

# ePMP™ 3000



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 3000 is the third generation access point (AP) that carries on the interference tolerance mechanisms from ePMP 2000 but adds the power of Multi-User MIMO (MU-MIMO). The ePMP 3000 is a 4X4 MU-MIMO access point that can double the throughput at the sector level with the same channel bandwidth by serving two subscribers at the same time. In addition, the ePMP 3000 continues interference mitigation techniques with support of the beam steering antenna for uplink, dynamic filtering for neighboring channel interference, and the robust software from the ePMP product line. The ePMP 3000 AP system consists of the ePMP 3000 AP, a 4X4 sector antenna, optional beam steering antenna and a 25 dBi and 16 dBi subscriber modules.

The ePMP 3000 system boasts high packet per second performance, peak throughput of 1.2 Gbps and supporting subscriber modules with 600 Mbps of peak throughput.

## KEY ADVANTAGES:

- **Frequency Reuse:** Supports GPS synchronization and SM Transmit power control to allow for frequency re-use.
- **Unmatched Performance and Scalability:** With the efficient Cambium Networks MAC protocol and advanced air-fairness scheduler up to 120 simultaneously active subscriber modules can be served without performance degradation.
- **Industry-Leading Interference Tolerance:** The intelligent filtering capability on the receive side makes the ePMP 2000 immune to the effects of strong off-channel interferers and on the transmit side serves to reduce off-channel noise for better radio co-location.
- **Industry-Leading Spectral Efficiency:** MU-MIMO in the downlink doubles the sector capacity by serving two MIMO users at the same time.

## KEY SPECIFICATIONS:

- MU-MIMO support with peak throughput of 1.2 Gbps
- 256QAM-5/6, 80 MHz support
- Supports a wide frequency range: 4910 – 5970 MHz
- 802.3at compliant 100/1000BaseT interface
- Frequency re-use with GPS sync, interference mitigation with beam steering antenna and dynamic filtering

## SPECIFICATIONS

<b>PRODUCT</b>	
Model/Part #	See table below for full set of Model and Part Numbers
<b>SPECTRUM</b>	
Channel Spacing	Configurable on 5 MHz increments
Frequency Range	4910 – 5980 MHz (exact frequencies as allowed by local regulations)
Channel Width	20   40   80 MHz
<b>INTERFACE</b>	
MAC (Media Access Control) Layer	Cambium Proprietary
Physical Layer	4X4 MUMIMO/OFDM
Ethernet Interfaced	100/1000BaseT, rate auto negotiated, 802.3at compliant & Aux SFP port
Powering Methods Supported	56 V PoE (included), standard 802.3at PoE Supply, or CMM5 with 56 V and 5 pin to 7 pin cross over cable adapter
Protocols Used	IPv4/IPv6 , UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping
Network Management	HTTPs, SNMPv2c, SSH
VLAN	802.1Q with 802.1p priority
<b>PERFORMANCE</b>	
Subscribers per Sector	Up to 120
ARQ	Yes
Nominal Receive Sensitivity (w/FEC) @20 MHz Channel	MCS 0 , -92 MCS 8 supported by Wi-Fi -68
Nominal Receive Sensitivity (w/FEC) @40 MHz Channel	MCS0, -89 MCS9, -64
Nominal Receive Sensitivity (w/FEC) @80 MHz Channel	MCS0, -86, MCS9 - 61
Modulation Levels (Adaptive)	MCS0 (BPSK) to MCS 9 (256 QAM 5/6)
GPS Synchronization	Yes, via Internal GPS or Cambium Sync (Internal GPS receiver also contains a patch antenna and can be used without the external puck antenna)
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*
DSO*	Dynamic Spectrum Optimization. Ability to change channels based on interference detection on current channel
Fast DFS*	Change to alternate radar free channel with background availability check
<b>LINK BUDGET</b>	
Antenna	Sector Antenna (C050910D301A ) Available
Transmit Power Range	0 to +32 dBm (combined, to regional EIRP limit) (2 dB interval)
<b>PHYSICAL</b>	
Sector Antenna Connection	4 x 50 ohm, RP (Reverse Polarity) SMA
Beamforming Antenna Connection	2 x 50 ohm, RP (Reverse Polarity) SMA, DC Coupled (powering antenna)
GPS Antenna Connection	1 x 50 ohm, RP (Reverse Polarity) SMA
Surge Suppression	1 Joule Integrated. C000000L033A - 56V Gigabit surge suppressor recommended for optimal surge protection
Environmental	IP55
Temperature	-30°C to +55°C (-22°F to +131°F)
Power Consumption	25 W Maximum <sup>1</sup>
Input Voltage	44 V to 59 V
Weight	0.7 kg (1.5 lbs) without brackets
Dimensions (L x W x H)	22.2 x 12.4 x 4.5 cm (8.75 x 4.9 x 1.75 in) without brackets

**Notes:**

<sup>1</sup> The maximum power consumption of the Access Point is the same regardless of whether the optional Smart Beamforming Antenna is equipped or not. This is because the Beamforming Antenna draws its power during the uplink cycle when the Access Point power consumption is not at its maximum.

\* Items marked with asterix are planned for a future release

## SPECIFICATIONS

### SECURITY

Encryption 128 bit AES (CCMP mode)

### CERTIFICATIONS

FCCID Z8H-89FT0024\*\*

INDUSTRY CANADA 109W-0024\*\*

CE EN 301 893 V2.1.1 (5.4 GHz), EN 302 502 V2.1.1 (5.8 GHz)\*\*

\*\*Certifications are a place holder until official grant is given

## TABLE OF PART AND MODEL NUMBERS

PART NUMBER	MODEL NUMBER	DESCRIPTION
C058910A102A		ePMP 3000 5 GHz Access Point Radio (FCC) (US cord)
C050910A104A		ePMP 3000 5 GHz Access Point Radio (IC) (Canada/US cord)
C050910A203A		ePMP 3000 5 GHz Access Point Radio (EU) (EU cord)
C050910A303A		ePMP 3000 5 GHz Access Point Radio (EU) (UK cord)
C050910A001A		ePMP 3000 5 GHz Access Point Radio (ROW) (no cord)
C050910A101A		ePMP 3000 5 GHz Access Point Radio (ROW) (US cord)
C050910A201A		ePMP 3000 5 GHz Access Point Radio (ROW) (EU cord)
C050910A301A		ePMP 3000 5 GHz Access Point Radio (ROW) (UK cord)
C050910A401A		ePMP 3000 5 GHz Access Point Radio (ROW) (India cord)
C050910A402A		ePMP 3000 5GHz Access Point Radio (India) (India Cord)
C050910A501A		ePMP 3000 5 GHz Access Point Radio (ROW) (China cord)
C050910A601A		ePMP 3000 5 GHz Access Point Radio (ROW) (Brazil cord)
C050910A701A		ePMP 3000 5 GHz Access Point Radio (ROW) (Argentina cord)
C050910A801A		ePMP 3000 5 GHz Access Point Radio (ROW) (ANZ cord)
C050910A901A		ePMP 3000 5 GHz Access Point Radio (ROW) (South Africa cord)
C050910AZ01A		ePMP 3000 5 GHz Access Point Radio (ROW) (No PSU)
C050910D301A		ePMP 4x4 MU-MIMO Sector Antenna (for ePMP3000AP)

Note:

Part Number is used to order the product from Cambium. Model Number is used for regulatory purposes

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SS ePMP™ 3000 Access Point with MUMIMO 10032018



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