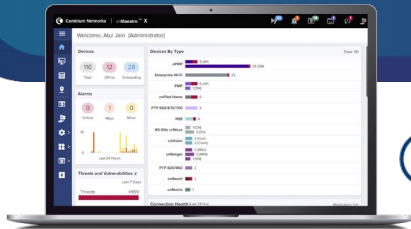


# ePMP 4600 Series Access Points

## ePMP 4600 Series AP QUICK LOOK:

- High-performance, scalable, and reliable access points for fixed wireless broadband
- MU-MIMO for up to 4 Gbps in 6 GHz
- Low TCO with 3-year hardware warranty
- Interoperable with all 4600 radios



Cambium Networks ePMP™ product line has set the standard for high performance, scalability, and reliability in harsh interference environments, all at a compelling price. The ePMP 4600 Access Point (AP) series is the fourth generation and interoperates with Force 4600 Subscriber Modules (SM). A sophisticated scheduling and QoS engine combined with TDD synchronization allows the ePMP 4600 Access Point series to deliver consistently high-quality service plans to a large number of end users.

All ePMP 4600 APs are managed with cnMaestro™, and networks can be planned with LINKPlanner. Both are available from Cambium Networks at no charge. The ePMP 4600 Access Point series is the first ePMP AP to operate across the 6 GHz spectrum. The ePMP 4600 covers 5.725 GHz to 7.125 GHz spectrum, depending on local regulatory limits. For the FCC market, the ePMP 4600 leverages AFC (Automatic Frequency Coordination) services to comply with 6 GHz operation.

### ePMP 4600

Featuring 4x4 MU-MIMO and dual overlapping sectors, the ePMP 4600 can transmit to two SMs at the same time. This effectively doubles the capacity of 2x2 systems and, in the process, increases link budgets by 3 dB with downlink beamforming. Combining 160 MHz channels, 4096QAM and OFDMA, the ePMP 4600 delivers up to 4 Gbps total aggregate capacity to as many as 120 subscribers. The ePMP 4600 is deployed with the 90° 4x4 MU-MIMO sector, also available from Cambium Networks.

### ePMP 4600L

The ePMP 4600L is a 2x2 MIMO Access Point that delivers up to 2 Gbps and it can support as many as 120 end users. Using GPS synchronization, the ePMP 4600L mitigates self-interference and increases subscriber density.

## ePMP 4600 Series Access Point

### Spectrum and Interface

	<b>ePMP 4600</b>	<b>ePMP 4600L</b>
Channel Width	20   40   80   160 MHz	20   40   80   160 MHz
Proprietary Physical Layer	4x4 MU-MIMO/OFDMA	2x2 MIMO/OFDMA
Channel Spacing	Configurable in 5 MHz increments	Configurable in 5 MHz increments
Frequency Range	Wide band operation 5725–7125 MHz*	Wide band operation 5725–7125 MHz*1
<small>Note: Allowable frequencies and bands are dictated by individual country regulations.</small>		
MAC Layer (Media Access Control)	Cambium proprietary	Cambium proprietary
Ethernet Interfaced	100/1000 BaseT, rate auto negotiated, 802.3at compliant & Aux SFP+ port	100/1000 BaseT, rate auto negotiated, 802.3at compliant & Aux SFP+ port
Supported Powering Methods	56V 30W PoE (included), standard 802.3at PoE supply, or cnMatrix™ Tower Switch	56V 30W PoE (included), standard 802.3at PoE Supply, or cnMatrix Tower Switch
Protocols Used	IPv4/IPv6, UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping	56V 30W PoE (included), standard 802.3at PoE supply, or cnMatrix Tower Switch
Network Management	HTTP/HTTPS, SNMPv2c, SNMPv3, SSH 802.1Q	HTTP/HTTPS, SNMPv2c, SNMPv3, SSH
VLAN	802.1Q with 802.1p priority	802.1Q with 802.1p priority

\*Performance of radio from 5725–5925 MHz is TBD.

### Performance

	<b>ePMP 4600</b>	<b>ePMP 4600L</b>
Subscribers per Sector	Up to 120	Up to 120
ARQ	Yes	Yes
Nominal Receive Sensitivity (w/FEC) @20 MHz Channel	MCS 0 = -92 dBm to MCS 13 (4096 QAM-5/6) = -54 dBm (per chain)	MCS 0 = -92 dBm to MCS 13 (4096 QAM-5/6) = -53 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @40 MHz Channel	MCS 0 = -89 dBm to MCS 13 (4096 QAM-5/6) = -50 dBm (per chain)	MCS 0 = -89 dBm to MCS 13 (4096 QAM-5/6) = -50 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @80 MHz Channel	MCS 0 = -86 dBm to MCS 13 (4096 QAM-5/6) = -46 dBm (per chain)	MCS 0 = -86 dBm to MCS 13 (4096 QAM-5/6) = -47 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @160 MHz Channel	MCS 0 = -83 dBm to MCS 13 (4096 QAM-5/6) = -43 dBm (per chain)	MCS 0 = -83 dBm to MCS 13 (4096 QAM-5/6) = -44 dBm (per chain)
Modulation Levels (Adaptive)	MCS 0 (BPSK) to MCS 13 (4096 QAM-5/6)	MCS 0 (BPSK) to MCS 13 (4096 QAM-5/6)
GPS Synchronization	Yes, via internal GPS or Cambium Sync	Yes, via internal GPS or Cambium Sync
QoS (Quality of Service)	Three level priority (voice, high, low) with packet classification by DSCP, COS, VLAN ID, IP & MAC address, broadcast, multicast and station priority, MIR/CIR support	Three level priority (voice, high, low) with packet classification by DSCP, COS, VLAN ID, IP & MAC address, broadcast, multicast and station priority, MIR/CIR support

### Link Budget

	<b>ePMP 4600</b>	<b>ePMP 4600L</b>
Transmit Power Range	0 to +31 dBm (combined, to regional EIRP limit) (1 dB interval)	0 to +28 dBm (combined, to regional EIRP limit) (1 dB interval)
Antenna	90° 4x4 Sector Antenna available Part # C060940D301A	2x2 Sector Antenna

## ePMP 4600 Series Access Point

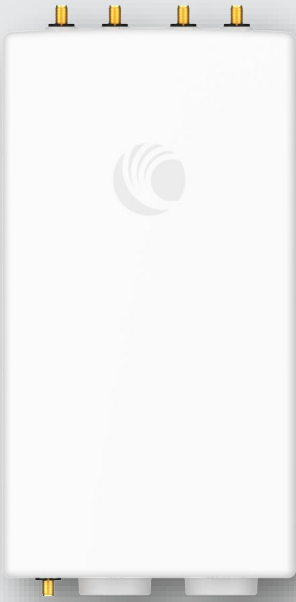
Physical		
	ePMP 4600	ePMP 4600L
Surge Suppression	1 joule integrated	1 joule integrated
Environmental	IP67	IP67
Temperature	-40°C to 55°C (-40°F to 131°F)	-40°C to 55°C (-44°F to 131°F)
Weight	1.02 kg (2.25 lb) without bracket	0.73 kg (1.61 lb) without bracket
Dimensions (H x W x D)	256 mm x 137 mm x 56 mm (10.1 in x 5.4 in x 2.2 in)	256 mm x 125 mm x 47 mm (10.1 in x 4.9 in x 1.9 in)
Power Consumption	28W maximum	28W maximum
Input Voltage	44V to 59V	44V to 59V
Sector Antenna Connection	4 x 50 ohm, RP (Reverse Polarity) SMA	2 x 50 ohm, RP (Reverse Polarity) SMA Also compatible with RF Elements Twistport™ Adaptor for ePMP
GPS Antenna Connection	1 x 50 ohm, SMA; external GPS Puck Antenna – Part # N000900L030A	1 x 50 ohm, SMA; external GPS Puck Antenna - Part # N000900L030A
Optional Pole Bracket	N000900L060A	

Security		
	ePMP 4600	ePMP 4600L
Encryption	All models: 128-bit AES (CCMP mode)	

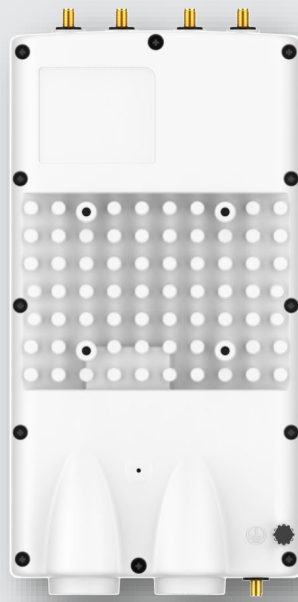
Certifications		
	ePMP 4600	ePMP 4600L
FCCID	Z8H89FT0068	Z8H89FT0069
Industry Canada Cert	109W-0068	109W-0069
CE	See Cambium website for Declaration of Conformity	See Cambium website for Declaration of Conformity
FCC Regulatory Part Number	C060940P021A	C068940P151A
ETSI Regulatory Part Number	C060940P021A	C068940P151A

## ePMP 4600 Series Access Point

### ePMP 4600



Front



Back Panel



Side



Bottom



Top

# ePMP 4600 Series Access Point

## ePMP 4600L



Front



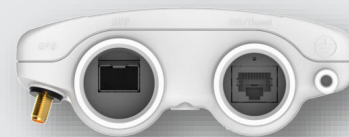
Back Panel



Side



Top



Bottom

Back Panel

## ePMP 4600 Series Access Point

### Ordering Information

<b>ePMP 4600</b>		<b>ePMP 4600L</b>	
<b>C060940A011A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (no cord)	<b>C060940A051A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (no cord)
<b>C060940A111A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (US cord)	<b>C060940A151A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (US cord)
<b>C060940A211A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (EU cord)	<b>C060940A251A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (EU cord)
<b>C060940A213A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (EU) (EU cord)	<b>C060940A253A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (EU) (EU cord)
<b>C060940A311A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (UK cord)	<b>C060940A351A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (UK cord)
<b>C060940A313A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (EU) (UK cord)	<b>C060940A353A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (EU) (UK cord)
<b>C060940A411A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (India cord)	<b>C060940A451A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (India cord)
<b>C060940A415A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (India) (India Cord)	<b>C060940A455A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (India) (India Cord)
<b>C060940A511A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (China cord)	<b>C060940A551A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (China cord)
<b>C060940A611A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (Brazil cord)	<b>C060940A651A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (Brazil cord)
<b>C060940A711A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (Argentina cord)	<b>C060940A751A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (Argentina cord)
<b>C060940A811A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (ANZ cord)	<b>C060940A851A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (ANZ cord)
<b>C060940A911A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (South Africa cord)	<b>C060940A951A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (South Africa cord)
<b>C060940AZ11A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (No PSU)	<b>C060940AZ51A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (No PSU)
<b>C068940A112B</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (FCC/IC) (US cord)	<b>C068940A152A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (FCC/IC) (US cord)
<b>C060940A216A</b>	ePMP 4600 6 GHz 4x4 Access Point Radio (Indonesia) (EU Cord)	<b>C060940A256A</b>	ePMP 4600L 6 GHz 2x2 Access Point Radio (Indonesia) (EU Cord)

### ABOUT CAMBIUM NETWORKS

Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences and device connectivity with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We deliver connectivity that just works.