ePMP™ 4500 Series Access Points

QUICK LOOK:

- **High-performance, scalable and reliable access points for fixed wireless broadband**
- **ePMP 4500 features MU-MIMO and up to 4 Gbps in performance**
- **Low TCO with three-year hardware warranty**
- **Interoperable with all Force 400 and Force 300 Subscriber Modules***

Cambium Networks' ePMP product line has set the standard for high performance, scalability and reliability in harsh interference environments, all at a compelling price. ePMP 4500 access points (AP) interoperate with Force 400 Subscriber modules and support backward compatibility to Force 300 Subscriber modules*. A sophisticated scheduling and QoS engine combined with TDD synchronization allows ePMP 4500 APs to deliver consistently high-quality service plans to a large number of end users.

All ePMP 4500 Access point series are managed with cnMaestro™, and networks can be planned with LINKPlanner. Both are available from Cambium Networks at no charge.

ePMP 4500

The ePMP 4500 delivers up to 4 Gbps and supports up to 120 subscriber modules. Featuring 8x8 MU-MIMO, the 5 GHz ePMP 4500 can transmit to four Force 400 SM's at the same time. This effectively quadruples the capacity of 2x2 systems and in the process, increases link budgets by 6 dB with downlink beamforming. The ePMP 4500 has an integrated 90° 8x8 MU-MIMO sector antenna. With TDD synchronization, ePMP 4500 networks can scale to thousands of end users leveraging a small number of channels.

ePMP 4500C

The ePMP 4500C features the same radio as ePMP 4500, but without the integrated antenna, allowing the end user to install their own sectored antennas or horns.

ePMP 4500L

The ePMP 4500L 2x2 MIMO access point is connectorized with two RP-SMA for use with Cambium Networks 90°/120° degree sector antenna. This unit is also compatible with RF Elements Twistport™ adaptor for ePMP. Featuring the latest 1024QAM and 80 MHz channel bandwidth technology, this access points delivers perfomance above 1 Gbps.

**Force 300 backward compatibility to be supported in future firmware release*

ePMP™ 4500 Series Access Points

Spectrum and Interface

	ePMP 4500	ePMP 4500C	ePMP 4500L
Channel Width	20 | 40 | 80 MHz	20 | 40 | 80 MHz	20 | 40 | 80 MHz
Proprietary Physical Layer	8x8 MU-MIMO/OFDMA based on 802.11ax underlying technology	8x8 MU-MIMO/OFDMA based on 802.11ax underlying technology	2x2 MIMO/OFDMA based on 802.11ax underlying technology
Channel Spacing	Configurable in 5 MHz increments	Configurable in 5 MHz increments	Configurable in 5 MHz increments
Frequency Range	Wide Band Operation 4910–6135 MHz	Wide Band Operation 4910–6135 MHz	Wide Band Operation 4910–6135 MHz
	(Note: Allowable frequencies and bands are dictated by individual country regulations)		
MAC Layer (Media Access Control)	Cambium Proprietary	Cambium Proprietary	Cambium Proprietary
Ethernet Interfaced	100/1000 BaseT, rate auto negotiated, 802.3bt compliant & Aux SFP+ port	100/1000 BaseT, rate auto negotiated, 802.3bt compliant & Aux SFP+ port	100/1000 BaseT, rate auto negotiated, 802.3at compliant & Aux SFP+ port
Supported Powering Methods	56V 30W PoE (included), standard 802.3bt PoE Supply, or cnMatrix Tower Switch, or wired DC input	56V 30W PoE (included), standard 802.3bt PoE Supply, or cnMatrix Tower Switch, or wired DC input	5 V 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	IPv4/IPV6, UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping	IPv4/IPV6, UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping
Network Management	HTTPS, SNMPv2c, SSH	HTTPS, SNMPv2c, SSH	HTTPS, SNMPv2c, SSH
VLAN	802.1Q with 802.1p priority	802.1Q with 802.1p priority	802.1Q with 802.1p priority

Performance

	ePMP 4500	ePMP 4500C	ePMP 4500L
Subscribers per Sector	Up to 120	Up to 120	Up to 120
ARQ	Yes	Yes	Yes
Nominal Receive Sensitivity (w/FEC) @20 MHz Channel	MCS 0 = -91 dBm to MCS 11 (1024 QAM-5/6) = -62 dBm (per chain	MCS 0 = -91 dBm to MCS 11 (1024 QAM-5/6) = -62 dBm (per chain	MCS 0 = -93 dBm to MCS 11 (1024 QAM-5/6) = -63 dBm (per chain
Nominal Receive Sensitivity (w/FEC) @40 MHz Channel	MCS 0 = -88 dBm to MCS 11 (1024 QAM-5/6) = -59 dBm (per chain)	MCS 0 = -88 dBm to MCS 11 (1024 QAM-5/6) = -59 dBm (per chain)	MCS 0 = -90 dBm to MCS 11 (1024 QAM-5/6) = -60 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @80 MHz Channel	MCS 0 = -85 dBm to MCS 11 (1024 QAM-5/6) = -57dBm (per chain)	MCS 0 = -85 dBm to MCS 11 (1024 QAM-5/6) = -57dBm (per chain)	MCS 0 = -87 dBm to MCS 11 (1024 QAM-5/6) = -57dBm (per chain)
Modulation Levels (Adaptive)	MCS 0 (BPSK) to MCS 11 (1024 QAM-5/6)	MCS 0 (BPSK) to MCS 11 (1024 QAM-5/6)	MCS 0 (BPSK) to MCS 11 (1024 QAM-5/6)
GPS Synchronization	Yes, via Internal GPS or Cambium Sync	Yes, via Internal GPS or Cambium Sync	Yes, via Internal GPS
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	Three level priority (Voice, High, Low) with packet classification by DSCP, COS, VLAN ID, IP & MAC Address, Broadcast, Multicast and Station Priority	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™ 4500 Series Access Points

Performance cont'd

	ePMP 4500	ePMP 4500C	ePMP 4500L
Transmit Power Range	0 to +34 dBm (combined, to regional EIRP limit) (1 dB interval)	0 to +33 dBm (combined, to regional EIRP limit) (1 dB interval)	0 to +28 dBm (combined, to regional EIRP limit) (1 dB interval)
Antenna	Integrated 8x8 MU-MIMO 90° Sector 17 dBi gain	N/A	90°/120° 2x2 Sector Antenna (C050900D021B)

Physical

	ePMP 4500	ePMP 4500C	ePMP 4500L
Surge Supression*	1 Joule Integrated	1 Joule Integrated	1 Joule Integrated
Environmental	IP67	IP67	IP67
Temperature	-30°C to 55°C (-22°F to 131°F)	-30°C to 55°C (-22°F to 131°F)	-30°C to 55°C (-22°F to 131°F)
Weight	14.66 kg (32.32 lbs) with clamp	TBD kg (TBD lbs) with clamp	1.3 kg (2.9 lbs)
Dimensions (H x W x D)	643 x 487 x 157 mm (25.3 x 19.2 x 6.2 in)	356 x 284 x 74 mm (14.0 x 11.2 x 2.9 in)	256 x 125 x 47 mm (10.1 x 4.9 x 1.9 in)
Power Consumption	32W Maximum	32W Maximum	28W Maximum
Input Voltage	44V to 59V	44V to 59V	44V to 59V
Sector Antenna Connection	Integrated 90° Sector	8 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; Integrated GPS Antenna	1 x 50 ohm, SMA; external GPS External GPS Puck included in packaging	1 x 50 ohm, SMA; external GPS External GPS Puck included in packaging

Security

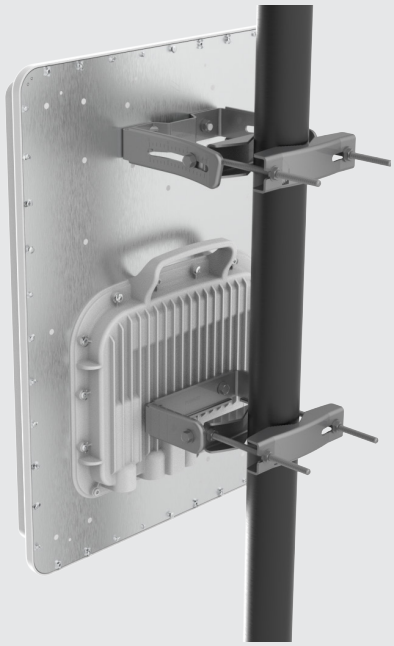
Encryption	**All models:** 128-bit AES (CCMP mode)

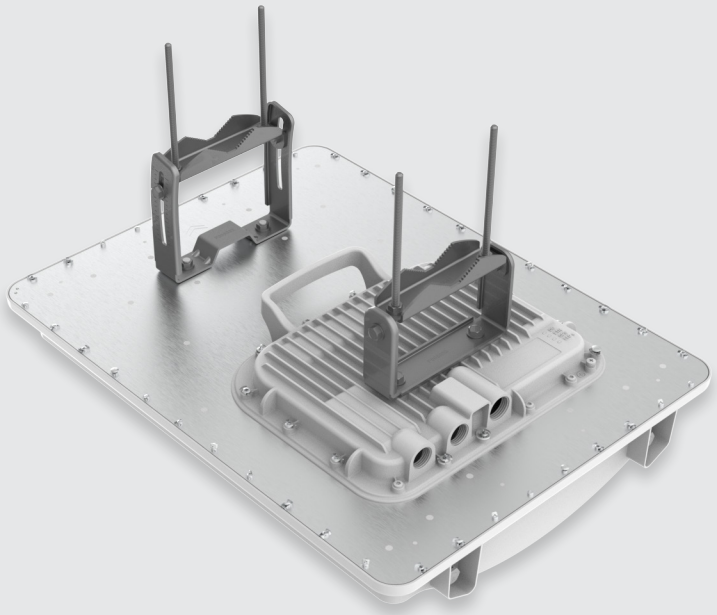
Certifications

	ePMP 4500	ePMP 4500C	ePMP 4500L
FCCID	Z8H89FT0065	Z8H89FT0065	Z8H89FT0062
Industry Canada Cert	109W-0065	109W-0065	109W-0062
CE	See Cambium Website for Declaration of Conformity	See Cambium Website for Declaration of Conformity	See Cambium Website for Declaration of Conformity

ePMP™ 4500 Series Access Points

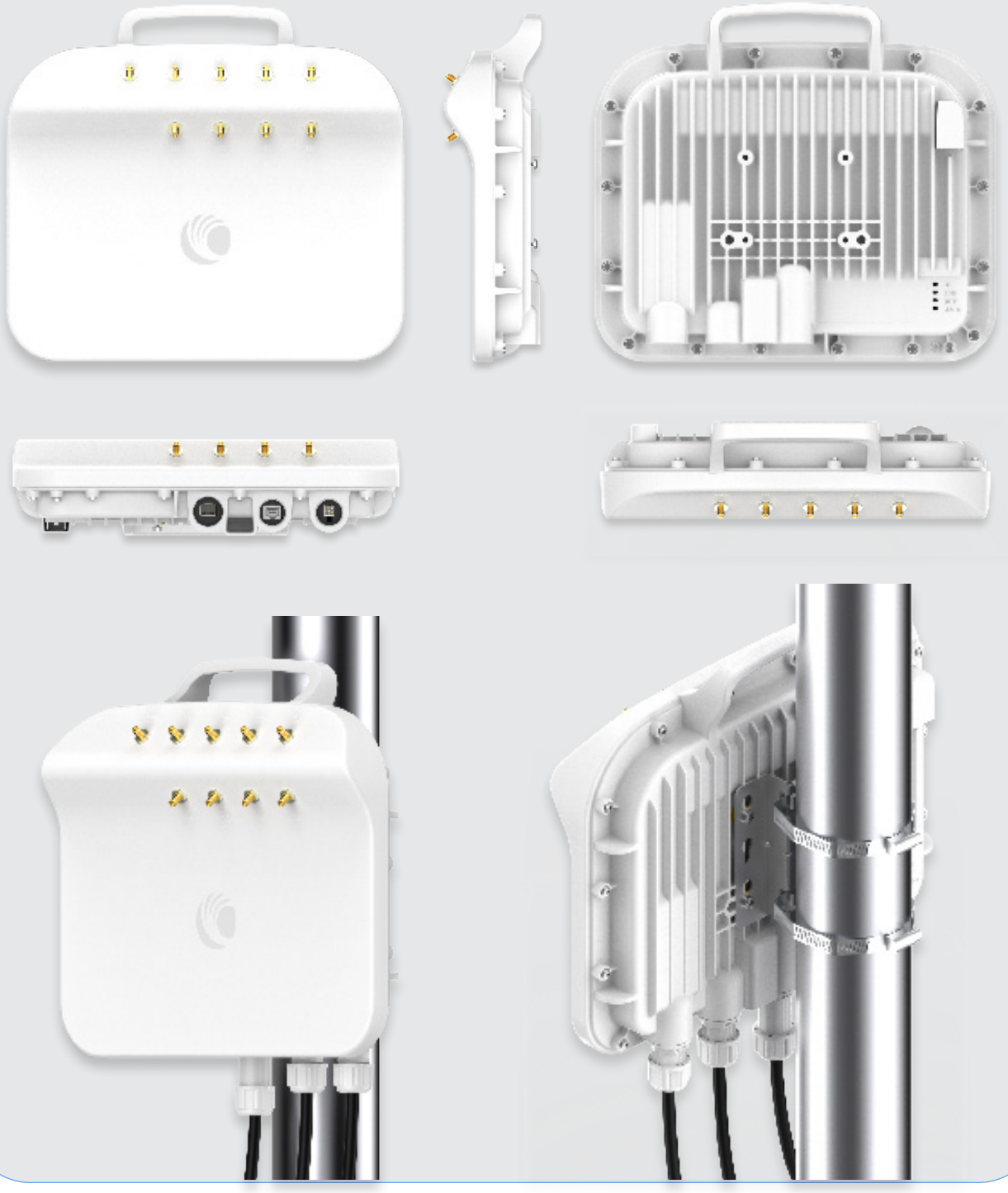
ePMP 4500





ePMP™ 4500 Series Access Points

ePMP 4500C



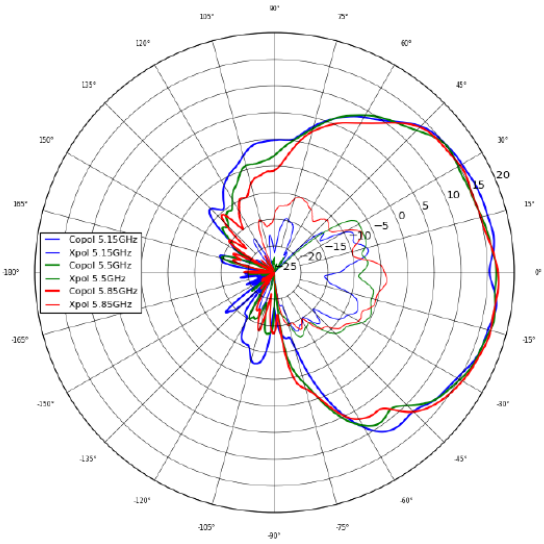
ePMP™ 4500 Series Access Points

ePMP 4500L

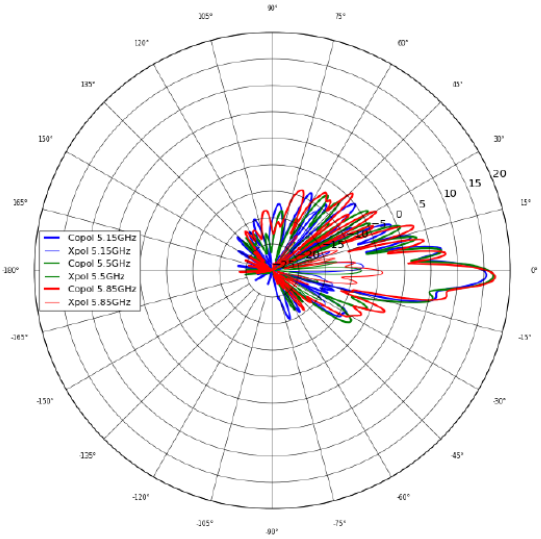
ePMP™ 4500 Series Access Points

Antenna Patterns

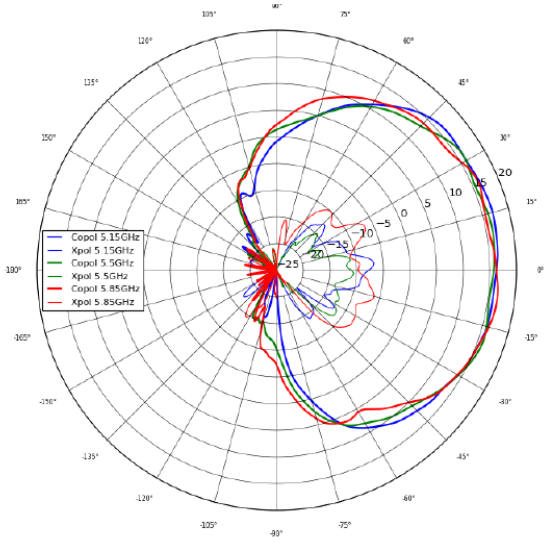
CH 0 Vertical Polarization, Horizontal



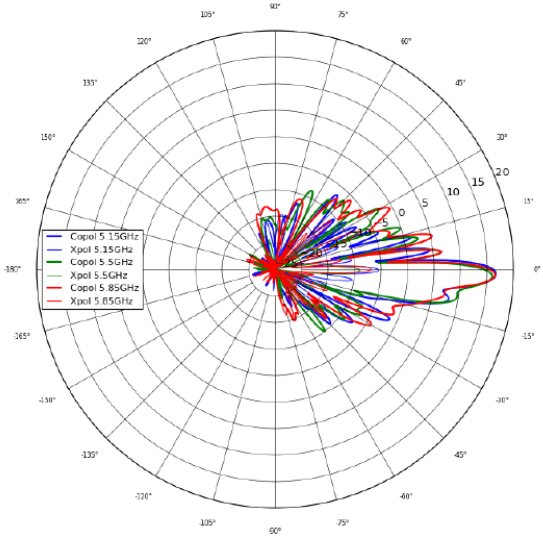
CH 0 Vertical Polarization, Elevation



CH 1 Vertical Polarization, Horizontal



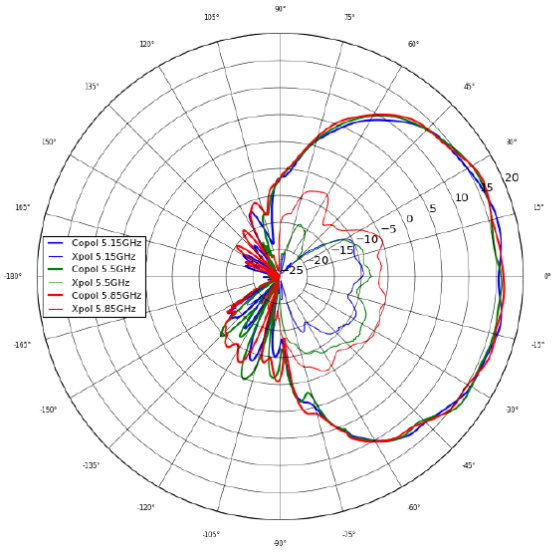
CH 1 Vertical Polarization, Elevation



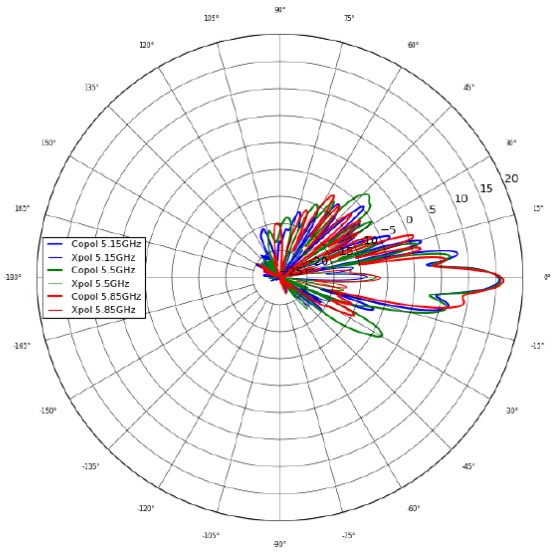
ePMP™ 4500 Series Access Points

Antenna Patterns

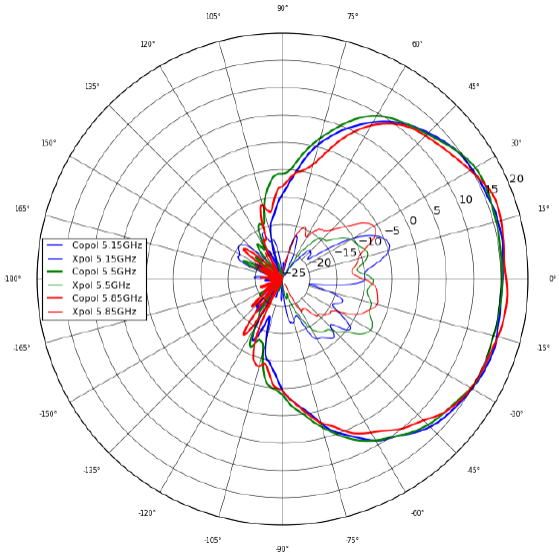
CH 2 Vertical Polarization, Horizontal



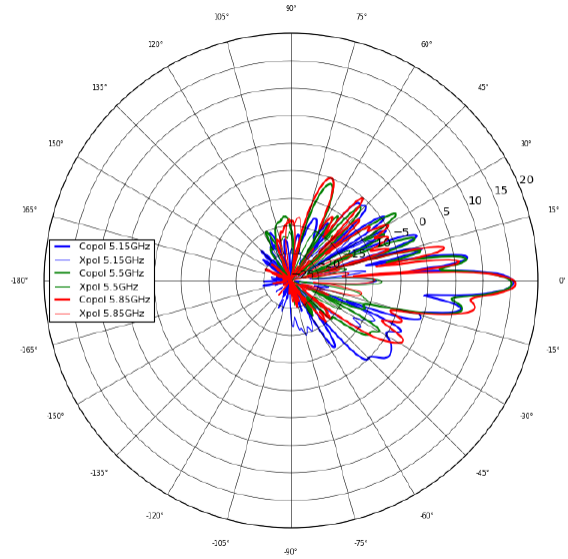
CH 2 Vertical Polarization, Elevation



CH 3 Vertical Polarization, Horizontal



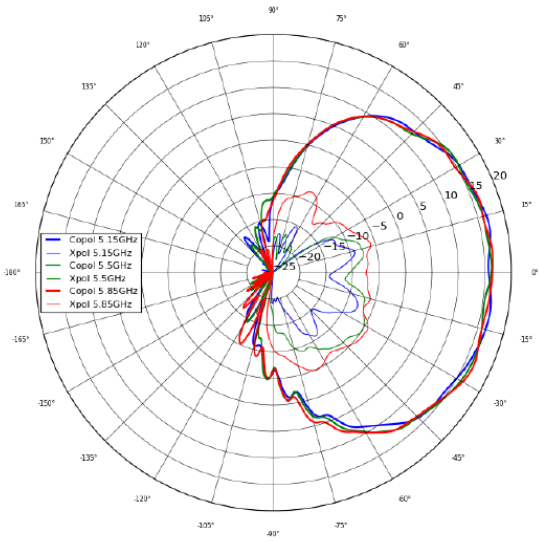
CH 3 Vertical Polarization, Elevation



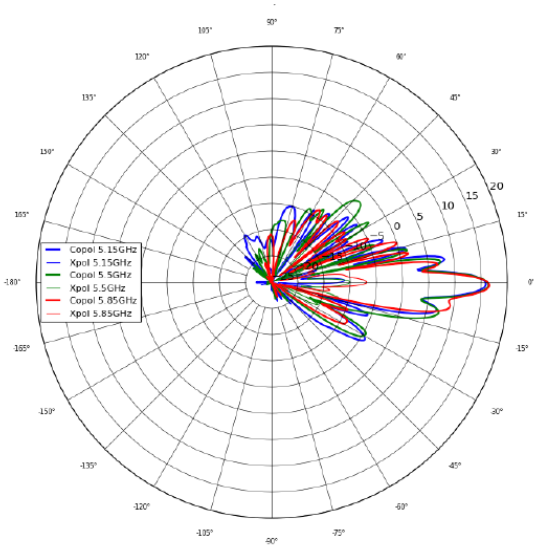
ePMP™ 4500 Series Access Points

Antenna Patterns

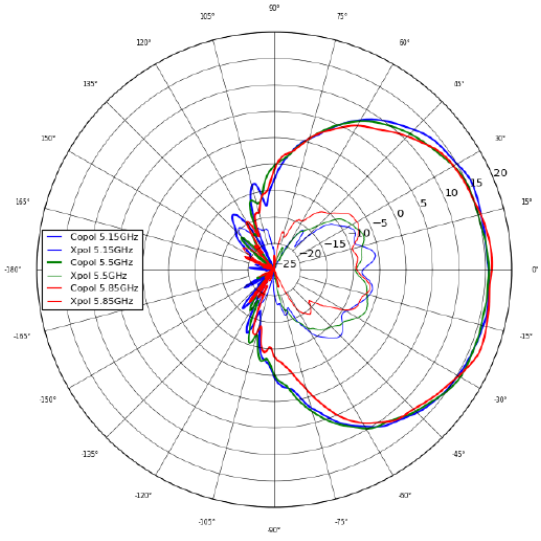
CH 4 Vertical Polarization, Horizontal



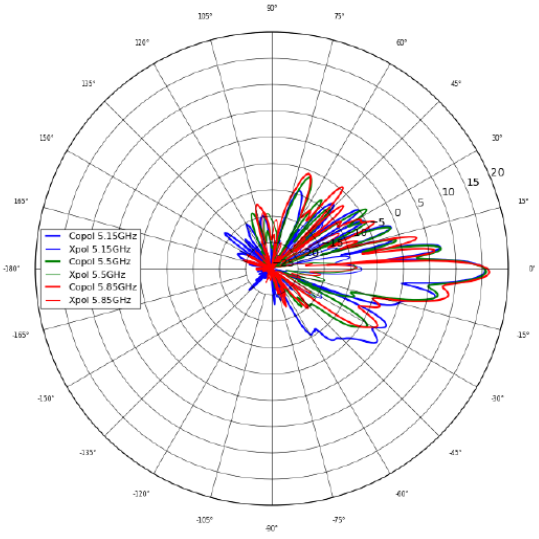
CH 4 Vertical Polarization, Elevation



CH 5 Vertical Polarization, Horizontal



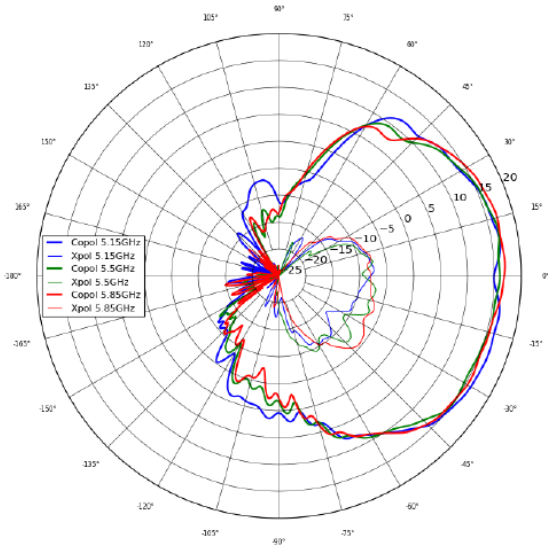
CH 5 Vertical Polarization, Elevation



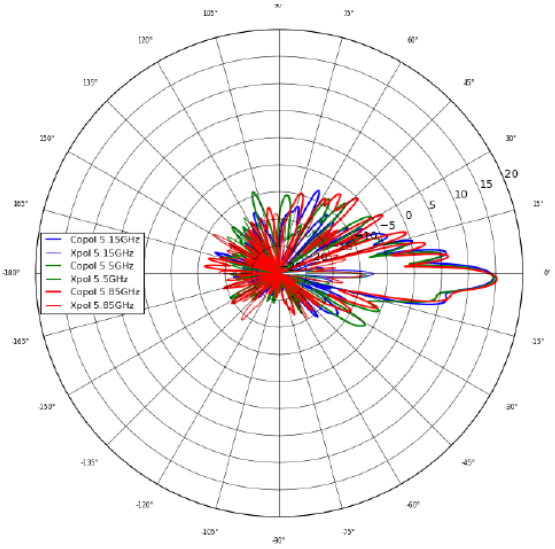
ePMP™ 4500 Series Access Points

Antenna Patterns

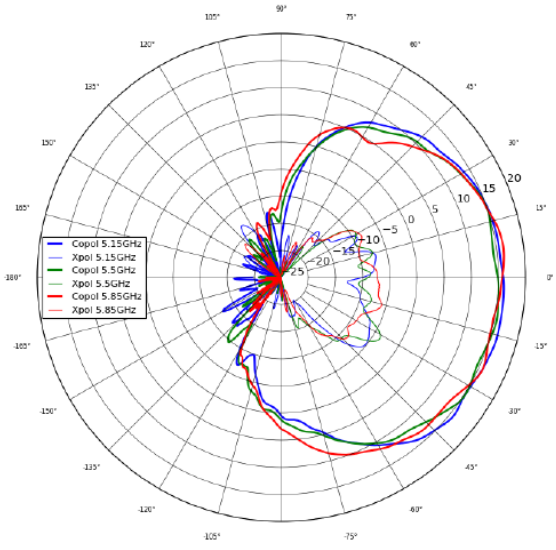
CH 6 Vertical Polarization, Horizontal



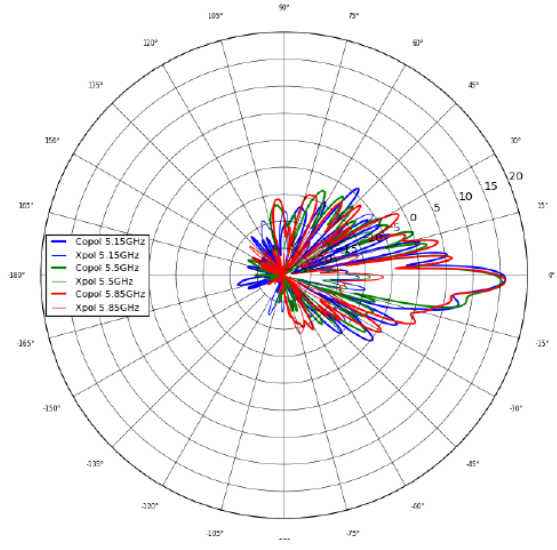
CH 6 Vertical Polarization, Elevation



CH 7 Vertical Polarization, Horizontal



CH 7 Vertical Polarization, Elevation



ePMP™ 4500 Series Access Points

ePMP 4500 Ordering Information

C050940A021A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (no cord)
C050940A121A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (US cord)
C058940A124A	ePMP 4500 5 GHz 8x8 Access Point Radio (IC) (Canada/US cord)
C050940A221A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (EU cord)
C050940A223A	ePMP 4500 5 GHz 8x8 Access Point Radio (EU) EU cord)
C050940A321A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (UK cord)
C050940A323A	ePMP 4500 5 GHz 8x8 Access Point Radio (EU) (UK cord)
C050940A421A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (India cord)
C050940A425A	ePMP 4500 5 GHz 8x8 Access Point Radio (India) (India Cord)
C050940A521A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (China cord)
C050940A621A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (Brazil cord)
C050940A721A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (Argentina cord)
C050940A821A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (ANZ cord)
C050940A921A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (South Africa cord)
C050940AZ21A	ePMP 4500 5 GHz 8x8 Access Point Radio (ROW) (No PSU)
C058940A122A	ePMP 4500 5 GHz 8x8 Access Point Radio (FCC) (US cord)
C050940A226A	ePMP 4500 5 GHz 8x8 Access Point Radio (Indonesia) (EU Cord)

ePMP 4500C Ordering Information

C050940A011A	ePMP 4500C 5 GHz Access Point Radio (ROW) (no cord)
C050940A111A	ePMP 4500C 5 GHz Access Point Radio (ROW) (US cord)
C058940A114A	ePMP 4500C 5 GHz Access Point Radio (IC) (Canada/US cord)
C050940A211A	ePMP 4500C 5 GHz Access Point Radio (ROW) (EU cord)
C050940A213A	ePMP 4500C 5 GHz Access Point Radio (EU) (EU cord)
C050940A311A	ePMP 4500C 5 GHz Access Point Radio (ROW) (UK cord)
C050940A313A	ePMP 4500C 5 GHz Access Point Radio (EU) (UK cord)
C050940A411A	ePMP 4500C 5 GHz Access Point Radio (ROW) (India cord)
C050940A415A	ePMP 4500C 5 GHz Access Point Radio (India) (India Cord)
C050940A511A	ePMP 4500C 5 GHz Access Point Radio (ROW) (China cord)
C050940A611A	ePMP 4500C 5 GHz Access Point Radio (ROW) (Brazil cord)
C050940A711A	ePMP 4500C 5 GHz Access Point Radio (ROW) (Argentina cord)
C050940A811A	ePMP 4500C 5 GHz Access Point Radio (ROW) (ANZ cord)
C050940A911A	ePMP 4500C 5 GHz Access Point Radio (ROW) (South Africa cord)
C050940AZ11A	ePMP 4500C 5 GHz Access Point Radio (ROW) (No PSU)
C058940A112A	ePMP 4500C 5 GHz Access Point Radio (FCC) (US cord)
C050940A216A	ePMP 4500C 5 GHz Access Point Radio (Indonesia) (EU Cord)

Bridge-in-a-Box Outdoor Wireless Ethernet Bridge

ePMP 4500L Ordering Information	
C050940A061A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (no cord)
C050940A161A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (US cord)
C058940A164A	ePMP 4500L 5 GHz 2x2 Access Point Radio (IC) (Canada/US cord)
C050940A261A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (EU cord)
C050940A263A	ePMP 4500L 5 GHz 2x2 Access Point Radio (EU) (EU cord)
C050940A361A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (UK cord)
C050940A363A	ePMP 4500L 5 GHz 2x2 Access Point Radio (EU) (UK cord)
C050940A461A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (India cord)
C050940A465A	ePMP 4500L 5 GHz 2x2 Access Point Radio (India) (India Cord)
C050940A561A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (China cord)
C050940A661A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (Brazil cord)
C050940A761A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (Argentina cord)
C050940A861A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (ANZ cord)
C050940A961A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (South Africa cord)
C050940AZ61A	ePMP 4500L 5 GHz 2x2 Access Point Radio (ROW) (No PSU)
C058940A162A	ePMP 4500L 5 GHz 2x2 Access Point Radio (FCC (US cord)
C050940A266A	ePMP 4500L 5 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.

cambiumnetworks.com

06202023

3800 Golf Road Suite 360, Rolling Meadows, Illinois 60008 USA