

# ePMP™ 4600 Series Access Points

## QUICK LOOK:

- **High-performance, scalable, and reliable access points for fixed wireless broadband**
- **ePMP 4600 features MU-MIMO for up to 4 Gbps in 6 GHz**
- **Low TCO with three-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 series is the fourth generation. ePMP 4600 Access Points series interoperate with Force 4600 Subscriber Modules. 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 Access Point series is 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 Access Point 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 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. Utilizing GPS synchronization, the ePMP 4600L mitigates self-interference and increases subscriber density.

## ePMP 4600 Series Access Point

Spectrum and Interface		
	ePMP 4600	ePMP 4600L
<b>Channel Width</b>	20   40   80   160 MHz	20   40   80   160 MHz
<b>Proprietary Physical Layer</b>	4x4 MU-MIMO/OFDMA	2x2 MIMO/OFDMA
<b>Channel Spacing</b>	Configurable in 5 MHz increments	Configurable in 5 MHz increments
<b>Frequency Range</b> <small>Note: Allowable frequencies and bands are dictated by individual country regulations.</small>	Wide Band Operation 5725–7125 MHz <sup>1</sup>	Wide Band Operation 5725–7125 MHz <sup>1</sup>
<small>1) Performance of radio from 5725–5925 MHz is TBD</small>		
<b>MAC Layer (Media Access Control)</b>	Cambium Proprietary	Cambium Proprietary
<b>Ethernet Interfaced</b>	100/1000 BaseT, rate auto negotiated, 802.3at compliant & Aux SFP+ port	100/1000 BaseT, rate auto negotiated, 802.3at compliant & Aux SFP+ port
<b>Supported Powering Methods</b>	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
<b>Protocols Used</b>	IPv4/IPV6 , UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping	IPv4/IPV6 , UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping
<b>Network Management</b>	HTTP/HTTPS, SNMPv2c, SNMPv3, SSH 802.1Q	HTTP/HTTPS, SNMPv2c, SNMPv3, SSH
<b>VLAN</b>	802.1Q with 802.1p priority	802.1Q with 802.1p priority
Performance		
	ePMP 4600	ePMP 4600L
<b>Subscribers per Sector</b>	Up to 120	Up to 120
<b>ARQ</b>	Yes	Yes
<b>Nominal Receive Sensitivity (w/FEC) @20 MHz Channel</b>	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)
<b>Nominal Receive Sensitivity (w/FEC) @40 MHz Channel</b>	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)
<b>Nominal Receive Sensitivity (w/FEC) @80 MHz Channel</b>	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)
<b>Nominal Receive Sensitivity (w/FEC) @160 MHz Channel</b>	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)
<b>Modulation Levels (Adaptive)</b>	MCS 0 (BPSK) to MCS 13 (4096 QAM-5/6)	MCS 0 (BPSK) to MCS 13 (4096 QAM-5/6)
<b>GPS Synchronization</b>	Yes, via Internal GPS or Cambium Sync	Yes, via Internal GPS or Cambium Sync
<b>QoS (Quality of Service)</b>	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

## ePMP 4600 Series Access Point

Link Budget		
	ePMP 4600	ePMP 4600L
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

Physical		
	ePMP 4600	ePMP 4600L
Surge Suppression*	1 Joule Integrated	1 Joule Integrated
Environmental	IP67	IP67
Temperature	-30°C to 55°C (-22°F to 131°F)	-30°C to 55°C (-22°F to 131°F)
Weight	1.02 kg (2.25 lbs) without bracket	0.73 kg (1.61 lbs) 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 <i>Also compatible with RF Elements Twistport™ Adaptor for ePMP</i>
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	
Encryption	<b>All models:</b> 128-bit AES (CCMP mode)

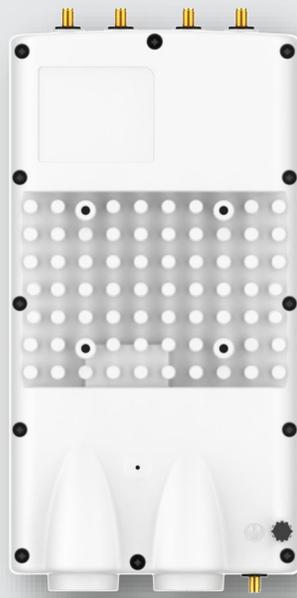
Certifications		
	ePMP 4600	ePMP 4600L
FCCID	Z8H89FT0068	Z8H89FT0069
Industry Canada Cert	109W-0068 (Certification Pending)	109W-0069 (Certification Pending)
CE	See Cambium Website for Declaration of Conformity	See Cambium Website for Declaration of Conformity
FCC Regulatory Part Number	C060940P021A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

### ePMP 4600 Series Access Point

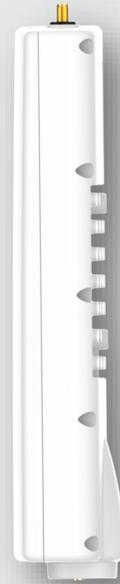
#### ePMP 4600



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

### ePMP 4600 Ordering Information

C060940A011A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (no cord)
C060940A111A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (US cord)
C068940A114A	ePMP 4600 6 GHz 4x4 Access Point Radio (IC) (Canada/US cord)
C060940A211A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (EU cord)
C060940A213A	ePMP 4600 6 GHz 4x4 Access Point Radio (EU) (EU cord)
C060940A311A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (UK cord)
C060940A313A	ePMP 4600 6 GHz 4x4 Access Point Radio (EU) (UK cord)
C060940A411A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (India cord)
C060940A415A	ePMP 4600 6 GHz 4x4 Access Point Radio (India) (India Cord)
C060940A511A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (China cord)
C060940A611A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (Brazil cord)
C060940A711A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (Argentina cord)
C060940A811A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (ANZ cord)
C060940A911A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (South Africa cord)
C060940AZ11A	ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (No PSU)
C068940A112B	ePMP 4600 6 GHz 4x4 Access Point Radio (FCC) (US cord)
C060940A216A	ePMP 4600 6 GHz 4x4 Access Point Radio (Indonesia) (EU Cord)

### ePMP 4600L Ordering Information

C060940A051A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (no cord)
C060940A151A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (US cord)
C068940A154A	ePMP 4600L 6 GHz 2x2 Access Point Radio (IC) (Canada/US cord)
C060940A251A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (EU cord)
C060940A253A	ePMP 4600L 6 GHz 2x2 Access Point Radio (EU) (EU cord)
C060940A351A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (UK cord)
C060940A353A	ePMP 4600L 6 GHz 2x2 Access Point Radio (EU) (UK cord)
C060940A451A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (India cord)
C060940A455A	ePMP 4600L 6 GHz 2x2 Access Point Radio (India) (India Cord)
C060940A551A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (China cord)
C060940A651A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (Brazil cord)
C060940A751A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (Argentina cord)
C060940A851A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (ANZ cord)
C060940A951A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (South Africa cord)
C060940AZ51A	ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (No PSU)
C068940A152A	ePMP 4600L 6 GHz 2x2 Access Point Radio (FCC) (US cord)
C060940A256A	ePMP 4600L 6 GHz 2x2 Access Point Radio (Indonesia) (EU 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.