether the reset button on the router is required to prevent a factory reset operation of the router.	
	Select the check box to prevent the user from performing the factory reset operation.	
Time Settings-related parameters		
Time Zone	Time zone of the location where the router is installed.	
	Select an appropriate time zone from the dropdown list.	
NTP Server 1	Hostname or IPv4 address of the Network Time Protocol (NTP) server.	

Parameter	Description	
NTP Server 2	Hostname or IPv4 address of a second NTP server.	
Event Logging-related parameters		
Syslog Server	Hostname, IPv4 address of the Syslog server and the respective port number.	
	Default port number: 514	
Syslog Severity	The severity level of event that must be forwarded to the server. The supported severity levels (0-7) are based on RFC standards.	
SNMP-related para	meters	
Enable	Determines whether SNMPv2c or SNMPv3 support on the router is enabled.	
	Select the check box to enable SNMP support.	
Trap Receiver IP	IPv4 address of the SNMP server to receive the SNMP traps.	
	This parameter is appicable to both SNMP v2c and v3 versions.	
Version	Specifies the SNMP version configured for the router.	
	The following options are available:	
	• v2c	
	• v3	
SNMPv2c-related parameters		
SNMPv2c RO community	The SNMP v2c read-only community string used as a password when obtaining information from the router.	
SNMPv2c RW community	The SNMP v2c read-write community string as a password when writing information to the router.	
SNMPv3-related parameters		
SNMPv3	Username for the SNMPv3 server.	
Username	Supports a maximum of 32 characters.	
Enable	Indicates whether authentication is enabled for SNMP communication.	
Authentication	Select the check box to enable authentication.	
Authentication Protocol	Specifies the authentication protocol.	
	The following options are available:	
	• MD5	
	• SHA	

Parameter	Description
	Cambium uses SHA-1 authentication protocol.
	By default, the SHA option is selected.
Authentication	Password used for authentication.
Password	Supports 8 to 32 characters.
Enable Encryption	Indicates whether encryption is enabled for SNMP communication.
	Select the check box to enable encryption.
Encryption Type	Specifies the encryption type.
	The following options are available:
	• AES
	• DES
	By default, the AES option is selected.
Encryption Password	Password used for encryption.
	Supports 8 to 32 characters.

6. Click the Radio tab on the left pane and configure the preferred radios (2.4 GHz or 5 GHz or both).

By default, both the radios are enabled. You can disable only the 2.4 GHz radio.

Configure the following parameters (described in <u>Table 7</u>), which are similar across 2.4 and 5 GHz radio tabs:

AP Groups > Add New		
Basic	2.4 GHz 5 GHz	
Management	Enable/Disable operation of this radio	
Radio	Channel	
Network	Auto 👻	
Security	Auto Channel Frequency Coordination Prevents self-interference with upline wireless network infrastructure Channel Width 20 MHz Transmit Power Auto 802.11r Enable FT Roaming for seamless connection across Access Points	
	Save Close	

Table 7: Radio parameters

Parameter	Description		
Enable	Enables the operation of radio.		
Channel	This parameter cannot be modified.		
	Specifies the 2.4 GHz channel that is used.		
	Default: Auto		
Auto Channel Frequency Coordination	Enable to prevent router from self-interference with upline wireless network infrastructure.		
Channel Width	Operating channel width of the selected radio. Following channel widths are supported:		
	• For 2.4 GHz—20 MHz and 40 MHz. Default: 20 MHz		
	 For 5 GHz—20 MHz, 40 MHz, 80 MHz, and 160 MHz. Default: 80 MHz 		
Transmit Power	Transmit power of the router in percentage (%).		
	The following options are available:		
	• Auto		
	• 20		
	• 40		
	• 60		
	• 80		
	• 100		
802.11r	Enables the 802.11r Fast Transition (FT) mechanism for faster roaming between Home Mesh routers in a network.		
	Note Disable 802.11r roaming when the WLAN security is configured as Open under WLANs > Home Access > SSID.		
Candidate Channels	This parameter is applicable only to 5 GHz radio.		
	Configures whether all channels in the 5 GHz band are used or not.		
	Following are the supported values:		
	• All —Includes all channels supported in the 5 GHz band.		
	 Prefer Non-DFS—Excludes the DFS channels (radar channels) and includes only the non-DFS channels. 		

7. Click the **Network** tab on the left pane and configure the WAN mode and IP address assignment parameters.

AP Groups > Add	d New
Basic	AP Mode
Management	Chouler O bridge
Radio	WAN Configuration
Network	DHCP PPPoE Static
Security	LAN Configuration IPv4 Auto Manual Local IP Address*
	192368.11 Local Subnet 295.255.255.0
	Address Range Start* Address Range End* 192.168.11.2 192.168.11.254
	Domain Name
	DNS Mode* Auto
	Save Close

- i. The **AP Mode** is pre-configured as **Router** and cannot be modified.
- ii. In the **WAN Configuration** section, select the **WAN Mode** and configure the corresponding parameters.

This mode selects the mode of IP address assignment for the WAN interface. The following WAN modes are supported:

- **DHCP**—This mode is selected by default.
- **PPPoE**—Configure the PPPoE parameters as described in <u>Table 8</u>.

Basic	AP Mode	
Management Radio Network	WAN Configuration WAN Mode DHCP PPPoE Static	
Security	Service Name Hons Rv22 PPUE Username* hone vc2 test Passoord* Passoord* Passoord* Passoord*	Configure PPPoE service name parameters (max 32 character
	PPP Connection Trigger Auto Connect On Demand Idle Timeout 300 MTU 1492	Seconds

Table 8: WAN Mode: PPPoE parameters

Parameter	Description	
PPPoE -related p	PPPoE-related parameters	
Service Name	Name of the PPPoE service name.	
	Supports a maximum of 32 characters.	
Username	Username of the PPPoE service required for authentication.	
Password	Password of the PPPoE service required for authentication.	
Passthrough	Indicates whether the clients must directly establish connection with the service provider.	
	Select the check box to enable passthrough.	
PPP Connection Trigger	Indicates the connection method for the router for keeping the connection intact.	
	The following options are supported:	
	Auto Connect	
	On Demand	
Idle Timeout	This parameter is mandatory when you select On Demand type of PPP Connection Trigger .	
	Specifies the duration (in seconds) after which PPPoE keep-alive packets must be sent to keep the connection intact.	
	Default: 300	
MTU	Maximum size (in bytes) of each packet sent in a single transmission between connected devices.	
	Default: 1492	

• **Static**—Configure the Static parameters as described in <u>Table 9</u>.

Basic	AP Mode	
Management Radio Network	WAN Configuration WAN Mode DHCP PPPoE Static	
Security	IPv4 IP Address* 192.168.10.10 Subnet Mask* 255.255.255.0 Gateway*	
	192.168.10.254 Primary DNS* 8.8.8 8 MTU 1492	Secondary DNS*

Table 9: WAN Mode: Static parameters

Parameter	Description	
Static-related p	Static-related parameters	
IP Address	IPv4 address assigned to the router.	
Subnet Mask	Subnet mask assigned to the router's IPv4 address.	
Gateway	IPv4 address of the gateway used for communication.	
Primary DNS	IPv4 address of the primary DNS server.	
Secondary DNS	IPv4 address of the secondary DNS server.	
MTU	Maximum size (in bytes) of each packet sent in a single transmission between connected devices.	
	Default: 1492	



Note

If you select **PPPoE** or **Static** mode, you must preconfigure the settings in the router before shipping the routers to customers. Complete the following steps before shipping the Home Mesh Router to the customers:

- i. Onboard the Home Mesh Router using the standard WAN mode as **DHCP**.
- ii. After the Home Mesh Router is onboarded, set the WAN mode to **PPPoE** or **Static**.
- iii. Configure the username and password credentials.

The configuration and the credentials are applied on the Home Mesh Router.

iv. Disconnect the Home Mesh Router and ship it to the customer.

When the customer connects the router to the PPPoE authenticated network, the Home Mesh Router uses the PPPoE credentials to authenticate.

iii. In the **LAN Configuration** section, configure the mode of IP address assignment for connecting devices to **Auto** or **Manual**.

If you select **Manual** mode of assignment, configure the following parameters:

Parameter	Description
IPv4-related parameters	
Local IP Address	Local IPv4 address assigned to the router.
Local Subnet	Subnet mask assigned to the router's IPv4 address.
Address Range Start	Starting IPv4 address in the address pool.
Address Range End	Ending IPv4 address in the address pool.
Domain Name	The domain name.
DNS Mode	DNS mode used for IP address resolution.
	Following are the supported options:
	• Auto
	• Manual
	• Proxy

Table 10: LAN Configuration parameters for Manual mode

8. Click the **Security** tab on the left pane and configure protection against different types of attacks, such as Smurf attack and ICMP fragment.

Select the check box corresponding to the DoS protection options.

AP Groups > Add New	
Basic	DoS Protection
Management	P Spoof Enable Ip spoof attack performance (checks whether spoofed IP address is reachable before accept)
Radio	Smurf Attack Enable Smurf attack protection (do not respond to the broadcast ICMP)
Network	V IP Spoof Log Enable IP Spoof log messages (logs unroutable source address)
Security	CMP Fragment Enable fragmented ping attack protection (drop fragmented IMP packets)
	ACL Precedence Policy Direction Type Rule Description No Data Available
	Add New Should a Validation of State 0 to v < Peorlas Next >
Table 11: Security parameters: DoS Protection

Parameter	Description
IP Spoof	Enable protection against IP spoof attacks.
	When enabled, the router checks whether the spoofed IP address is reachable before accepting.
Smurf Attack	Enable protection against Smurf attacks.
	When enabled, the router does not respond to the broadcast ICMP.
IP Spoof Log	Enable logging of IP spoof addresses.
	When enabled, the router logs the unroutable source IP address.
ICMP Fragment	Enable protection against ICMP fragmented ping attack.
	When enabled, the router drops the fragmented ICMP packets.

9. Click **Add New** in the **ACL** section and configure the parameters as described in <u>Table 12</u>.

ACL	×
Precedence	
1	•
Policy	
Accept	-
Direction	
WAN to LAN	-
Туре	
IP	•
Source IP/Mask*	
e.g. x.x.xix or any	
Destination IP/Mask*	
e.g. x.x.x/x or any	
Description	
Add Cancel	

Table 12: Security parameters: Access Control List (ACL)

Parameter	Description
Precedence	Specifies the priority of the rule configured.
	Select the precedence from the dropdown list.
Policy	Indicates the action to be taken for the policy.
	The following are the supported actions:
	Accept
	• Drop
	Reject
Direction	Direction to which the policy must be applied.
	The following are the supported options:

Parameter	Description				
	WAN to LAN				
	LAN to WAN				
	WAN to Router				
	Router to WAN				
Туре	Type of traffic to which the policy must be applied.				
	The following are the supported options:				
	• IP				
	• IPv6				
	• MAC				
	Protocol				
	Protocolv6				
	Additional parameters are enabled when you selct the type.				
Source IP/Mask	This field is applicable when you select the Type as IP , IPv6 , Protocol , or Protocolv6 .				
IP/Mask	Specifies the source IPv4 or IPv6 address and the destination IPv4 or IPv6 address for the policy.				
	You can configure Any if there is no specific IP address to apply the policy to any source IP address.				
Source	This field is applicable when you select the Type as MAC .				
MAC/Mask Destination	Specifies the source MAC address and the destination MAC address for the policy.				
MAC/Mask	You can configure Any if there is no specific MAC address to apply the policy to any source IP address.				
Protocol	Type of protocol for which the policy must be applied.				
	The following are the supported options:				
	• TCP				
	• UDP				
	• ICMP				

Table 12: Security parameters: Access Control List (ACL)

Table 12: Security parameters: Access Control List (ACL)

Parameter	Description
	• Any
	Additional parameters are enabled when you selct the protocol.
Source Port	This field is applicable when you select the Protocol as TCP , UDP , or Any .
	Specifies the source port number for the policy.
Destination	This field is applicable when you select the Protocol as TCP , UDP , or Any .
Port	Specifies the source port number for the policy.
Description	Description for the rule.

10. Click Save.

The AP group is successfully created with the configured parameters.

Configuration > Wi-F	i Profiles							0
AP Groups WLANs	Association ACL Access Control Poli	cies Custom Ap	plications X					
Q, Search	Device Type	E All - WLAN:	All 🕶					Add Import Sync
Name	⇒ Type	AP Status	Clients Now	Clients 24 HR	Throughput (DL/UL)	WLANs	Auto Sync	
RV22-TechPubs	RV22 Home Mesh	0 of 1 offline	0	0	0 Kbps / 0 Kbps	RV22-TP-Doc	ON	△ □ ☞ / ㅎ

Onboarding the Home Mesh Router to cnMaestro

After creating a WLAN profile and an AP group, you must now create a subscriber profile and associate it with the subscriber. Finally, you must onboard the router(s) to the corresponding subscriber.

Adding a subscriber and onboarding the router involves the following steps:

- 1. cnMaestro Subscriber application branding
- 2. Adding a home site
- 3. Adding a subscriber service profile
- 4. Adding a subscriber
- 5. Claiming the Home Mesh Router

cnMaestro Subscriber application branding

Customize the cnMaestro Subscriber mobile application with your company name, brand logo, and other details, such as support contact information and hours. This branding can be associated with individual subscriber service profiles.

To add brand details to the cnMaestro Subscriber application, complete the following steps:

1. Navigate to the Managed Services > Managed Subscribers > Subscriber Service Profiles tab.

The Subscriber Service Profiles page appears.

=	Managed Services > Managed Su	ubsc	ribers							(
A Home	Subscribers Subscriber Service Profil	les								
Monitor and Manage	Q Search					Add	New	Subscriber A	App Bran	ding
Inventory	Name	-	Subscriber App Branding	$\overline{\gamma}$	Supported Devices					
🔮 Мар	RV22-TP-Subs-Profile	(i)	RV22		RV22 Home Mesh				1	Ē
	<u>RV22-</u>	()	RV22		RV22 Home Mesh				1	Ē
S Onboard	<u>Rv22</u>		Cambium		RV22 Home Mesh				1	ē
Managed Services 🗸					Showing 1 - 3 Total: 3	10	~	< Previous	1 No	ext⇒
Managed Accounts X										
Managed Subscribers										

- 2. Click Subscriber App Branding.
- 3. Click the add (+) icon.

The Subscriber App Branding window appears. Configure the parameters as described in Table 13

Subscriber App Brar	nding					×
Search	+	Name*				
-		Scope Base Infrastructure			1128	
		Company Name*				
		Only PNG, SVG, JPEG, JF be more than 1 MB. Support Email*	PG are accepted. Maximum size of the imag	Select File		
		Support Phone Numbe	er			
		Support Hours Weekdays Fr	Monday	M O		
		Weekend Fr	rom Saturday • 10:00 A	M O	Signing in	
		10	Sunday V 06:00 F	M O Save	< 1/4	>

Table 13: cnMaestro Subscriber application branding parameters

Parameter	Description
Name	Name of the application branding.
Logo	Brand logo that is displayed in the cnMaestro Subscriber application.
	Maximum size of the image supported is 1 MB.
	Only JPEG, JPG, PNG, and SVG file formats are supported.
Support Email	Email address of your customer support team that is displayed in the application.
Support Phone Number	Phone number of your customer support team that is displayed in the application.
Support	Timings for contacting the customer support team.
Hours	 Select the Weekdays check box and configure the week days on when the customer support team is available. You can also configure the time using the time picker tool.
	 Select the Weekends check box and configure the weekend days on when the customer support team is available. You can also configure the time using the time picker tool.

You can preview your branding updates by scrolling through the images in the preview window on the right.

4. Click Save.

Adding a home site

A home site is required to associate the subscriber's device with the device configuration.

To create a home site, complete the following steps:

- 1. Click Monitor and Manage (
- 2. In the **Networks** tab, search for the network and hover over the network name.



3. Click the actions () icon and select Add Site.

The **Sites > Add New** page appears.

Network*
CambiumNetworks
Name*
Tvpe*
Enterprise O Home
Unique ID for site. Valid characters include alphanumeric and underscore (). It can be up to 64 characters long
Address
Latitude*
O Please use signed degrees format (DDD.dddd). For example, 41.25 and -31.96. Min = -90, Max = 90
Longitude*
Please use signed degrees format (DDD.dddd). For example, -31.96 and 115.84. Min = -180, Max = 180
l ocation*
of America
+ Tunisia Israel Q. Search Address
- México Guha Hong Kong
Guatemala Senegal Mall Chad Sudar Vernen Viet Nam
Sierra Leone Nigeria Ethiopia Sri Lanka
République Kenya Indonesia
Peru
Bolivia, Brasil Zamola Madagascar
Paraguay Botswana A
th Pacific Ungoay South Atlantic Ocean
Ucean Chile Ocean : © Map Tier © OpenStreetMap
Add Cancel

- 4. Select the **Home** option in the **Type** field.
- 5. Enter the location details in the **Longitude** and **Latitude** fields.

You can also search for the location in the map to fill in the details.

6. Click Add.

Managing subscribers (end-customer)

To enable a subscriber to manage the router using the Android or iOS application, you must add a subscriber profile in cnMaestro and send an invitation to the subscriber.

This pocess involves the following actions:

- 1. Adding a subscriber service profile
- 2. Adding a subscriber
 - a. Modifying the owner details for the Subscriber App
- 3. Claiming the Home Mesh Router

Adding a subscriber service profile

1. Navigate to the Managed Services > Managed Subscribers > Subscriber Service Profiles tab.

The Subscriber Service Profiles page appears.

=	Managed Services > Managed Subscribers
A Home	Subscriber Service Profiles
Monitor and Manage	Q. Search Subscriber App Branding
Inventory	Name 👻 Subscriber App Branding 👻 Supported Devices
Map Map	
Onboard	No Data Available
Managed Subscribers	President Alfred A. 19 Mar. (Devices - Mark)
	Showing 0 - 0 Total: 0 10 V (Previous Next)

2. Click Add New.

The Add Subscriber Service Profile window appears.

Add Subscrib	er Service Profile		\times
Name*			
Scope			
Base Infrastr	ucture		
Description			
Download (N	1bps)*	Upload (Mbps)*	
	Туре	Device Configuration	
	RV22 Home Mes	sh	•
Subscriber A	pp Branding*		
		•	+
		Cancel Save	

3. Select the Home Mesh Router configuration to which you want to associate with the subscriber

service profile and configure the parameters as described in Table 14.

Parameter	Description			
Name	Name of the subscriber service profile.			
Description	Brief description for the subscriber service profile.			
Download (Mbps)	Download speed (in Mbps) configured for the profile.			
Upload (Mbps)	Upload speed (in Mbps) configured for the profile.			
Туре	Displays the device type as RV22 Home Mesh .			
	This field cannot be modified.			
Device Configuration	Specifies the Wi-Fi AP group (created for Home Mesh Router) that must be associated with the service profile.			
	Select the group from the dropdown list.			
Subscriber App Branding	Specifies the cnMaestro Subscriber application branding that must be used in this profile.			
	All routers sent to subscribers in this service profile contain the selected branding logo and information.			
	Select the required branding from the dropdown list.			
	If no branding is present, create one by clicking the add (+) icon. See <u>cnMaestro Subscriber application branding</u> for more information.			

Table 14: Subscriber Service Profile parameters

4. Click Save.

Adding a subscriber

5. Click the Subscribers tab on the Managed Subscribers page.

The **Subscribers** page appears.

=	Managed Services > M	anaged Subscribers			٥
A Home	Subscribers Subscriber S	Service Profiles			
Monitor and Manage	Q, Search				Add New
Inventory	Name 👻	Subscriber Service Profile	Device Sync Status	Devices	
<u>♥</u> Map					
Onboard			No Data Available		
🍰 Managed Services 🗸					
Managed Subscribers				Showing 0 - 0 Total: 0 10 🗸	< Previous Next >

6. Click Add New.

The Add Subscriber window appears.

Add Subscriber			\times
Basic Information	Full Name*		
Service Configuration			
	Scope		
	Base Infrastructure		
	Email*	Phone Number	
	Customer ID		
	External system cus	stomer ID	
	Address*		
		Next	

7. In the **Add Subscriber** window, configure the details of the subscriber in the **Basic Information** section, as described in <u>Table 15</u>.

Parameter	Description
Full Name	Name of the subscriber.
Email ID	Email address of the subscriber.
Phone Number	Phone number of the subscriber.
Customer ID	Unique ID for the subscriber.
Address	Address of the subscriber where the routers will be installed.

Table 15: Subscriber > Basic tab parameters

8. Click Next.

The Service Configuration tab is displayed.

Add Subscriber		×
Basic Information	Service Profile*	
Service Configuration		•
	Download (Mbps)* Up	load (Mbps)"
	AP Group	
	+ Home Wi-Fi Devices Setting Override	
	Previous Save	

- 9. Select the subscriber service profile to be associated with this subscriber from the **Subscriber Service Profile** dropdown list.
- 10. Click Save.

A new tab, **Devices** appears, where you can link (or claim) the Home Mesh Router to the subscriber. See Claiming the Home Mesh Router.

The Subscriber application invitation email is sent to the subscriber with the link to join the account.

11. Click Devices.

Add Subscriber							×
Basic Information Service Configuration		Deployment Type Fiber Fixed Wireless Home Site					
Devices	0	Q. Search name o	f Home Site				
		RV22 Home Mesh			Add New		
		Name	Serial Number	MAC	Mesh Type	Status	
				No Da	ta Available		
		Previous	Save				

- 12. Select one of the following options in the **Deployment Type** field:
 - Fiber—Select the Optical Network Unit (ONU) device that you want to associate with the subscriber's router by searching in the ONU search box.
 - Fixed Wireless—Select the Subscriber Module (SM) device that you want to associate with the subscriber's router by searching in the SM search box.
 - Home Site—Select the home site that you want to associate with the subscriber's router by searching in the Home Site search box. For more information on creating a site, see <u>Adding a home site</u>.
- 13. Before linking the Home Mesh Router to the subscriber, click **Save**.

Modifying the owner details for the Subscriber App

You can modify the owner details for the Subscriber App by modifying the email ID.



Warning

Modifying the email address will remove all existing users, both primary and secondary.

To modify the email address, complete the following steps:

- 1. Navigate to the Manage Services > Managed Subscribers > Subscribers tab.
- 2. In the list of subscribers, click the subscriber name for which you want to modify the email ID.

The corresponding subscriber details are displayed.

<u>Subscribers</u> > Edit new	-sub	
Basic Information	Full Name*	
Service Configuration	new-sub	
Devices	Scope	
	Base Infrastructure	
	Email*	Phone Number
	Subscriber App Status: <u>Pendir</u> Customer ID	19 <u>Change Owner</u>
	External system custome	r ID
	Address*	
	cambium	
		Close Save

3. Under the Email parameter, click Change Owner.

The Change Owner window is displayed.

Change Owner		×
A Warning: All old primary and secondary s Email*	ubscriber users	will be deleted.
	Close	Update

- 4. Enter the new email ID for the subscriber.
- 5. Click **Update**.

Claiming the Home Mesh Router

After adding a subscriber profile and a subscriber, you must now associate the Home Mesh Router to the subscriber by claiming the router in cnMaestro.

To claim the router, complete the following steps:

1. Navigate to the Managed Services > Managed Subscribers > Subscribers tab.

The **Subscribers** page appears.

- 2. In the list of subscribers, click the subscriber name for which you want to associate the Home Mesh Router.
- 3. Click the **Devices** tab.
- 4. In the Add Devices to Subscriber section, click Add New.

The Add Subscriber window appears.

Basic Information	ation	Deploymer O Fiber	Type Fixed Wireless	 Home Site 		
Devices	0	Home Site'	name of Home Site			
		Add Devic	es to Subscriber			Add New
		Name	Serial Number	MAC Address	Mesh Type	Status
				No Data Avai	lable	

- 5. In the **Link Subscriber** window, link the Home Mesh Router to the subscriber by any of the following methods:
 - To claim a new router that is not onboarded to cnMaestro, select the **Claim new and assign** option and enter the serial number of the device to be claimed.

You can claim multiple routers by adding multiple serial numbers separated by commas.

Link Subscriber	\times
Claim new and assign Search from inventory and assign	
Enter the Serial Numbers (MSNs) of the RV22 Home Mesh devices you want to add to your account (comma-separated or one per line). Once a device is claimed, it is placed in the Onboarding Queue when it comes online.	
Device Type	
RV22 Home Mesh	
Enter / Place a cursor in the box and use a barcode scanner to quickly claim devices.	
Assign Cancel	

• To claim a router that is already onboarded to cnMaestro, select the **Search for inventory and** assign option.

Link Subscriber	\times
Claim new and assign () Search from inventory and assign	
Q Enter Device name, MAC Address or Serial Number of RV22 Home Mesh	
Assign Cancel	

Enter the details of the router you want to claim.

6. Click Assign.

The assigned router appears in the Add Devices to Subscriber section.

Add Devices to Subscriber Add New					
Name Serial Number MAC Address Mesh Type Status					
<u>RV22</u>			Base	• Onboarded 🗞	

- Note
 - The **Onboarded** status must appear in the **Status** column to successfully onboard the RV22 Home Mesh Router.
 - To add multiple routers to create a wired or wireless mesh, onboard all the devices to the same subscriber in the **Add Devices to Subscriber** section.

For information about the supported mesh topologies, see <u>Setting up the Home</u> <u>Mesh Router</u>.

• To unlink the router from the subscriber, click the unlink () icon.

Downloading the cnMaestro Subscriber application

Home Mesh Routers can also be managed using the cnMaestro Subscriber application, available for Apple iOS and Android mobile operating systems.

You can download and install the cnMaestro Subscriber application from the following locations:

- For Apple iOS
- For <u>Android</u>

Setting up the Home Mesh Router

Home Mesh Routers can be deployed in one of the following modes:

- Setting up the Home Mesh Router—Standalone Mode
- Setting up the Home Mesh Router—Wireless Mesh Mode
- <u>Setting up the Home Mesh Router—Wired Mesh Mode</u>



Note

You can distinguish between wired and wireless mesh deployments by viewing the **Status** page under **Monitor and Manage** > *<Home-Mesh-Router-name*> > **Tools**. The deployments are distinguished by the type of line displayed between the routers.

• Wired mesh—A solid line is displyed between the routers.

In this deployment type, RSSI, SNR, Radio, and Channel fields do not display any value.

• Wireless mesh—A dotted line is displyed between the routers.

Setting up the Home Mesh Router—Standalone Mode

In standalone mode of deployment, there is only one Home Mesh Router deployed. A sample scenario is shown in the following figure:



A sample cnMaestro dashboard for the standalone mode of deployment is shown in the following figure:



Setting up the Home Mesh Router—Wireless Mesh Mode

To configure a wireless mesh, onboard the routers to a site—Claim all the routers, which you want to be part of the mesh, on cnMaestro in the subscriber workflow. See <u>Claiming the Home Mesh Router</u>. Connect the mesh base router to the internet and wirelessly connect the node routers. The AP group mapped to the subscriber is applied to all the routers to sync the configuration.

Following are some of the wireless mesh configuration scenarios and the corresponding dashboards and hierarchy in cnMaestro:

- Wireless mesh: 1-1 deployment
- Wireless mesh: 1-1-1 deployment
- Wireless mesh: 1-2 deployment
- Wireless and wired mixed mesh 1-2 deployment

Wireless mesh: 1-1 deployment

In this deployment, the base router is connected to one node router, thereby creating a wireless 1-1 mesh deployment.

Figure 7: Wireless mesh: 1-1 deployment



Figure 8 displays a sample cnMaestro dashboard for the wireless mesh 1-1 deployment.





Figure 9 displays a sample cnMaestro status page for the wireless mesh 1-1 deployment.

Figure 9: Sample status page for wireless mesh: 1-1 deployment



Wireless mesh: 1-1-1 deployment

In this deployment, the base router is connected wirelessly to only one of the node routers, which is inturn connected to another node router, thereby creating a wireless 1-1-1 mesh deployment.





Figure 11 displays a sample cnMaestro dashboard for the wireless mesh 1-1-1 deployment.

Figure 11: Sample dashboard for wireless mesh: 1-1-1 deployment



Figure 12 displays a sample cnMaestro status page for the wireless mesh 1-1-1 deployment.

Figure 12: Sample status page for wireless mesh: 1-1-1 deployment



Wireless mesh: 1-2 deployment

In this deployment, the base router is connected to two node routers simultaneously, thereby creating a wireless 1-2 mesh deployment.

Figure 13: Wireless mesh: 1-2 deployment



Figure 14 displays a sample cnMaestro dashboard for the wireless mesh 1-2 deployment.

=	Q, Search	Home Site > OFFICE-RV22-JP Bashbaard Notifications Configuration Rep	vyts ¥ Software Hodata Clients Assists ¥	(
•		WI-FI 	Wireless Clients Lost 5 Minutes Wireless Throughput Lost 5 Minutes IIIIIIIII 2 2 5.81 kpps 1.38 kpps Count Last Week Keeth Peers Downlink Uptink Uptink	
· • • •	v 😭 OFFICE-RV22-JP ৣৣৣৣ Reg-MB-Base ক Reg-MC-1 ক Reg-MC-2	Atoms Pendo Laté Al Hous Centrolal. Mauloit Manoit B	Clients by Band Resolution 1 How	
9		Asists X () Prod. Los 24 Hous 0 Fear 0 Peare Top Active Alarms	31 Jun Of Feb 0.02 Feb 0.03 Feb 0.04 Feb 0.05 Feb 0.06 Feb 20200203010 Vireless Throughput Residuon 1 Hear 700 0 9 350 0 Feb 0.02 Feb 0.04 Feb 0.05 Feb 0.06 Feb 10 0.04 Feb 0.05 Feb 0.06 Feb 0.06 Feb	30
₽		â	Channel, A + Align & Unimmine to a Align Hole (2019 Align) Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Align Al	30

Figure 14: Sample dashboard for wireless mesh: 1-2 deployment

Figure 15 and Figure 16 display sample status pages for the node routers in a wireless mesh 1-2 deployment.

In the following status samples, the **RV22-Base-Pantry** router is connected to both **RV22-Mesh-Shelf** and **RV22-Mesh-Cabin** routers, forming a 1-2 multi-mesh topology.

• Network toplogy for the RV22-Mesh-Cabin router

Figure 15: Sample status page for RV22-Mesh-Cabin node router in a wireless mesh: 1-2 deployment

≡	Q. Search	I RV22 Home Mesh > RV22-Mesh-Cabin
	Networks Wi-Fi AP Groups	Dashboard Notifications Configuration Details Performance Software Update Tools Clients WLANs
	✓ 🚱 System	Status Debug Network Connectivity WI-FI Analyzer Speed Test Packet Capture
	🗸 🧊 Base Infrastructure	RV22 Home Mesh Image: Contract of the second seco
<u> </u>		Radio: 5 GHz Channel: 60
0		100Mbps [10 0
2		DL: 0 Kbps Throughput DL: 0 Kbps UL: 0 Kbps UL: 0 Kbps UL: 0 Kbps
\$		
*		
٥		
5		
	Green Touch	
	RV22-Mesh-Shelf	

• Network toplogy for the RV22-Mesh-Shelf router



Figure 16: Sample status page for RV22-Mesh-Shelf node router in a wireless mesh: 1-2 deployment

Wireless and wired mixed mesh 1-2 deployment

In this deployment, the base router is connected to one node router wirelessly and simultaneously to another by a wired connection, thereby creating a mixed 1-2 mesh deployment.

Figure 17: Wireless and wired mixed mesh: 1-2 deployment



Figure 15 and Figure 16 display sample status pages for the node routers in a mixed mesh 1-2 deployment.

In the following status samples, one RV22 base router is connected to one RV22 node router wirelessly and simultaneously to another RV22 node router by a wired connection.

• Network toplogy for the wireless RV22 node router

Figure 18: Sample status page for the wireless RV22 node router in a mixed mesh: 1-2 deployment



• Network toplogy for the wired RV22 node router

Figure 19: Sample status page for the wired RV22 node router in a mixed mesh: 1-2 deployment

≡	Q. Search	I RV22 Home Mesh > RV22
*	Networks Wi-Fi AP Groups	Dashboard Notifications Configuration Details Performance Software Update Tools Clients WLANs
	A	Engineering debug Status Debug Network Connectivity Wi-Fi Analyzer Speed Test Packet Capture
		RV22 Home Mesh Data Rate: 1 Gbps RV22 Home Mesh V22 Wia Rec: 1 Gbps RV22 Wia RV22 Wia RV22 Wia RV22 Wia
9		A Online SNR: N/A Radio: N/A A Online
-		Channel: N/A
	-	Throughout DL: 0 Kbps DL: 0 Kbps DL: 0 Kbps
<i>2</i>		UL: 0 Kbps UL: 0 Kbps
*		
	M 🔿 meta mabila sita	
	RV22 RV2 RV RV RV2 RV RV	
	奈 RV22	
	🙃 RV22	

Setting up the Home Mesh Router—Wired Mesh Mode

To configure a wired mesh, onboard the routers to a site—Claim the routers, which you want to be part of the mesh, on cnMaestro in the subscriber workflow. Connect the mesh base router to the internet and connect the node routers to the base router using Ethernet cables. The AP group mapped to the subscriber is applied to all the routers to sync the configuration.

No configuration changes are required for RV22 routers to work in both wired and wireless mesh modes. Use any LAN port on the mesh base and any LAN port on the mesh node routers to establish a wired mesh connection. When a mesh node router detects an RV22 neighbor on its LAN port, it automatically establishes a wired mesh link using the LAN ports.



Note

You must not use the WAN port on the mesh node router to establish a wired mesh.

Following are some of the wired mesh configurations supported:

- Wired mesh: 1-1 deployment
- Wired mesh: 1-1-1 deployment
- Wired mesh: 1-2 deployment

Wired mesh: 1-1 deployment

In this deployment, the base router is connected to one node router using an Ethernet cable (between any LAN ports on both routers), thereby creating a wired 1-1 mesh deployment.

Figure 20: Wired mesh: 1-1 deployment



Wired mesh: 1-1-1 deployment

In this deployment, the base router is connected to only one of the node routers, which is inturn connected to another node router, by a wired connection (between any LAN ports on the routers), thereby creating a wired 1-1-1 mesh deployment.



Figure 21: Wired mesh: 1-1-1 deployment

Figure 22 displays a sample cnMaestro status page for the wired mesh 1-1-1 deployment.

Figure 22: Sample status page for wired mesh: 1-1-1 deployment

≡	Q Search	II RV22 Home Mesh > RV22-MESH-CLIENT2									
	Networks Wi-Fi AP Groups	Dashboard Notifications Configuration Deta	Is Performance Software Update Tools Clients WLANs								
		Engineering debug Status Debug Netwo	k Connectivity Wi-Fi Analyzer Speed Test Packet Capture								
	V 😰 RV22 WIRED MESH	RV22 Home Mesh RV22-MESH-BASE	Data Rate: 1 Gbps RV22 Home Mesh U Clienting RV22-MESH-CLIENT1	Data Rate: 1 Gbps RV22 Home Mesh V22-HOME Mesh V22-MESH-CLIENT2							
•	RV22-MESH-BASE	∧ Online	SNR: N/A Radio: N/A	SNR: N/A Radio: N/A							
<u>×</u>		• • • • • • • • • • • • • • • • • • •	Channel: N/A	Channel: N/A							
0	RV22-MESH-CLIENT2	1000Mbps	٥	ED 0							
2		Throughput DL: 0 Kbps UL: 0 Kbps	Throughput DL: 0 Kbps UL: 0 Kbps	Throughput DL: 0 Kbps UL: 0 Kbps							
\$											

Wired mesh: 1-2 deployment

In this deployment, the base router is connected to two node routers simultaneously by a wired connection, thereby creating a wired 1-2 mesh deployment.





Figure 24 and Figure 25 display sample status pages for the node routers in a wired mesh 1-2 deployment.

In the following status samples, the **Reg-MB-Base** router is connected to both **Reg-MC-1** and **Reg-MC-2** routers using Ethernet cables, forming a wired 1-2 multi-mesh topology.

• Network toplogy for the Reg-MC-1 router

Figure 24: Sample status page for Reg-MC-1 node router in a wired mesh: 1-2 deployment

≡	Q Search	RV22 Ho	me Mesh >	> Reg-MC-1						
*	Networks Wi-Fi AP Groups	Dashboard I	lotifications	Configuration	Detail	s Performance	Software	e Update Too	ols Clients	WLANs
		Engineering de	bug Stat	us Debug	Networ	k Connectivity	Wi-Fi Ana	lyzer Speed	l Test Packe	t Capture
		R\ Re	22 Home Mes g-MB-Base	sh	6	Data Rate: 1 Gbps RSSI: N/A		RV22 Home Me Reg-MC-1	esh	۹ (۵)
<u> </u>	V (OFFICE-RV22-JP	1	Online	1		SNR: N/A Radio: N/A		▲ Online		
	🔝 Reg-MB-Base		0					A 0		
0	🗢 Reg-MC-1	1000Mbps	<u>a</u> 1					<u></u> ∎1		
<u>.</u>	중 Reg-MC-2	т	roughput	DL: 4.74 Kbps UL: 0.62 Kbps				Throughput	DL : 1.32 Kbps UL : 1.24 Kbps	
\$										

• Network toplogy for the **Reg-MC-2** router

Figure 25: Sample status page for Reg-MC-2 node router in a wired mesh: 1-2 deployment

≡	Q Search	I RV22 Home Mesh > Reg-MC-2	
A	Networks Wi-Fi AP Groups	Dashboard Notifications Configuration Details Performance Software Update Tools Clients WLANs	
F		Engineering debug Status Debug Network Connectivity Wi-Fi Analyzer Speed Test Packet Captur	e
	-	Reg-MB-Base RSS: N/A Reg-MG-2	
<u> </u>	V 🛕 OFFICE-RV22-JP	A Online A Online A Online A Online A Online A Online	
0	🙃 Reg-MB-Base	Image: Commerce WA A 0 1000Mbps Ca1	
4	중 Reg-MC-2	DL: 4.66 Kbps DL: 0 Kbps UL: 0.6 Kbps UL: 0 Kbps	
\$			

Viewing router system information and network traffic status

When the customer configures the Home Mesh Router and connects to the internet, you can check the connection of the router in cnMaestro. You can also check the details of the clients that are connected.

To view router system information and the connection status, navigate to **Monitor and Manage** > <*Home-Mesh-Router-name*> > **Details** tab.

The **Details** page displays information in the following tabs:

• Overview

This page displays information in the following sections:

- **System**—Displays information, such as router name, MAC address, health of the router (online, offline), software version, and location.
- **Radio**—Displays radio details, such as the running bands, RF quality, count of clients connected to each radio, and the average throughput.
- Configuration Update—Displays the history of configuration updates to the router.
- **Software Update**—Displays the currently running software version and a history of software updates that were performed and the status.

RV22 Home N	RV22 Home Mesh > RV22-Mesh-Base-Foyer Dashboard Notifications Configuration Details Performance Software Undate Tools Clients WIANs											
Overview Netwo	rk Info	talls Performance Software Opua	te loois cilents wil	ANS								
System			Radio Details									
Name	RV22-Mesh-Base-Foyer		Radio	Radio 1	Radio 2							
Product Name	RV22 Home Mesh		Band	2.4 GHz	5 GHz							
MAC Address		State	ON	ON								
Health	 Online (2d 23h 16m) 		Channel	1	40							
Uptime	2d 23h 16m		Channel Width	20 MHz	80 MHz							
IPv4 Address	192.168.20.54	Power	14 dBm	15 dBm								
Software Version	1.0.0-b21		MAC Address									
Serial Number	rial Number			🗢 Average	🗢 Avera	ge						
Hardware	RV22 Wi-Fi 6 Home MESH	Router 2x2 dual band	WLANs	1	1							
DA Version	4.107		Mesh	OFF	BASE							
Last Reboot	Sat Oct 14 2023 17:07 (Dev	rice reboot due to Power Cycle)	Clients	1	1							
Location			UL Throughput	0.12 Kbps	16.26 Kbj	DS						
Onboard Date	27 Sep 2023, 04:07 PM		DL Throughput	0.25 Kbps	59.63 Kb	ps						
Description			Software Update									
Available Memory	50%		Active Software Ver	sion	1.0.0-b21							
CPU Utilization	20%		Inactive Software V	ersion	1.0.0-b20	_1012_1						
Configuration Updat	e		History									
History			Date		Status	Version						
Date	Status	AP Group	12 Oct 2023, 12:10	PM	Success	1.0.0-b20_1012_1						
17 Oct 2023, 02:27	PM Success	RV22 Biju Home Profile	12 Oct 2023, 03:01	PM	Success	1.0.0-b20_1012_1						
17 Oct 2023, 02:27	PM Success	RV22 Biju Home Profile	13 Oct 2023, 01:56	PM	Success	1.0.0-b21						
17 Oct 2023, 03:04	PM Success	RV22 Biju Home Profile										

Network Info

This tab displays information in the following sections:

- **WAN**—Displays collective statistics about total number of transmitted and received data packets, data bytes, packets dropped, maximum and average speeds
- IPv4 Routes—Displays the IPv4 routes configured for the router.
- DNS Server(s)—Displays the details of the DNS servers.
- **LAN**—Displays details of the LAN interfaces, their status, total number of transmitted and received data packets and size (in bytes), packet errors and drops.
- **DHCP Server**—Displays details of the DHCP servers, start and end IP address in the range used for allocation, and the lease time.

WAN													
IPv4 Address I	Pv6 Address	MAC	L	ink Status	Tx Bytes	Rx Byte	S	Tx Avg (Kbps)	Tx Max (Kbp	Tx Min (Kbps)	Rx Max (Kb)	ps) Rx Avg (K	ops)
192.168.20.54			: U	IP	3837701583	228532	70234	116	105862	0	145606	696	
IPv4 Routes													
Destination		Mask		Gatew	ay	F	lags		Metric		Interfac	e	
0.0.0.0		0.0.0.0		192.16	B.20.1	L	JG		0		eth1.2		
192.168.11.0		255.255.255.0		0.0.0.0)	U	J		0		br0		
192.168.20.0		255.255.255.0		0.0.0.0)	U	J		0		eth1.2		
239.0.0.0		255.0.0.0		0.0.0.0		U	J		0		br0		
DNS Server(s)													
IP Address						R	esolve s	Status					
192.168.20.1						SI	uccess						
LAN													
Interface Name	Link Status	Tx Bytes	Rx By	rtes Rx	Errors	Tx Errors	Тх	Drops Rx	Drops F	x Packets T	x Packets	Speed	Du
lan1	DOWN	0	0	0	0	D	0	0	c	0			
lan2	DOWN	0	0	0	(D	0	0	C	0			
lan3	DOWN	0	0	0		D	0	0	c	0			
DHCP Server													

Viewing, editing, and blocking connected clients

cnMaestro allows you to view details of clients (both wired and wireless) connected to the router and edit the name of clients. You can also block certain clients that you do not want to be connected to your wireless networks.

This topic contains the following sections:

- Viewing connected clients
- Editing client host name
- Blocking clients

Viewing connected clients

To view the list of connected clients, both wired and wireless, navigate to **Monitor and Manage** > <*Home-Mesh-Router-name*> > **Clients** tab.

The **Details** tab displays information in the following two tabs:

• Wireless Clients

This page displays information about the wireless clients connected to the router, such as the host name, MAC address, IPv4 addess assigned, the router it is connected to, and the status of connection with the router (online, offline).

Home Site >] Home Site > Home (*										
Dashboard Notifications Configuration Software Update Clients											
Wireless Clients W	fireless Clients Wired Clients										
Apply Filter(s)	Manag	ged Account: Base Infrastrue	ture				Duration:	Current 🖌	Export 👻		
Host Name 🛛 👻	Managed Account	AP	IPv4 Address	⇒ MAC	Ŧ	Manufacturer =	Capability	⇒ SSIC	- د	Bai	
is IPhone	Base Infrastructure	RV22-Mesh-Base-Foyer				unknown	аха	RV2	2 Home	5 G	
IN01-51Y70J3	Base Infrastructure	RV22-Mesh-Base-Foyer				Intel Corporate	axa	RV2	2 Home	5 G	
Samsung Refrigerator	Base Infrastructure	RV22-Mesh-Base-Foyer				SJI Industry Company	gn	RV2	2 Home	2.4	
IPhone	Base Infrastructure	RV22-Mesh-Base-Foyer				unknown	аха	RV2	2 Home	5 G	
3-Air	Base Infrastructure	RV22-Mesh-Client-First-Flo	or			Apple, Inc.	ac	RV2	2 Home	5 G	
android-dhcp-12	Base Infrastructure	RV22-Mesh-Client-Terrace				unknown	ac	RV2	2 Home	2.4	
unKnown	Base Infrastructure	RV22-Mesh-Client-First-Flo	01			unknown	an	RV2	2 Home	5 G	
						Showing 1 - 7	Total: 7 10 🔹	• Previ	ous 1 Nes	ot >	

• Wired Clients

This page displays information about the wired clients connected to the router, such as the host name, MAC address, IPv4 addess assigned, port number to which it is connected, the manufacturer of device connected, last connected duration, and the download and upload data size (in MB).

E RV22 Home Mesh > Dashboard Notifications	RV22_8003E2 Configuration Deta	ils Performance S	oftware Update 1	ools	Clients WLANs							3
Wireless Clients Wired 0	Viroless Clients Wired Clients											
Apply Filter(s)		Managed Account	Base Infrastructure							Ex	+ hog	
Host Name v	Managed Account	IPv4 Address	MAC	÷	Port	Manufacturer	Ŧ	Last Duration	Download	Upload		
Cambium-cnMatrix-EX2K	Base Infrastructure				Ethernet LAN 2	Cambium Networks Limited		0d 2h 42m	393.2 MB	54.5 MB		1
XV2-2-540556	Base Infrastructure				Ethernet LAN 2	Cambium Networks Limited		0d 2h 42m	393.2 MB	54.5 MB		1
XV2-21X-E5386F	Base Infrastructure				Ethernet LAN 2	Cambium Networks Limited		0d 2h 42m	393.2 MB	54.5 MB		1
								s	nowing 1 - 4 Total: 4 10	♥ ← Previous	1 8	

Editing client host name

To edit the host name of a connected client, click the edit client name (🖍) icon corresponding to the client.

Enter the name in the Host Name field and click Save.

Edit Client Name		\times
Host Name*		_
IN01-CMQ7HW3		
Save	Cancel	

Blocking clients

To block a connected client, click the block (\oslash) icon corresponding to the client.

Monitoring and Troubleshooting

You can monitor and perform troubleshooting tasks on the Home Mesh Router using cnMaestro. This topic covers the following sections

- Monitoring the Home Mesh Router
- Troubleshooting the Home Mesh Router
- Upgrading the Home Mesh Router firmware

Monitoring the Home Mesh Router

After the device is onboarded to cnMaestro, based on the deploymnet type, the router will be displayed under the site that is configured.

cnMaestro provides the following pages to monitor and view details of the router and the deployment.

- Home Site Dashboard
- Notifications
- Software Update
- Performance

Home Site Dashboard

To view the site dashboard, access the **Dashboard** page under **Monitor and Manage** > <Home-site-name> > **Dashboard**.

Home Site > Home Dashboard Notifications Configuration Software Up	adate Clients			0
(WLFI	Wireless Clients	Last 5 Minutes Wireless Throughput	Last 5 Minutes	
.lu. 3 (0)		550.13 mm	116.96 stres	
Offline Last Week Total Offline	Count Last Week Clients Mesh	Peers Downlink	Uplink	
Alarms	Clients By Band Resolution: 1 Hour			
0 CHTC4, MA.CH MMCH 2 Lat 24 Hors			Not BOX	
Top Active Alarms	• 24 GHz • 5 GHz			
L.S. 10. Anno	Writes Throughout Research Throughout a g a g a g a g a g a g a g a g		MOd B Ool	Non Yos
	240	24ε ● 1 6667% ● 11 33.33%		5 GHt e 40 10000
	Clint SNB by Band however to the source of t	- 15 - 20	28 20 208 (48)	35 43 de-
		• 2.4 GH	z • 5 GHz	
	Too Clients by Session ~			
	Verted Last 5 Mituales Name Samsung Refrigerator Alt NOF51770.J3 unkNown androld-dhcp-12	IP Address	Duration 2d 20h 12m 0d 15h 55m 0d 4h 54m 0d 0h 2m 0d 0h 9m	Total Bytes
	Top Wi-Fi APs by Throughput ~			
	Name BV22-Mesh-Base-Eover BV22-Mesh-Client-First-Floor BV22-Mesh-Client-Terrace	MAC	2 1	Zlients Throughput
	Capyright © 2015 - 2023 Cambium Networks, Lt	d. All rights reserved. I Version 5.0.0 b2 I <u>Communi</u>	hr i Swarad i Hala	•

Notifications

The Notifications page displays current alarms, previous alarms, Wi-Fi-related events, and other device-related events.

cnMaestro displays the following types of notifications:

- <u>Alarms</u>
- Alarms History
- Events
- Wi-Fi Events

Alarms

The Alarms page displays the number of critical, major, and minor events observed for the Home Mesh Router.You can also view the details of the events, such as severity level, name of the event, time and action taken.

To view the alarms raised, access the **Alarms** page under **Monitor and Manage** > *<Home-site-name*> > **Notifications** > **Alarms.**

Home Site > -Home Dashboard Notifications Configuration Software Upda	ate Clients				٥
Alarms Alarms History Events Wi-Fi Events					
O Gritical	O Major	ast 24 Hours	0 Minor	Last 24 Hours	
Change Filter(s) O Clear Managed Account:	Base Infrastructure			Bulk Acknowledge	Export 👻
□ Severity	source MAC ▼ IPv4	Address Name	Message Duration	Status 🔻 Raised	- Acknow
	No	Data Available			
			Showing 0 - 0 Total: 0	10 👻 < Previous	s Next⇒

Alarms History

The Alarms History page displays the number of critical, major, and minor events observed in the previous week.

To view the alarms history displayed as a graphical representation, access the **Alarms History** page under **Monitor and Manage** > *Home-site-name* > **Notifications** > **Alarms History**.

Home Site	> -Home						4
Dashboard N	otifications Configur	ation Software Update Cl	lients				
Alarms Alarr	ns History Events	Wi-Fi Events					
Alarm Histo	vry (Last Week)		•				
3 - 2 - 1 -			Oct • Cr • M	13 16:30 itical O ajor 1			
	11 Oct	12 Det 13 De	et • M	Major Minor	15 Oct	16 Oct 11	Oct
Apply Filter(s)		Managed Account: Base Infi	rastructure				Export 👻
Severity	Source Type	Source =	Source MAC	= IPv4 Address	Name	Message	Cleared
Major	RV22 Home Mesh	RV22-Mesh-Client-First-Floor			STATUS	Device is offline.	14 Oct 2023, 05:
 Major 	RV22 Home Mesh	RV22-Mesh-Client-Terrace			STATUS	Device is offline.	14 Oct 2023, 05:
 Major 	RV22 Home Mesh	RV22-Mesh-Client-Terrace			STATUS	Device is offline.	14 Oct 2023, 04:
 Major 	RV22 Home Mesh	RV22-Mesh-Client-First-Floor			STATUS	Device is offline.	14 Oct 2023, 04:
 Major 	RV22 Home Mesh	RV22-Mesh-Client-First-Floor			STATUS	Device is offline.	14 Oct 2023, 03:
Major	RV22 Home Mesh	RV22-Mesh-Client-First-Floor			STATUS	Device is offline.	14 Oct 2023, 03:
 Major 	RV22 Home Mesh	RV22-Mesh-Client-Terrace			STATUS	Device is offline.	14 Oct 2023, 04:
 Major 	RV22 Home Mesh	RV22-Mesh-Client-Terrace			STATUS	Device is offline.	13 Oct 2023, 05:
 Major 	RV22 Home Mesh	RV22-Mesh-Client-First-Floor			STATUS	Device is offline.	13 Oct 2023, 05:
 Major 	RV22 Home Mesh	RV22-Mesh-Client-First-Floor			STATUS	Device is offline.	13 Oct 2023, 04:
				Showing '	1 - 10 Total: 71 10 🗸	Previous 1 2 3 4	5 8 Noxt >

Events

The Events page displays Home Mesh Router-related events, such as its status, if there was a bandwidth change, when the DHCP server IP was assigned to the connected clients.

To view the events, access the **Events** page under **Monitor and Manage** > <Home-site-name> > **Notifications** > **Events**.

Home Site Dashboard	e >	-Hom	e Confie	guration So	ftware	Update	Client	ts										0
Alarms Alar	rms His	tory	Even	ts Wi-Fi Ev	ents													
Apply Filter(s)				Manageo	d Accou	int: Base	Infrastr	ructure									Export 🗸	
Severity	- Cat	tegory	Ŧ	Event Type	Source	e Type	Ŧ	Source		$\overline{\tau}$	Source M/	AC	Ŧ	IPv4 Address	IPv6 Address	Name		Ŧ
 Notify 	от	HER			RV22	Home Me	sh !	RV22-Me	sh-Base	Foyer					N/A	DHCP_S	RVR_IP_ASS	GIGNED
 Notify 	от	HER			RV22	Home Me	sh !	RV22-Me	sh-Clien	t-Terrace					N/A	RENEW_	INTERFACE	_IP
 Notify 	от	HER			RV22	Home Me	sh l	RV22-Me	esh-Base	Foyer					N/A	DHCP_S	RVR_IP_ASS	GNED
 Notify 	от	HER			RV22	Home Me	sh l	RV22-Me	esh-Clien	t-First-Floor					N/A	RENEW_	INTERFACE_	IP
 Notify 	от	HER			RV22	Home Me	rsh J	RV22-Me	esh-Base	Foyer					N/A	DHCP_S	RVR_IP_ASS	GIGNED
 Notify 	OT	HER			RV22	Home Me	sh !	RV22-Me	sh-Base	Foyer					N/A	RENEW_	INTERFACE_	IP
 Notify 	от	HER			RV22	Home Me	sh !	RV22-Me	sh-Clien	t-Terrace					N/A	RENEW_	INTERFACE.	IP
 Notify 	от	HER			RV22	Home Me	sh I	RV22-Me	sh-Base	Foyer					N/A	DHCP_S	RVR_IP_ASS	GNED
 Notify 	от	HER			RV22	Home Me	sh l	RV22-Me	sh-Base	Foyer					N/A	DHCP_S	RVR_IP_ASS	GNED
 Notify 	от	HER			RV22	Home Me	sh l	RV22-Me	esh-Clien	t-First-Floor					N/A	RENEW_	INTERFACE_	IP
										SP	owing 1 - 10 Te	otal: 2778	10	♥ < Previ	us 1 2 3	4 5	278 N	ent >

Wi-Fi Events

The Wi-Fi Events page displays client-related events, such as when the client connected to the network, when it was disconnected, and authentication events.

To view the Wi-Fi events, access the **Wi-Fi Events** page under **Monitor and Manage** > *<Home-site-name>* > **Notifications** > **Wi-Fi Events**.

🗉 Home Site >Home 🔍 🔅										
Dashboard Notifications Configuration Software Update Clients										
Alarms Alarms History Events WI-FI Events										
Apply Filter(s)	Apply Filter(s) Managed Account: Base Mrestructure									
Source 👻	Managed Account	Source MAC ==	Source Type 🛛 👻	Client Name	Client MAC	$\overline{\tau}$	Name $ au$	Raised Time		
RV22-Mesh-Client-First-Floor	Base Infrastructure		RV22 Home Mesh	IPhone			WIFI_CLIENT_CONNECTED	17 Oct 2023, 04:27:03 PM		
RV22-Mesh-Base-Foyer	Base Infrastructure		RV22 Home Mesh	IN01-51Y70J3			WIFI_CLIENT_AUTH_SUCCESS	17 Oct 2023, 04:26:29 PM		
RV22-Mesh-Base-Foyer	Base Infrastructure		RV22 Home Mesh	IN01-51Y70J3			WIFI_CLIENT_CONNECTED	17 Oct 2023, 04:26:29 PM		
RV22-Mesh-Base-Foyer	Base Infrastructure		RV22 Home Mesh	IN01-51Y70J3			WIFI_CLIENT_DISCONNECTED	17 Oct 2023, 04:26:26 PM		
RV22-Mesh-Client-First-Floor	Base Infrastructure		RV22 Home Mesh	IPhone			WIFI_CLIENT_DISCONNECTED	17 Oct 2023, 04:23:07 PM		
RV22-Mesh-Client-Terrace	Base Infrastructure		RV22 Home Mesh	IPhone			WIFI_CLIENT_DISCONNECTED	17 Oct 2023, 04:23:07 PM		
RV22-Mesh-Client-Terrace	Base Infrastructure		RV22 Home Mesh	IPhone			WIFI_CLIENT_DISCONNECTED	17 Oct 2023, 04:22:18 PM		
RV22-Mesh-Client-First-Floor	Base Infrastructure		RV22 Home Mesh	IPhone			WIFI_CLIENT_DISCONNECTED	17 Oct 2023, 04:21:55 PM		
RV22-Mesh-Client-Terrace	Base Infrastructure		RV22 Home Mesh	IPhone			WIFI_CLIENT_AUTH_SUCCESS	17 Oct 2023, 04:21:55 PM		
RV22-Mesh-Base-Foyer	Base Infrastructure		RV22 Home Mesh	IPhone			WIFI_CLIENT_AUTH_SUCCESS	17 Oct 2023, 04:20:57 PM		
							Showing 1 - 10 of Many 10 🗸	< Previous 1 Next >		

Software Update

To upgrade the router firmware, go to the **Software Update** page. See <u>Upgrading the Home Mesh Router</u> <u>firmware</u> for more information.

Home Site > Home					¢
Dashboard Notifications Configuration	Software Update Clier	nts			
Device Type				Versions	
RV22 Home Mesh 👻					
Versions					
1.0.0-b21 (Recommended) (Beta) -					
Q, Search					
Devices	Managed Account	Status =	Running Version	Downloaded Version	
<u>RV22-Mesh-Client-First-Floor</u>	Base Infrastructure	 Online 	1.0.0-b21	1.0.0-b20_1012_1	
<u>RV22-Mesh-Base-Foyer</u>	Base Infrastructure	 Online 	1.0.0-b21	1.0.0-b20_1012_1	
RV22-Mesh-Client-Terrace	Base Infrastructure	 Online 	1.0.0-b21	1.0.0-b20_1012_1	
				Showing 1 - 3 Total: 3 10 V Previous 1 Nex	
Update Now Schedule Job Options					
to Devices to update in parallel (1-100).				
Retry skipped/offline device(s) on reconne	ect				
Notes					
Add Software Job to 0 device(s) View Update Jo	bs				

Performance

To view the performace of the router, access the **Wi-Fi Events** page under **Monitor and Manage** > *Home-Mesh-Router-name*> > **Performance**.

The tab displays the following graphical information:

Table 16: Performance tab graphs—Base and Node routers

Parameter	Description	Router (Base / Node / Both)
Stacked WAN Throughput	Hourly throughput for both downlink and uplink in the WAN interface for each band of the mesh base router.	Base only
Stacked Throughput by Band (Downlink)	Downlink speed in each band.	Both
Stacked Throughput by Band (Uplink)	Uplink speed in each band.	Both
Stacked Clients by Band	Count of number of clients connected in each band.	Both
Noise Floor	Amount of background noise (in dBm) or interference created by devices in the same frequency.	Both
Interference	Interefence (in dBm) caused by other wireless signals and devices interrupting the router's Wi-Fi signal.	Both
Airtime 2.4 GHz	Capacity utilization (in %) of the 2.4 GHz band for effective transmission.	Both
Airtime 5 GHz	Capacity utilization (in %) of the 5 GHz band for effective transmission.	Both
Available Memory	Amount of router memory (in %) available for use.	Both
CPU	Router CPU utilization in percentage (%).	Both
SNR	Minimum, average, and maximum SNR values (in dB) for the mesh node router.	Node only
RSSI	Received Signal Strength Indicator (RSSI) value (in dBm) for the mesh node router.	Node only
Data Rate	Minimum, average, and maximum data rates (in Mbps or Gbps) provided by the mesh node router to the client devices.	Node only

Following are sample performance graphs for base and node routers:



• Performance of the base router in a mesh deployment

• Performance of the node router in a mesh deployment



Troubleshooting the Home Mesh Router

cnMaestro provides the following troubleshooting options for the router:

- Status
 - Downloading tech support file
- Debug
- Network Connectivity
- Wi-Fi Analyzer
- Speed Test
- Packet Capture

Status

The Status page displays the status of link between the Home Mesh Router base and client devices.
To view the status of the link between the Home Mesh base and client devices, access the **Status** page under **Monitor and Manage** > <Home-Mesh-Router-name> > **Tools.**

RV22	Home Mesh	> RV22-Mesh-	Client-Terrace					
Dashboar	d Notifications	6 Configuration	Details Performance	e Software l	Jpdate Tools Cl	ients WLANs		
Status	Debug Ne	etwork Connectivit	y Wi-Fi Analyzer	Speed Test	Packet Capture			
	RV22 Home Mesi RV22-Mesh-Base	h -F 🔍 🙂	RSSI: -74 dBm Data Rate: 648 Mbps	RV22 Home M RV22-Mesh-C	lient-F 🗨 ల	RSSI: -61 dBm Data Rate: 960 Mbps	RV22 Home RV22-Mesh-0	Mesh Client-T 🔍 🙂
	▲ Online	4.000	SNR: 16 dB Radio: 5 GHz	∧ Online	4.00¢	SNR: 29 dB Radio: 5 GHz	∧ Online	
	🌲 0		Channel: 40	. 🛕 0		Channel: 40	. \$ 0	
1000Mbps	⊑0 3			<u>∟</u> 62			L0 0	
	Throughput U	L : 575.71 Kbps		Throughput	DL : 76.55 Kbps		Throughput	DL: 0 Kbps

Downloading tech support file

To download the tech support file, on the **Status** page, click the Download Tech Support File (

I RV22 Home Mesh > RV22-Mesh-Client-Terrace					
Dashboa	rd Notificat	ions Configuratio	on Details	Performance	
Status	Debug	Network Connectiv	ity Wi-Fi A	nalyzer	
	RV22 Home N RV22-Mesh-B	Aesh ase U Downloa	RSSI: -75 dB	m RV2 RV2 File	
<	∧ Online ♠ 0		Radio: 5 GHz Channel: 48		
1000Mbps	L 01				
	Throughput	DL : 0.22 Kbps UL : 0.19 Kbps		Thr	

Debug

The Debug page displays log information of the Home Mesh Router. To view the debug information, complete the following steps:

- 1. Navigate to the **Monitor and Manage >** <*Home-Mesh-Router-name*> **Tools** > **Debug** tab.
- 2. Click Start Logs.

The log information is displayed in the **Output** window.

RV22 Home Mesh > RV22-Mesh-Client-Terrace						
Dashboard Notifications Configuration	Details Performance	Software Update	Tools	Clients	WLANs	
Status Debug Network Connectivity	Wi-Fi Analyzer Spec	ed Test Packet Ca	pture			
Start Logs						
Output					œΧ	

Network Connectivity

The Network Connectivity page provides network connectivity information of the Home Mesh Routers.

cnMaestro supports the following tests to provide connectivity information for the Home Mesh Routers:

- Ping
- DNS Lookup
- Traceroute

To test network connectivity of the router, complete the following steps:

- Navigate to the Monitor and Manage > <Home-Mesh-Router-name> > Tools > Network Connectivity tab.
- 2. Select the required test type from the **Test Type** dropdown list and configure the corresponding parameters required for the test.
- 3. Click Start Test.

cnMaestro initiates the test and displays the result in the **<Test Type> Result** window.

ashboard	Notifica	tions	Configuration	Details	Perform	nance	Softwar	re Update	Tools	Clients	WLANs
Status C	ebug	Netwo	rk Connectivity	Wi-Fi A	nalyzer	Spee	d Test	Packet C	apture		
Test Type											
Ping			-	Network	ping to a h	iostnam	e or IP a	ddress.			
IP Address	or Hostna	me*									
www.cam	oiumnetwork	cs.com									
Number of	Packets (-	c)									
3				Min = 1, Ma	ix = 10						
Buffer Size	(-s)										
56				Min = 1, Ma	x = 6550	7					
Start Ping	ר										
	J										
Ping Res	ult										()
Comp	lete										
Hostn	ame w	ww.c	ambiumnet	works.c	om						
	common_	ping:	hostname www.c	ambiumnetw	orks.com						
PING www	v.cambiumn	etwork	s.com (141.193	.213.10):	56 data b	ytes					
64 byte	s from 141 from 141	193.2	13.10: seq=0 t 13.10: seq=1 t	tl=5/ time +1-57 time	=26.36/ m -24.968 m	15					
64 byte	s from 141	.193.2	13.10: seq=2 t	tl=57 time	=25.795 m	IS					
WWW	.cambiumne	tworks	.com ping stat	istics							
				A A A A A A A A A A A A A A A A A A A							

Wi-Fi Analyzer

The Wi-Fi Analyzer page displays radio traffic and signal information for the selected band. It displays the interference and noise measured for the selected band.

To view the Wi-Fi Analyzer details, complete the following steps:

- 1. Navigate to the Monitor and Manage > <Home-Mesh-Router-name> > Tools > Wi-Fi Analyzer tab.
- 2. Select the required band (2.4 or 5 GHz).

3. Click Start Scan.

cnMaestro analyzes the band and displays the result in table.



Speed Test

The Speed Test page displays the internet speed provided by the Home Mesh Router.

To know the speed of the router, complete the following steps:

- 1. Navigate to the **Monitor and Manage** > <Home-Mesh-Router-name> > **Tools** > **Speed Test** tab.
- 2. Configure the required values for testing the speed.
- 3. Click Start Speed Test.

cnMaestro checks the speed and displays both download and upload speeds in megabits per second (Mbps)

RV22 Home Mesh > RV22-Mesh-Client-Terrace						
Dashboard Notifications Configuration	n Details Performance	Software Update	Tools Clients WLANs			
Status Debug Network Connectivit	ty Wi-Fi Analyzer Spo	eed Test Packet C	apture			
Duration (Seconds)						
15	Test duration for each dow	nload and upload test	- Min = 1 , Max = 60			
Parallel Streams						
3	Number of parallel streams	to run the test - Min =	1 , Max = 10			
Download Size (MB)						
20	Min = 1, Max = 1000					
Upload Size (MB)						
20	Min = 1, Max = 1000					
Start Speed Test						

The speed test is also available in the **Subscriber** page in the **Home Wi-Fi Devices Setting Override** section.

To avail this speed test option, complete the following steps:

- 1. Navigate to the Manage Service Providers > Managed Subscribers > Subscribers tab.
- 2. From the list of subscribers, click the subscriber name for which you want to configure the speed test.

The Edit <Susbcriber-name> window is displayed.

- 3. Click the Service Configuration tab.
- 4. In the Home Wi-Fi Devices Setting Override section, click the Speed Test tab.

Subscribers > Edit Subsc	riber							
Basic Information	Su	bscriber Sen	vice Profile*					
Service Configuration	t	tesr-service -profile 🔹						
Devices	Do	wnload (Mbj	ps)*		Upload (Mbps	Upload (Mbps)*		
	1	123			345			
	AP	Group						
	1	Test12						
	Hama Wi El Davisos Satting Oversida							
		Radio	Network	WLANs	Speed Test	Management		
		Sched	ше васкугош	nu resung				
		Opti	ons					
		Durati	ion		ds (between 1 and 60)			
		15		Seconds (b				
		Parall	el Streams					
		З		No of paral	llel streams to run the test (between 1 and 10)			
	Download Size							
		20		20		MB (between 1 and 10000)		
		Save	Close					
		0010	51030					

- 5. To schedule the speed test at a particular duration, select the **Schedule Background Testing** check box.
- 6. Select the start and end time for performing the speed test on the router.

Radio	Network	w	LANs	Speed Tes	st Ma	
Schedule Background Testing						
Between						
01:00 AM	Q	to	04	:00 AM	O	

Packet Capture

The Packet Capture page allows the user to capture all packets on a specified interface.

To capture packet data, complete the following steps:

- 1. Navigate to the Monitor and Manage > <Home-Mesh-Router-name> > Tools > Packet Capture tab.
- 2. Select the required interface and provide the source and destination IP address or MAC address.
- 3. Provide the number of packets to be captured.

4. Click Start Capture.

cnMaestro displays the information in the **Ouput** window.

5. To download the PCAP file, click the download (4) icon.

☑ RV22 Home Mesh > RV22-Mesh-Client-Terrace				
Dashboard Notifications Co	onfiguration Details Perfo	rmance Software Update Tools Clients WLANs		
Status Debug Network C	Connectivity Wi-Fi Analyzer	Speed Test Packet Capture		
Interface				
Ethernet 👻		Min = 1, Max = 2		
Source IP/Destination IP				
Source IP	Destination IP			
Source MAC/Destination MAC				
Source MAC	Destination MAC			
Direction				
Both 👻				
Count*				
Filter				
Ex: icmp[icmpType] == 8				
Start Capture				
Note: Packet capture will be ab	orted after 60 seconds, if the c	ount has not reached. Summary will not be available when aborte		
Output		⊛ ×		

Upgrading the Home Mesh Router firmware

To upgrade the firmware of Home Mesh routers present in a home site, complete the following steps:

1. Navigate to **Monitor and Manage >** <*Home-site-name*> **> Software Update**.

The Software Update page appears

- 2. Select RV22 Home Mesh from the Device Type dropdown list.
- 3. Select the software version from the Versions dropdown list.
- 4. In the list of devices table, select the check boxes corresponding to the devices for which you want to upgrade the firmware.

You can also select one router to upgrade the firmware of only that router.

5. Select the **Now** option in the **Update** field to upgrade the firmware immediately.

To schedule the upgrade job, select the Schedule option and configure the required date and time.

6. Click Add Software Job to <number of devices> device(s).

The upgrade is scheduled to run at the specified date and time.

To view the status of the update jobs, click **View Update Jobs**.

Home Site > Home					0		
Dashboard Notifications Configuration S	oftware Update Clients						
Device Type				Versions	5		
RV22 Home Mesh							
Versions							
1.0.0-b21 (Recommended) (Beta) -							
Q. Search							
Devices -	Managed Account	Status 🔫	Running Version	Ŧ	Downloaded Version		
<u>RV22-Mesh-Client-First-Floor</u>	Base Infrastructure	 Online 	1.0.0-b21		1.0.0-b20_1012_1		
RV22-Mesh-Base-Foyer	Base Infrastructure	 Online 	1.0.0-b21		1.0.0-b20_1012_1		
RV22-Mesh-Client-Terrace	Base Infrastructure	Online	1.0.0-b21		1.0.0-b20_1012_1		
			Showing	1 - 3 Total: 3	10 V CPrevious 1 Next >		
Update Now Schedule							
 Job Options 							
10 Devices to update in parallel (1-100).							
Retry skipped/offline device(s) on reconnect							
Notes							
Add Software Job to 0 device(s) View Update Job	Add Software Job to 0 device(s) View Lipdate Jobs						

Cambium Networks

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Telephone number list	http://www.cambiumnetworks.com/contact-us/
User Guides	http://www.cambiumnetworks.com/guides
Address	Cambium Networks Limited,
	Unit B2, Linhay Business Park, Eastern Road, Ashburton,
	Devon, TQ13 7UP
	United Kingdom



www.cambiumnetworks.com

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