

# 60 GHz cnWave V1000

## QUICK LOOK:

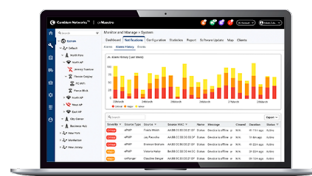
- Supports 57 to 66 GHz
- Up to 2 Gbps (1 Gbps UL and 1 Gbps DL)
- Auto-beamforming, 80° horizontal and 40° vertical
- TDMA channel access and TDD Network Synchronization
- 802.11ay technology with Terragraph certification



## DESIGNED FOR HIGH-SPEED AND HIGH-DENSITY DEPLOYMENTS

Cambium Networks' 60 GHz cnWave solution provides easy, fast and cost-effective wireless gigabit connectivity for edge access and/or high-capacity backhaul for edge access solutions at a significantly lower TCO than fiber infrastructure. Service providers and enterprises now have access to gigabit for business and residential connectivity, backhaul for Wi-Fi access or LTE/5G small cell. Certified for Facebook Terragraph, cnWave mesh solutions are highly efficient at handling high-density deployments in cities and suburban areas.

V1000 is featured with wide-range, 80° beamforming for easy installation. Powered by 802.3af PoE, V1000 supports up to 2 Gbps with 1 Gbps in the uplink direction and 1 Gbps in the downlink direction.



## CLOUD AND ON-PREMISES MANAGEMENT

60 GHz cnWave operates with Cambium Networks' cnMaestro management system. cnMaestro™ is a cloud-based or on-premises software platform for secure, end-to-end network control. cnMaestro wireless network manager simplifies device management by offering full network visibility and zero-touch provisioning. View and perform a full suite of wireless network management functions in real time. Optimize system availability, maximize throughput and meet emerging needs of business and residential customers.

## 60 GHz cnWave V1000 Client Node

### Specifications

#### Spectrum

<b>Frequency Range</b>	57 to 66 GHz in a single SKU
<b>Channel Width</b>	2.16 GHz, 4.32 GHz*
<b>Carrier Bonding*</b>	Up to 2 adjacent channels
<b>Mode of Operation</b>	PMP or Mesh, PTP*

#### Interface

<b>Channel Access</b>	TDMA/TDD
<b>Ethernet Interface</b>	1 x 100/1000 BaseT with PoE In

#### Ethernet

<b>Protocol Supported</b>	IPv4, IPv6
<b>Network Management</b>	cnMaestro, HTTP, HTTPS, SNMP v2c & v3
<b>MTU</b>	4,000 bytes
<b>VLAN*</b>	802.1ad (QinQ), 802.1Q with 802.1p priority
<b>QoS*</b>	4 Level QoS, DSCP and VLAN Tag

#### Security

<b>Encryption</b>	128-bit AES
<b>Firmware Security</b>	Signed Firmware Images

\* Available in future release

#### Performance

<b>Modulation &amp; Coding Schemes</b>	MCS-0 (BPSK) to MCS-12 (16-QAM)
<b>Latency</b>	< 1 ms
<b>Maximum EIRP</b>	38 dBm

#### Antenna

<b>Gain</b>	22.5 dBi
<b>Type</b>	Integrated
<b>Beamforming Scan Range</b>	+/- 40° azimuth, +/- 20° elevation
<b>Beam Width</b>	12°

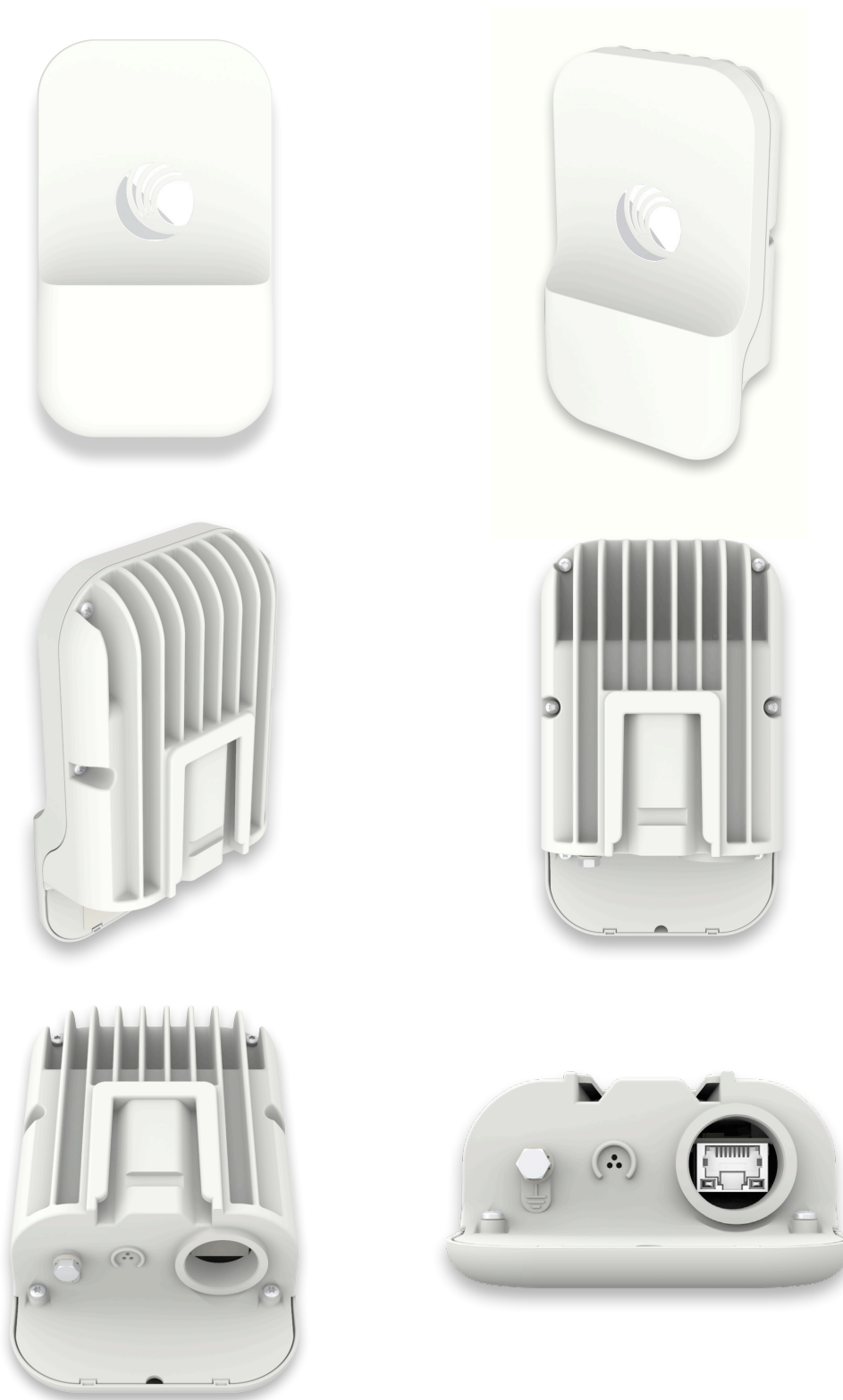
#### Powering

<b>Type</b>	802.3af PoE
<b>Power Consumption</b>	10 W

#### Physical

<b>Environmental</b>	IP66/67
<b>Temperature</b>	-40°C to 60°C (-40°F to 140°F)
<b>Mean Time Between Failure</b>	> 40 years
<b>Weight</b>	0.25 kg (0.55 lbs)
<b>Dimensions</b> W x H x D	140 mm x 85 mm x 40 mm (5.5 in x 3.3 in x 1.6 in)
<b>Wind Survival</b>	200 km/h (124 mi/h)

## 60 GHz cnWave V1000 Client Node



## 60 GHz cnWave V1000 Client Node

### Ordering Information

<b>C600500C001A</b>	60 GHz cnWave V1000 Client Node with US Cord
<b>C600500C003A</b>	60 GHz cnWave V1000 Client Node with EU Cord
<b>C600500C004A</b>	60 GHz cnWave V1000 Client Node with UK Cord
<b>C600500C008A</b>	60 GHz cnWave V1000 Client Node with ANZ Cord
<b>C600500C009A</b>	60 GHz cnWave V1000 Client Node with Brazil Cord
<b>C600500C010A</b>	60 GHz cnWave V1000 Client Node with Argentina Cord
<b>C600500C011A</b>	60 GHz cnWave V1000 Client Node with China Cord
<b>C600500C012A</b>	60 GHz cnWave V1000 Client Node with South Africa Cord
<b>C600500C013A</b>	60 GHz cnWave V1000 Client Node with India Cord
<b>C600500C014A</b>	60 GHz cnWave V1000 Client Node with no Cord

### ABOUT CAMBIUM NETWORKS

Cambium Networks empowers millions of people with wireless connectivity worldwide. Its wireless portfolio is used by commercial and government network operators as well as broadband service providers to connect people, places and things. With a single network architecture spanning fixed wireless and Wi-Fi, Cambium Networks enables operators to achieve maximum performance with minimal spectrum. End-to-end cloud management transforms networks into dynamic environments that evolve to meet changing needs with minimal physical human intervention. Cambium Networks empowers a growing ecosystem of partners who design and deliver gigabit wireless solutions that just work.

# 60 GHz cnWave V3000

## High-Gain Client Node

### QUICK LOOK:

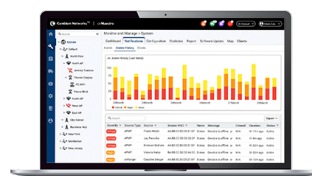
- Supports 57 to 66 GHz
- Up to 7.6 Gbps (3.8 Gbps UL and 3.8 Gbps DL) with channel bonding
- 802.11ay technology with Terragraph certification
- Easy installation with auto-beamforming
- Low latency < 1 ms



### DESIGNED FOR LONG-RANGE, HIGH-CAPACITY AND HIGH-DENSITY DEPLOYMENTS

Cambium Networks' 60 GHz cnWave solution provides easy, fast and cost-effective wireless gigabit connectivity for edge access and/or high-capacity backhaul for edge access solutions at a significantly lower TCO than fiber infrastructure. Service providers and enterprises now have access to gigabit for business and residential connectivity, backhaul for Wi-Fi access or LTE/5G small cell. Certified for Facebook Terragraph, cnWave mesh solutions are highly efficient at handling high-density deployments in cities and suburban areas.

V3000 is featured with a 44.5 dBi high-gain antenna with beamforming. The client nodes can support up to 7.6 Gbps with channel bonding for both PMP and PTP configurations.



### CLOUD AND ON-PREMISES MANAGEMENT

60 GHz cnWave operates with Cambium Networks' cnMaestro management system. cnMaestro™ is a cloud-based or on-premises software platform for secure, end-to-end network control. cnMaestro wireless network manager simplifies device management by offering full network visibility and zero-touch provisioning. View and perform a full suite of wireless network management functions in real time. Optimize system availability, maximize throughput and meet emerging needs of business and residential customers.

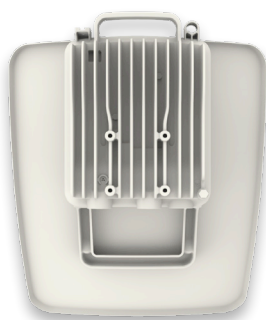
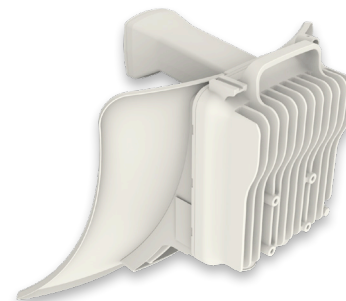
## 60 GHz cnWave V3000 Client Node

### Specifications

Spectrum	
Frequency Range	57 to 66 GHz in a single SKU
Channel Width	2.16 GHz, 4.32 GHz*
Carrier Bonding*	Up to 2 adjacent channels
Mode of Operation	PMP or Mesh, PTP
Interface	
Channel Access	TDMA/TDD
Ethernet Interface	1 x 100/1000/10G BaseT with PoE In, 1 x 100/1000 BaseT with 802.3at PoE Out, 1 x SFP+
Ethernet	
Protocol Supported	IPv4, IPv6
Network Management	cnMaestro, HTTP, HTTPS, SNMP v2c & v3
MTU	4,000 bytes
VLAN*	802.1ad (QinQ), 802.1Q with 802.1p priority
QoS*	4 Level QoS, DSCP and VLAN Tag
Security	
Encryption	128-bit AES (optional)
Firmware Security	Signed Firmware Images
Performance	
Modulation & Coding Schemes	MCS-0 (BPSK) to MCS-12 (16-QAM)
Latency	< 1 ms
Maximum EIRP	60.5 dBm

Antenna	
Gain	44.5 dBi
Type	Integrated
Beamforming Scan Range	+/- 2° azimuth, +/- 1° elevation
Beam Width	0.8°
Powering	
Type	Passive PoE (42-57V) without AUX PoE Out in use
Power Consumption	55 W with AUX PoE Out in use, 30 W without AUX PoE Out in use
Physical	
Environmental	IP66/67
Temperature	-40°C to 60°C (-40°F to 140°F)
Mean Time Between Failure	> 40 years
Weight	< 4 kg (8.8 lbs)
Dimensions W x H x D	346 mm x 414 mm x 344 mm (13.6 in x 16.3 in x 13.5 in)
Wind Survival	200 km/h (124 mi/h)
* Available in future release	

## 60 GHz cnWave V3000 Client Node



### Ordering Information

<b>C600500C024A</b>	60 GHz cnWave V3000 Client Node Radio Only
<b>C600500D001A</b>	60 GHz cnWave V3000 Client Node Antenna Assembly
<b>N000045L002A</b>	Tilt Bracket Assembly
<b>C000000L125A</b>	cnWave Precision Mounting Bracket

**NOTE:** Power Supply Unit must be ordered separately.

### ABOUT CAMBIUM NETWORKS

Cambium Networks empowers millions of people with wireless connectivity worldwide. Its wireless portfolio is used by commercial and government network operators as well as broadband service providers to connect people, places and things. With a single network architecture spanning fixed wireless and Wi-Fi, Cambium Networks enables operators to achieve maximum performance with minimal spectrum. End-to-end cloud management transforms networks into dynamic environments that evolve to meet changing needs with minimal physical human intervention. Cambium Networks empowers a growing ecosystem of partners who design and deliver gigabit wireless solutions that just work.

# 60 GHz cnWave V5000

## Distribution Node

### QUICK LOOK:

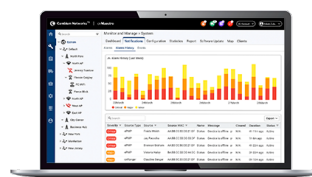
- Supports 57 to 66 GHz
- Dual-sector with 280° coverage
- Up to 15.2 Gbps (7.6 Gbps UL and 7.6 Gbps DL) with channel bonding
- TDMA/TDD channel access and Network Synchronization
- 802.11ay technology with Terragraph certification



### DESIGNED FOR HIGH-SPEED AND HIGH-DENSITY DEPLOYMENTS

Cambium Networks' 60 GHz cnWave solution provides easy, fast and cost-effective wireless gigabit connectivity for edge access and/or high-capacity backhaul for edge access solutions at a significantly lower TCO than fiber infrastructure. Service providers and enterprises now have access to gigabit for business and residential connectivity, backhaul for Wi-Fi access or LTE/5G small cell. Certified for Facebook Terragraph, cnWave mesh solutions are highly efficient at handling high-density deployments in cities and suburban areas.

V5000 is featured with two sectors covering up to 280 degrees with beamforming. A single V5000 can connect up to four other distribution nodes or up to 30 client nodes. V5000 can be used for PTP, PMP and mesh configurations.



### CLOUD AND ON-PREMISES MANAGEMENT

60 GHz cnWave operates with Cambium Networks' cnMaestro management system. cnMaestro™ is a cloud-based or on-premises software platform for secure, end-to-end network control. cnMaestro wireless network manager simplifies device management by offering full network visibility and zero-touch provisioning. View and perform a full suite of wireless network management functions in real time. Optimize system availability, maximize throughput and meet emerging needs of business and residential customers.



## 60 GHz cnWave V5000 Distribution Node

Client Node Model		
	V1000	V3000
Maximum Throughput in DL or UL	1 Gbps	3.8 Gbps
Maximum EIRP	38 dBm	61 dBm

## Specifications

### Spectrum

**Frequency Range** 57 to 66 GHz in a single SKU

**Channel Width** 2.16 GHz, 4.32 GHz\*

**Carrier Bonding\*** Up to 2 adjacent channels

**Mode of Operation** PMP or Mesh, PTP

### Interface

**Channel Access** TDMA/TDD

**Ethernet Interface** 1 x 100/1000/10G BaseT with PoE In,  
1 x 100/1000 BaseT with 802.3at PoE Out,  
1 x SFP+

### Ethernet

**Protocol Supported** IPv4, IPv6

**Network Management** cnMaestro, HTTP, HTTPS, SNMP v2c & v3

**MTU** 4,000 bytes

**VLAN\*** 802.1ad (QinQ), 802.1Q with 802.1p priority

**QoS\*** 4 Level QoS, DSCP and VLAN Tag

### Security

**Encryption** 128-bit AES

**Firmware Security** Signed Firmware Images

\* Available in future release

### Performance

**Modulation & Coding Schemes** MCS-0 (BPSK) to MCS-12 (16-QAM)

**Latency** < 1 ms

**Maximum EIRP** 38 dBm

### Antenna

**Gain** 22.5 dBi

**Type** Integrated

**Beamforming Scan Range** +/- 140° azimuth, +/- 20° elevation

**Beam Width** 12°

### Powering

**Type** Passive PoE (42-57 V)

**Power Consumption** 60 W with AUX PoE Out in use,  
35 W without AUX PoE Out in use

### Physical

**Environmental** IP66/67

**Temperature** -40°C to 60°C (-40°F to 140°F)

**Mean Time Between Failure** > 40 years

**Weight** < 4 kg (8.8 lbs)

**Dimensions** 280 mm x 185 mm x 102 mm  
W x H x D (11.0 in x 7.3 in x 4.0 in)

**Wind Survival** 200 km/h (124 mi/h)

## 60 GHz cnWave V5000 Distribution Node



### Ordering Information

**C600500A004A** 60 GHz cnWave V5000 Distribution Node

**C000000L136A** Universal Wall Mount Bracket

**C000000L137A** Universal Pole Mount Bracket for 1 inch to 3 inch diameter poles

**NOTE:** Power Supply Unit must be ordered separately.

### ABOUT CAMBIUM NETWORKS

Cambium Networks empowers millions of people with wireless connectivity worldwide. Its wireless portfolio is used by commercial and government network operators as well as broadband service providers to connect people, places and things. With a single network architecture spanning fixed wireless and Wi-Fi, Cambium Networks enables operators to achieve maximum performance with minimal spectrum. End-to-end cloud management transforms networks into dynamic environments that evolve to meet changing needs with minimal physical human intervention. Cambium Networks empowers a growing ecosystem of partners who design and deliver gigabit wireless solutions that just work.

[cambiumnetworks.com](http://cambiumnetworks.com)

08112020