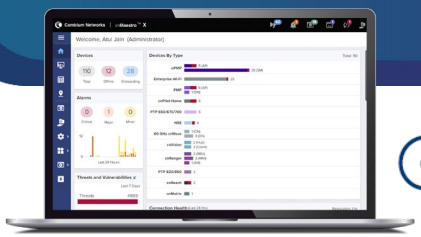
# ePMP 4600 Series Access Points

## 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



cnMaestro READY

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

| | ePMP 4600 | ePMP 4600L |
|---|---|---|
| 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<br>Note: Allowable frequencies and bands are dictated by individual country regulations. | Wide band operation 5725–7125 MHz* | Wide band operation 5725–7125 MHz*1 |
| MAC Layer<br>(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

| | ePMP 4600 | ePMP 4600L |
|---|---|---|
| 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

| | 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 |

# 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<br>(10.1 in x 5.4 in x 2.2 in) | 256 mm x 125 mm x 47 mm<br>(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<br>Also compatible with RF Elements Twistport™ Adaptor for ePMP |
| GPS Antenna Connection | 1 x 50 ohm, SMA; external GPS<br>Puck Antenna – Part # N000900L030A | 1 x 50 ohm, SMA; external GPS<br>Puck Antenna - Part # N000900L030A |
| Optional Pole Bracket | N000900L060A | |

## Security

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

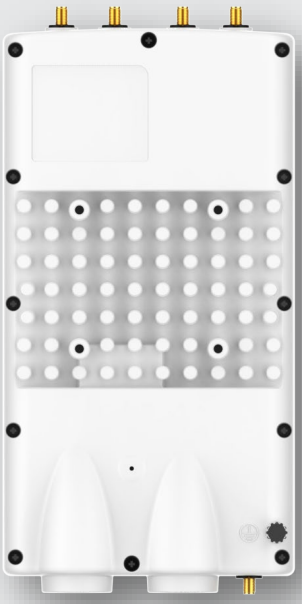
## Certifications

| | 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

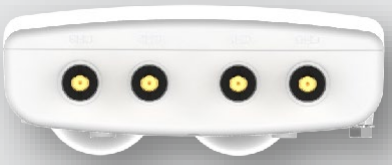
Front



Back Panel

Side

Bottom



Top

# ePMP 4600 Series Access Point

## ePMP 4600L

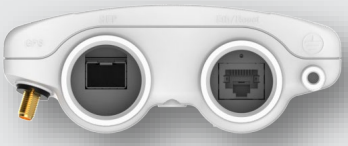
Front

Back Panel

Side

Back Panel

Top



Bottom

# ePMP 4600 Series Access Point

## Ordering Information

| ePMP 4600 | | ePMP 4600L | |
|---|---|---|---|
| C060940A011C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (no cord) | C060940A051A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (no cord) |
| C060940A111C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (US cord) | C060940A151A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (US cord) |
| C060940A211C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (EU cord) | C060940A251A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (EU cord) |
| C060940A213C | ePMP 4600 6 GHz 4x4 Access Point Radio (EU) (EU cord) | C060940A253A | ePMP 4600L 6 GHz 2x2 Access Point Radio (EU) (EU cord) |
| C060940A311C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (UK cord) | C060940A351A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (UK cord) |
| C060940A313C | ePMP 4600 6 GHz 4x4 Access Point Radio (EU) (UK cord) | C060940A353A | ePMP 4600L 6 GHz 2x2 Access Point Radio (EU) (UK cord) |
| C060940A411C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (India cord) | C060940A451A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (India cord) |
| C060940A415C | ePMP 4600 6 GHz 4x4 Access Point Radio (India) (India Cord) | C060940A455A | ePMP 4600L 6 GHz 2x2 Access Point Radio (India) (India Cord) |
| C060940A511C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (China cord) | C060940A551A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (China cord) |
| C060940A611C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (Brazil cord) | C060940A651A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (Brazil cord) |
| C060940A711C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (Argentina cord) | C060940A751A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (Argentina cord) |
| C060940A811C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (ANZ cord) | C060940A851A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (ANZ cord) |
| C060940A911C | ePMP 4600 6 GHz 4x4 Access Point Radio (ROW) (South Africa cord) | C060940A951A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (South Africa cord) |
| C068940A112C | ePMP 4600 6 GHz 4x4 Access Point Radio (FCC/IC) (US cord) | C060940AZ51A | ePMP 4600L 6 GHz 2x2 Access Point Radio (ROW) (No PSU) |
| C060940A216C | ePMP 4600 6 GHz 4x4 Access Point Radio (Indonesia) (EU Cord) | C068940A152A | ePMP 4600L 6 GHz 2x2 Access Point Radio (FCC/IC) (US cord) |
| | | C060940A256A | 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 make connectivity that just works.

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EQUIPMENT FOR SALE

# CAMBIUM NETWORKS EQUIPMENT

## ePMP 4600 Access Point Radios & PMP 450m 3GHz Access Point with Integrated 90° Sector Antenna

Cambium™ Networks

**BRAND NEW**

**Cambium's ePMP 4600 Series** is used to deliver high-capacity, fixed wireless broadband—typically in point-to-multipoint (PMP) network architectures—where fiber is too expensive or slow to deploy.

**Cambium's PMP 450m AP's** are used to provide high-capacity wireless broadband in point-to-multipoint (PMP) network architectures. It's primarily deployed by WISPs, utilities, and government agencies to deliver last-mile connectivity, especially in areas where fiber is not feasible.

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