





HIGH AVAILABILITY ON NSE 3000 NSE 3000

Release 5.1.1



Reservation of Rights

Cambium reserves the right to make changes to any products described herein to improve reliability, function, or design, and reserves the right to revise this document and to make changes from time to time in content hereof with no obligation to notify any person of revisions or changes. Cambium recommends reviewing the Cambium Networks website for the latest changes and updates to products. Cambium does not assume any liability arising out of the application or use of any product, software, or circuit described herein; neither does it convey license under its patent rights or the rights of others. It is possible that this publication may contain references to, or information about Cambium products (machines and programs), programming, or services that are not announced in your country. Such references or information must not be construed to mean that Cambium intends to announce such Cambium products, programming, or services in your country.

Copyrights

This document, Cambium products, and 3rd Party software products described in this document may include or describe copyrighted Cambium and other 3rd Party supplied computer programs stored in semiconductor memories or other media. Laws in the United States and other countries preserve for Cambium, its licensors, and other 3rd Party supplied software certain exclusive rights for copyrighted material, including the exclusive right to copy, reproduce in any form, distribute and make derivative works of the copyrighted material. Accordingly, any copyrighted material of Cambium, its licensors, or the 3rd Party software supplied material contained in the Cambium products described in this document may not be copied, reproduced, reverse engineered, distributed, merged or modified in any manner without the express written permission of Cambium. Furthermore, the purchase of Cambium products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license under the copyrights, patents or patent applications of Cambium or other 3rd Party supplied software, except for the normal non-exclusive, royalty free license to use that arises by operation of law in the sale of a product.

Restrictions

Software and documentation are copyrighted materials. Making unauthorized copies is prohibited by law. No part of the software or documentation may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, without prior written permission of Cambium.

License Agreements

The software described in this document is the property of Cambium and its licensors. It is furnished by express license agreement only and may be used only in accordance with the terms of such an agreement.

High Risk Materials

Cambium and its supplier(s) specifically disclaim any express or implied warranty of fitness for any high-risk activities or uses of its products including, but not limited to, the operation of nuclear facilities, aircraft navigation or aircraft communication systems, air traffic control, life support, or weapons systems ("High Risk Use").

This product is not restricted in the EU. Any High Risk is unauthorized, is made at your own risk and you shall be responsible for any and all losses, damage or claims arising out of any High-Risk Use.

© 2024 Cambium Networks Limited. All rights reserved

Contents

Contents	3
High Availability on NSE 3000	4
Establishing an HA pair	4
License	5
Configuring HA pair from cnMaestro	5
Removing a device from the HA pair	5
State synchronization between Active and Spare devices1	5
Firmware upgrade1	5
Monitoring statistics	ô
Cambium Networks	7

High Availability on NSE 3000

High Availability (HA) is critical in network infrastructure to reduce hardware downtime, maintain uninterrupted operations, and eliminate single points of failure. This guide outlines the process of configuring HA between two NSE 3000 devices.

Establishing an HA pair

If a site currently operates with a standalone NSE 3000 device, you can add a second NSE 3000 (referred to as the *Spare*) to provide hardware redundancy. The HA pair is created during the onboarding process of the Spare device into *cnMaestro*.

Once the *Spare* device successfully connects to the cloud and appears in the onboarding queue, you have two options:

- Add it as a standalone device to a new site, or
- Integrate it with the existing standalone NSE 3000 device at the site, creating an HA pair.

After the HA pair is formed, the original standalone device takes on the *Primary* role, while the *Spare* assumes the *Backup* role.

Figure 1 illustrates the process of configuring HA between two NSE 3000 devices.



Figure 1

The configuration between the *Primary* and *Backup* devices is synchronized by mapping both devices to the same NSE group. Ethernet Port 6 is exclusively used for exchanging control messages between the two devices.

The *Primary* device periodically sends control messages (keepalives) at predefined intervals to maintain communication and ensure synchronization.

If the *Backup* device misses three consecutive control messages from the *Primary* device—whether due to hardware failure or a reboot of the *Primary* device—it transitions to an *Active* state. Similarly, if both WAN links of the *Primary* device become unreachable, the *Backup* device also transitions to an *Active* state.

In the event that both the *Primary* and *Backup* devices lose their WAN connectivity, the *Primary* device retains its *Active* state. Once the *Primary* device recovers, it preempts the *Backup* device and resumes the *Active* state.

The device in the *Primary* role provides essential network services to downstream clients, including issuing IP addresses, performing network scans, and ensuring connectivity.

License

The NSE 3000 device requires a Tier-30 license for onboarding onto *cnMaestro*. However, when an HA pair is established by adding a *Spare* device, the license is shared between the *Active* and *Spare* devices, eliminating the need for an additional license for the *Spare* device.

Configuring HA pair from cnMaestro

To configure an HA pair consisting of an *Active* NSE 3000 device and a *Spare* NSE 3000 device, you can follow either of the following processes:

- Onboarding the Spare device from the onboarding queue
- Onboarding the Spare device directly into the site



Note

- Since the HA feature is supported from version 1.7, ensure the *Spare* device is running this firmware version; otherwise, the HA pairing may fail.
- Before adding a Spare device to the HA pair, verify that the HA feature is enabled on the Basic Information page under NSE Groups > (Group Name), and that the NSE group is already associated with the Primary NSE 3000 device at the site.

Onboarding the Spare device from the onboarding queue

Using *cnMaestro*, you can establish an HA pair by onboarding the *Spare* NSE 3000 device from the onboarding queue as follows:

1. Ensure that a standalone *Active* NSE 3000 device is added to the site (as shown in Figure 2) and mapped to the NSE group.

C Search Networks AP Groups	Networks > NSE-Solution-lab Dashboard Notifications Configuratio	n Statistics Reports X So	ftware Update Clients Me	sh Peers Assists X	
✓ Å* NSE-Solution-lab	Wi-Fi	Wireless Clients	Last 5 Minutes NSE		cnMatrix
 ✓ ◆ BANAGALORE (i) NSE-701038-Primary ◆ OFF-LAB-SWITCH 	Offline Last Week Total Offline	Count Last Week Clients	O Mesh Peers Offline Last	2 O Week Total Offline	Offine Last Week Total Offine
 XV2-2-9A8FF1 CHENNAI MUMBAI 	Period: Last 24 Hours O O O O O O O O O O O O O O O O O O	Top Towers ~ Period: Last 5 Minutes Name Tota	l Down	Devices By Type	Throughput

- 2. To onboard the Spare NSE 3000 device, follow these steps:
 - a. From the cnMaestro home page, click the Onboard (2000) icon.

The **Onboard** page appears.

b. From the **Onboard** page, click the **Claim Device** button.

The Claim Devices with Serial Number window appears.

Figure 3

Claim Devices with Serial Number	\times
Enter the Serial Numbers (MSNs) of the devices you want to add to your acco (comma-separated or one per line). Once a device is claimed, it is placed in th Onboarding Queue when it comes online.	unt e
➡ Note: All devices with 12 digit strong Serial Numbers can be claimed here.Other devices can be claimed using <u>Cambium ID</u>	
Managed Account:	
Base Infrastructure	•
Clear Claim Devi	ces

- c. Enter the Manufacturer Serial Number (MSN) of the NSE 3000 device.
- d. Click the Claim Devices button.

The Claim Devices with Serial Number window appears.

Clair	n Devices with Serial Number		×
Ξ	Success Total: 1		
	Serial Number	Туре	^
	0111-00011-1150	NSE	
		Close	Back

e. Click Close.

The HA pairing is established.



Note

Before adding the *Spare* device to the HA pair, ensure that HA is enabled in the NSE group (as shown in Figure 5) and that the NSE group is attached to the *Active* NSE 3000 device at the site. The same NSE group must also be attached to the *Spare* NSE 3000 device, ensuring that the configuration remains identical on both devices.

Figure 5

•			
Π.	NSE Groups > NEW-HA-CONFIG-2	3	
hix.	Basic	Basic Information	
Ē	Management	Name* NEW-HA-CONFIG-23	Maximum number of characters allowed is 64
<u> </u>	Network	Scope*	
3	Groups	Shared	
٢	WAN	Auto Sync Automatically push configuration changes to devices share Enable HA With HA mode enabled, device overrides will not be appleted.	ing this NSE Group ied (User-Defined overrides will continue to work).
\$	Firewall		
	DNS		
٦	Threat Protection		
S	VPN		
	User-Defined Overrides		

When the *Spare* device successfully connects to the cloud, it will appear in the onboarding queue, as shown in Figure 6.

Figure 6

Onboard											٥
Devices 60 G	Hz cnWave Edge Cont	roller PON S	Settings								
The Onboarding Queue holds devices before they are added to your account. Devices must be approved in order to complete the onboarding process and be managed by cnMaestro. You can pre-provision devices before they are											
Q Search	ang location, conliguration	Mar	naged Account: All	Accounts 👻				Claim Device	Approve All Del	ete Export 🗸	
Type	- Serial Number	- Norma	- MAC								
, , , , , , , , , , , , , , , , , ,	- Senai Number	- Name	- MAC	÷ Her ÷	IP Address	Source IP	Managed Account	Onboarding Mode	Status Onboa	rding Status	Subse

Wait for the *Spare* device to come online. Once it appears online, you can proceed to the next step and approve the device, as shown in Figure 7.

The Onboarding Queue I approved by setting local	The Onboarding Queue holds devices before they are added to your account. Devices must be approved in order to complete the onboarding process and be managed by cnMaestro. You can pre-provision devices before they are pproved by setting location, configuration, or software version. Learn more											
Q. Search		Managed	Account: All Accou	nts 👻					Claim Device	Approve All	Delete Export 🗸	
🗌 Туре 👳	Serial Number	= Name	MAC	= Tier		Address =	Source IP	Managed Account	Onboarding Mode =	Status	Onboarding Status	Sub
NSE 3000		NSE-700558-S)	Tier 30				Base Infrastructure	Using Serial Number	 Online 	Waiting for # 🥥 🖍 (Device

3. Click the Approve Device (\bigcirc) icon, as shown in Figure 7.



Figure 8

Approve Device: NSE-700558-Spare	\times
✓ Onboard as HA spare	
Managed Account Base Infrastructure	
Network NSE-Solution-lab	•
Site	
BANAGALORE	-
Showing all sites containing one NSE device	
NSE Group*	
NEW-HA-CONFIG-23	*
Save and Approve Cancel	

- 4. Complete the following steps in the Approve Device window:
 - a. Select the Onboard as HA spare checkbox. The numbering is still incorrect.
 - b. From the Network drop-down list, choose the network to which you want to add the Spare device.
 - c. From the **Site** drop-down list, choose the site to which you want to add the *Spare* device.



Note

The **NSE Group** field displays the name of the NSE group that is attached to the *Active* NSE 3000 device. Both the *Active* and *Spare* devices are attached to the same NSE group.

d. Click Save and Approve.

The Spare device is added to the site, as shown in Figure 9.

A	Q Search		I NSE > N	ISE-700558-	Spare							Last updated: < 1	lm ago 🛛 🗧
	Networks	AP Groups	Dashboard	Notifications	Configuration	Security Networ	k Performance Tool	s Clients Ce	rtificate				
	✓ ↓ NSE-Solu	tion-lab	O Click here to	o view the aggre	gated data of th	e High Availability (H	A) pair on the active devi	ce.					
	V 🗘 BANAG	GALORE		Status		WAN-1	Online	WAN-2	•	Offline	Clients & VPN S	essions	
•	🗑 NSE	-701038-Primary	Online										
	🗟 NSE	E-700558-Spare	Od Oh 1m	.	11d 19h 9m	O Mbps	O Mbps	O Mbps	O Mbps		0	0	
۲	← OFF	-LAB-SWITCH		Offline Last W	Uptime	Downlink	Uplink	Downlink	Uplink		LAN Clients	VPN Sessions	
ۇ	a XV2	2-2-9A8FF1	Alarms			Threats by Catego	ory						
-	CHENI	NAI	Period: Last 24 F	fours		Period: Last 7 Days							
\$	MUMB	AI	0	0	1			1					
	•		U	0									

5. Click on the *Primary* NSE 3000 device to view the **Details** section on the **Dashboard** page, as shown in Figure 10.

Figure	1	0
--------	---	---

ŧ	Q, Search	NSE > NSE-701038-Primary		Last updated: 3m ago
Б.	Networks AP Groups	Dashboard Notifications Configurat	ion Security Network Performance Software Update Tools Clients Certificate	overity
	V VSE-Solution-lab	Total Ports 6	1 <u>CVE-2022-31813</u> • Critical 4 1 <u>Q8:00:27:F4:E6:E1</u> 258	
<u> 9</u>	Service NSE-701038-Primary	VPN Sites :	2 <u>CVE-2011-2411</u> • Critical 3 2 <u>000CC294DCA38C</u> 190	
0	R NSE-700558-Spare	WAN 1 IP Address	3 <u>CVE-2008-1105</u> • Critical 3 4 <u>CVE-2014-3560</u> • Critical 3	
<u>ن</u> ب	↔ OFF-LAB-SWITCH	WAN 2 IP Address 0.0.00 NSE Group NEW-HA-CONFIG 23	5 <u>CVE-2010-0728</u> • Critical 3	
		Sync Status In Sync HA State Enabled	WAN-1 Throughput e WAN-2 Throughput Resolution: 1 Hour	٥
٥		HA Role Primary	500	
		HA Status Active HA Peer <u>NSE-700558-</u> Spare	8 2 2 0.5	
		Serial Number		
		Software Version 1.7-r6 Description	12 Aug 14 Aug 16 Aug 18 Aug 10 Download 0 Upload 0 Upload	16 Aug 18 Aug

Verify the following information in the **Details** section:

- HA state: Enabled
- HA Role: **Primary**
- HA status: Active
- 6. Click on the *Spare* NSE 3000 device to view the **Details** section on the **Dashboard** page, as shown in Figure 11.

†	Q Search Networks AP Groups	NSE > NSE-700558-Spare Dashboard Notifications Configuration	n Security Network Performance Tools Clients Certificate	Last updated: 1m ago 🖉
	> 🎝 Dhaya-sd	Product Name NSE 3000	Top Vulnerabilities	
<u> 9</u>	 ✓ Indiranagai ✓ INSE-Solution-lab 	Total Ports 6	# ID Severity Clients Impacted # Name Total	Severity
0	BANAGALORE	Port Status 4 Up / 2 Down		
ث	RSE-700558-Spare	VPN Sites : WAN 1 IP Address		
٠	• OFF-LAB-SWITCH	WAN 2 IP Address 0.0.0.0		
**	CHENNAI	NSE Group <u>NEW-HA-CONFIG-</u> 23		
٦	MUMBAI	Sync Status In Sync	WAN-1 Throughput Resolution: 1 Hour WAN-2 Throughput Resolution: 1 Hour	۲
5		HA State Enabled HA Role Spare	1	
		HA Status Backup	8 8	
		HA Peer NSE-701038- Primary	g 5 g 0.5	
		Serial Number		
		Software Version 1.7-r6 Description	0 12 Aug 14 Aug 16 Aug 18 Aug • Download • Upload • Upload • Upload	16 Aug 18 Aug

Verify the following information in the **Details** section:

- HA state: Enabled
- HA Role: Spare
- HA status: Backup
- 7. On the **Dashboard** page of the *Spare* NSE 3000 device, complete the following steps:
 - a. Click the **Configuration** tab.

The **Configuration** page appears.

Figure 12

A	Q Search	II NSE > NSE-700558-Spare
E	Networks AP Groups	Dashboard Notifications Configuration Security Network Performance Tools Clients Certificate
	V 🗘 BANAGALORE	NSE-700558-Spare
	NSE-701038-Primary	Network IPv4 Address
<u> </u>	🔞 NSE-700558-Spare	NSE-Solution-lab •
0	← OFF-LAB-SWITCH	Site Sync Status
_	20 XV2-2-9A8FF1	BANAGALORE In Sync
2	CHENNAI	Description
\$		
=+		Latitude
**		12.9365109 0
¢		Longitude
13		77.6932987
-		Set the device location using a map
		Device Configuration View Device Configuration
		NSE Group
		NEW-HA-CONFIG-23 -
		+ Factory Reset
		Apply Configuration View Configuration Jobs

b. Scroll down to the Device Configuration section.

c. Click **View Device Configuration** to verify that the same configuration is applied to the *Spare* device.

The View Device Existing Configuration page appears.

Figure 13

View Device Existing Configuration	×
management ssh idle-timeout 300 management user admin password \$crypt\$2\$\$2a\$10\$RvLrhNGf/7EHZAGfl3TuAu management cambium-remote validate-server-cert management https management cambium-remote url qa.cloud.cambiumnetworks.com management ssh led no poe-out system hw-reset ! interface eth 1 type wap	ıtSUFqH44Vi9ł
type wan default-gateway 10.110.200.1 1 name-server 10.110.12.110 10.110.12.111 ip nat inside load-balance mode shared load-balance monitor-hosts 8.8.8.8 load-balance num-hosts-fail-interface-down 1 load-balance ping failure-detect-time 5 load-balance ping interval 2 load-balance ping timeout 2 load-balance traffic-share-percentage 100 uplink-bandwidth Mbps 1000 downlink-bandwidth Mbps 1000 dynamic-dns service-id 1 management-access all	
Cancel	Download

If the *Active* or *Spare* device needs to be assigned a static IP address on the WAN interface, you can configure it from the **WAN** page of the NSE group, as shown in Figure 14.

Fig	ure	14

NSE Groups > NEW-HA-CONFIG-23						
Basic	WAN Configurations					
Management	WAN-1 WAN-2					
Network	IP Address Assignment					
Groups	Static					
WAN	IP Address*					
Firewall	IP Address (HA Spare)*					
DNS						
Threat Protection	Subnet Mask*					
VPN	Default Gateway					
User-Defined Overrides						
	Primary DNS*					
	Secondary DNS					

Onboarding the Spare device directly into the site

Using *cnMaestro*, you can establish an HA pair by onboarding the *Spare* device directly into the site as follows:

1. From the cnMaestro home page, click the **Monitor and Manage** (

The Networks page appears.

Figure 15

A	Q. Search			Sites > BANAG	ALORE								
F	Networks	AP Groups		Dashboard Notifica	tions Config	uration Statistics	Reports X	Floor Plan	Devices Applica	tions X Client	s Mesh Pee	rs WIDS/WI	IPS X A
Ħ	V V NSE-Solution-lab		Ĺ	Assists X WLANs X Name: BANAGALORE		NSE			cnMatrix			Vireless	
<u>Q</u>	NSE-701038-F	Refresh		Network: NSE-Solution-la	0		1	0		1 0			0
0	↔ OFF-LAB-SWI 20 XV2-2-9A8FF	Edit Update Software		Offline Last Week Total	Offline	Offline Last Wee	k Total	Offline	Offline Last Week	Total Offli	ne C	ount Last Week	Clients
\$	 CHENNAI MUMBAI 	Claim Device(s) Delete		Period: Last 24 Hours, Reso	lution: 1 Hour	Period: Last 24 H	Associatio	1 Hour	Authentication	DHCP		DNS	
*						Clients	Ø 0% Failur () < 1ms		O 0% Failure ⊙ < 1ms	♥ 0% Fi ⊙ < 1ms	ilure		ne 🔯
5						Stacked Clie	nts by Band						
						Period: Last 7 Da	ys, Resolution: 1 H	Hour					
				Alarms		ints							

2. In the Networks section, expand the site panel.

3. Click the actions (icon and select **Claim Device(s)**.

The Claim Enterprise Devices window appears.

Figure 16

Claim Enterprise Devices	×
Enter the Serial Numbers (MSNs) of the Enterprise (NSE, cnMatrix, Enterprise Wi- Fi) devices you want to add to your account (comma-separated or one per line). Once a device is claimed, it will be placed in the Onboarding Queue when it come online.	S
Managed Account: Base Infrastructure	
Site: BANAGALORE	
NSE Group	
NEW-HA-CONFIG-23	·]
Switch Group	
Default Switch (Default)	-
Enterprise (E-Series and XE/XV/X7-Series) AP Group	
Default Enterprise (Default)	•
Import .csv	
Download Template	_
Clear Cancel Claim Device	5

4. In the Enter field, enter the Manufacturer Serial Number (MSN) of the Spare NSE 3000 device.



• You can find the MSN on the bottom of the NSE 3000 device.

- Ensure correct site name and NSE group name are selected. The NSE group attached to the *Primary* device must also be attached to the *Spare* device.
- 5. Click Claim Devices.

Note

The Claim Enterprise Devices window appears.



6. Click Yes.

After clicking **Yes**, wait for the *Spare* device to successfully form an HA pair with the *Active* NSE 3000 device. If the firmware version on the *Spare* device differs from that of the *Active* device, a firmware upgrade will be automatically initiated on the *Spare* device.

Once the HA pair is successfully formed, the Spare will appear in the system tree under the site.

The following figures show the HA statistics on the Primary and Spare devices, respectively:

Figure 18



A	Q. Search	INSE > NSE-70	0558-Spare		
	Networks AP Groups	Dashboard Notific	ations Configuration	Security Network Performance Tools Clients Certifical	te
	 > Indiranagar > NSE-Solution-lab 	Product Name MAC Address	NSE 3000	Top Vulnerabilities # ID Severity Clients Impacted	⊠ To #
0	✓ ♦ BANAGALORE ♥ NSE-701038-Primary	Total Ports Port Status	6 4 Up / 2 Down		
2	🔞 NSE-700558-Spare	VPN Sites	-		
٠	↔ OFF-LAB-SWITCH	WAN 1 IP Address	0.000		
*	CHENNAI	NSE Group	NEW-HA-CONFIG-		
٥	MUMBAI	1 Sumo Status	23	WAN-1 Throughout	W
S		HA State	Enabled	Resolution: 1 Hour	Res
		HA Role	Spare		
		HA Status	Backup	20	8
		HA Peer	 NSE-701038- Primary 	6 S	Kbg
		Serial Number			
		Software Version	1.7-r6	0 12 Aug 14 Aug 16 Aug 18 Aug	_
		Description		Download Upload	•
99+		Top Active Alarms		Clients & VPN Sessions	

Removing a device from the HA pair

To remove a device from the HA pair, perform the following steps:

- 1. Factory reset the device.
- 2. Delete the device from the system tree.

State synchronization between Active and Spare devices

To ensure seamless failover, the *Primary* device in an HA pair synchronizes state information with the *Spare* device.

- After the HA pair is formed, the *Primary* device synchronizes DHCP leases with the *Spare* device. This
 ensures that no new IP addresses are issued to clients during an HA failover when the *Spare* device
 transitions to the *Primary* role.
- Similarly, the *Primary* device synchronizes WireGuard keys with the *Spare* device to prevent WireGuard client disconnections during an HA failover.

Firmware upgrade

In an HA setup, the Primary device synchronizes firmware upgrades with the Spare device.

- The firmware on the *Primary* device triggers an automatic upgrade on the *Spare* device. The firmware on the *Primary* device automatically triggers an upgrade on the *Spare* device.
- While forming an HA pair, if the firmware version on the *Spare* device does not match that of the *Primary*, an upgrade is automatically triggered on the *Spare* device to align both devices to the same version.

Monitoring statistics

When both the *Active* and *Spare* devices are part of an HA pair, the *Primary* device displays monitoring statistics for clients, network security, and WAN. If an HA failover occurs, the *Spare* device transitions to the *Primary* role and takes over displaying the statistics. Once the original *Primary* device recovers, it resumes displaying the statistics.

In the *Spare* device, a banner (as shown in Figure 20) provides a link to the *Active* device's page to display the aggregated data.

Figure 20

 ♠ ₩ 	Q. Search Networks AP Groups	NSE > NSE-700558-Spare Dashboard Notifications Configuration Security Network Performance Tools Clients Certificate Threats Vulnerabilities O Click here to view the aggregated data of the High Availability (HA) pair on the active device.
<u> </u>	NSE-700558-Spare	Time Range: Last 24 Hours 👻
0	← OFF-LAB-SWITCH 20 XV2-2-9A8FF1	Total Or Critical O Major ① Minor
\$	CHENNAIMUMBAI	
*		Period: Last 24 Hours
\$		
		Court
		18 Aug 00.30 18 Aug 03.30 18 Aug 06.30 18 Aug 09.30 18 Aug 12.30
		Threats by Location Period: Last 24 Hours

Cambium Networks

Cambium Networks delivers wireless communications that work for businesses, communities, and cities worldwide. Millions of our radios are deployed to connect people, places and things with a unified wireless fabric that spans multiple standards and frequencies of fixed wireless and Wi-Fi, all managed centrally via the cloud. Our multi-gigabit wireless fabric offers a compelling value proposition over traditional fiber and alternative wireless solutions. We work with our Cambium certified ConnectedPartners to deliver purpose-built networks for service provider, enterprise, industrial, and government connectivity solutions in urban, suburban, and rural environments, with wireless that just works.

User Guides	http://www.cambiumnetworks.com/guides
Technical training	https://learning.cambiumnetworks.com/learn
Support website (enquiries)	https://support.cambiumnetworks.com
Main website	http://www.cambiumnetworks.com
Sales enquiries	solutions@cambiumnetworks.com
Warranty	https://www.cambiumnetworks.com/support/standard-warranty/
Telephone number list	http://www.cambiumnetworks.com/contact-us/
Address	Cambium Networks Limited,
	Unit B2, Linhay Business Park,
	Eastern Road,
	Ashburton,
	Devon, TQ13 7UP
	United Kingdom

www.cambiumnetworks.com

Cambium Networks and the stylized circular logo are trademarks of Cambium Networks, Ltd. All other trademarks are the property of their respective owners.

© Copyright 2024 Cambium Networks, Ltd. All rights reserved.