ePMP™ 3000 Antenna Series

QUICK LOOK:

- **High-performance sector antennas designed by Cambium Networks to maximize ePMP point-to-multipoint performance.**
- **4x4 90° MU-MIMO Sector Antenna for ePMP 3000**
- **Dual-Horn MU-MIMO Sector Antenna for ePMP 3000**
- **2x2 MIMO Antenna for ePMP 3000L with excellent front-to-back ratio for high frequency reuse**

Cambium Networks has deployed millions of radios around the world achieving unparalleled degrees of scalability and performance. A key aspect to a successful point-to-multipoint deployments is the antenna selection that is optimized to maximize the overall system gain, spectral efficiency and interference rejection. Cambium Networks has designed a series of sector antennas especially well-suited for ePMP 3000 and 3000L Access Points. For the ePMP 3000, an optional smart beamforming antenna can be added for improved uplink interference rejection.

Use LINKPlanner to determine capacity and availability of Point-to-Multipoint networks

Key Advantages of Cambium Networks-designed ePMP Sector Antennas:

Frequency Reuse

Designed for ABAB channel reuse (two channels cover four sectors).

Consistent coverage

Excellent null fill and smooth azimuth patterns allow for broad geographical cover, including near the tower and out to the sector edges.

Designed for the Installer

Small, compact designs with integrated radio mounting for reliable and safe installations.

LINKPlanner Support

Cambium Networks planning tool offers precise 3D modeling of each sectors, elevation and azimuth, enabling predictable capacity and availability of each subscriber location.

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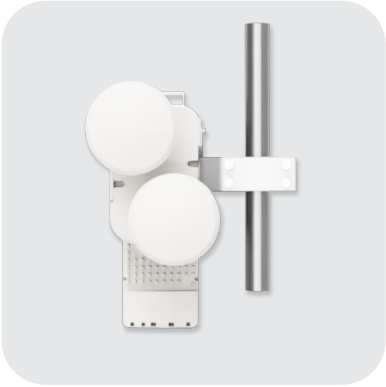
ePMP™ 3000 Antenna Series

ePMP 3000 4x4 MU-MIMO 90° Sector

The ePMP 3000 offers up to 1.2 Gbps per sector with MU-MIMO technology. Key to this system performance is the 4x4 MU-MIMO sector providing 17 dBi gain, 30 dB front-to-back ratio and the ability to form the beams necessary for grouping SM's for MU-MIMO performance. By forming these MU-MIMO groups, the ePMP 3000 effectively has two overlapping sectors enabling transmission to two SM's simultaneously as well as 3 dB system gain with downlink beam forming. This antenna is ideal for 4-sector deployments and ABAB 2-channel reuse.



ePMP 3000 Dual-Horn 60° Sector

Horn antennas have radiation patterns that focus the energy forward and reduce the size of the side lobes making them effective in dense deployments with multiple side-by-side sectors. Designed specifically for the ePMP 3000, this is the only dual-horn antenna supporting true MU-MIMO performance.

ePMP 3000L 2x2 MIMO Sector

This 90° antenna has an excellent 35 dB front-to-back ratio for ABAB 2-channel reuse with the 2x2 ePMP 3000L Access Point. The high 18 dBi gain offers excellent range and the wide azimuth and null fill give predictable coverage across the sector.

ePMP 3000 Smart Beamforming Antenna

This optional add-on module for the 4x4 MU-MIMO antenna offers the additional benefit of uplink interference rejection using smart beamforming and intelligent filtering. Reducing the impact of adjacent and co-channel uplink interference improves overall system performance by reducing TCP retries and enabling higher modulation modes.

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ePMP™ 3000 Antenna Series

Antenna Specifications

	ePMP 3000 MU-MIMO Sector	ePMP 3000 Dual Horn MU-MIMO	ePMP 3000L 2x2 Sector	ePMP 3000 Smart Beamforming Module
Frequency Range	4.9 GHz to 5.97 GHz	5.1 GHz to 6.1 GHz	4.9 GHz to 5.97 GHz	
Gain	17 dBi	12 dBi	18 dBi	
3 dB Beamwidth Azimuth	70°	n/a	90°	
3 dB Beamwidth Elevation	6°	n/a	120°	
6 dB Beamwidth Azimuth	n/a	60°	n/a	
Electrical Downtilt	-2°	n/a	-2°	
Polarization	2 x Horizontal, 2 x Vertical	2 x Horizontal, 2 x Vertical	Horizontal and Vertical	
Port-to-Port Isolation	> 20 dB	> 15 dB	> -30 dB	
Front-to-Back Ratio	30 dB	28 dB	35 dB	
Maximum Input Power	5 W	5 W	5 W	
Imput Impedance	50 ohms	50 ohms	50 ohms	
Mounting Connectors	4 x RP SMA	4 x RP SMA	2 x RP SMA	
Mounting Hardware	Included for mounting to mast diameters 5 cm to 10 cm (2 in to 4 in) -10° to +5° tilt Hardware included to connect ePMP access point to back of antenna body	Included for mounting to mast diameters 30mm – 75 mm (1.25 in to 3.0 in) Hardware included to connect ePMP access point to back of antenna body	Included for mounting to mast diameters 5 cm to 10 cm (2 in to 4 in) -10° to +5° tilt Hardware included to connect ePMP access point to back of antenna body	
Dimensions H x W x D	594 x 157 x 110 mm (23.4 x 9.6 x 3.25 in)	305 x 215 x 231 mm (12 x 8.5 x 9.1 in) **As mounted with ePMP 3000 Access Point:** 445 x 356 x 231 mm (17.5 x 14 x 9.1 in)	594 x 157 x 110 mm (23.4 x 9.6 x 3.25 in) **With ePMP 3000L Access Point and Mounting Brackets:** 594 x 157 x 150 mm (23.4 x 9.6 x 5.9 in)	
Weight	**Antenna Body:** 3.7 kg (8.0 lbs) **w/ ePMP 3000 Access Point and Mounting Brackets:** 6.3 kg (13.8 lbs)	**Antenna body with bracket:** 4.2 kg (9.4 lbs) **As mounted with ePMP 3000 AP:** 5.5 kg (12.1 lbs)	**Antenna Body:** 4.0 kg (8.8 lbs) **with ePMP 3000L Access Point and Mounting Brackets:** 6.6 kg (14.6 lbs)	
Environmental	IP65	IP55	IP65	
Radome Material	UV Protected ABS	UV Protected ABS	UV Protected ABS	
Operating Temperature	-40°C to 60°C (-40°F to 140°F)	-40°C to 60°C (-40°F to 140°F)	-40°C to 60°C (-40°F to 140°F)	
Wind Loading	n/a		Operational at ≤ 145 km/hr (90.1 mph), Survival at ≤ 209 km/hr (129.87 mph)	

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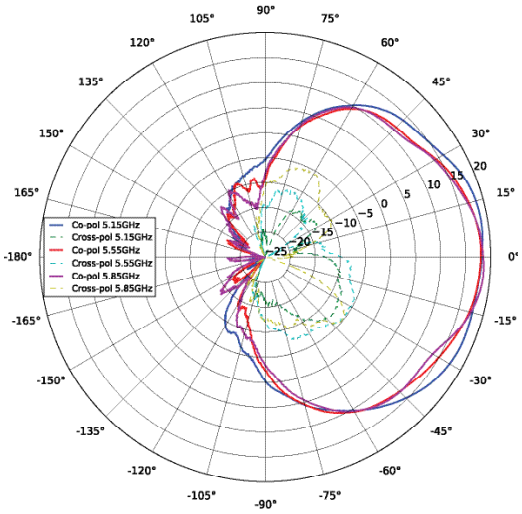
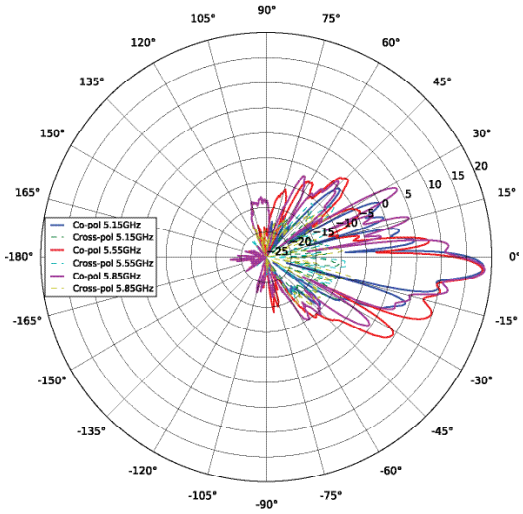
ePMP™ 3000 Antenna Series

ePMP 3000 Sector Antenna Patterns

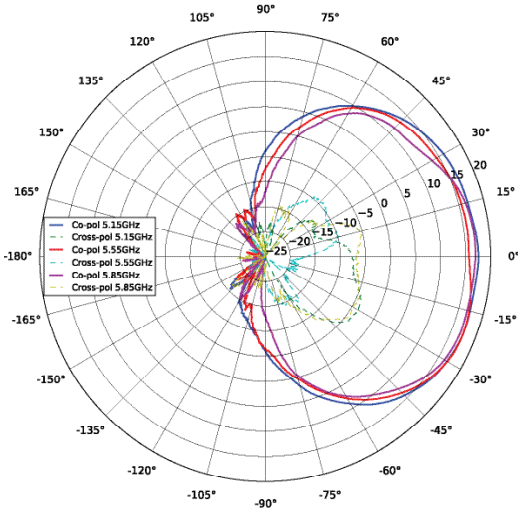
Channel 0 Vertical Polarization Azimuth



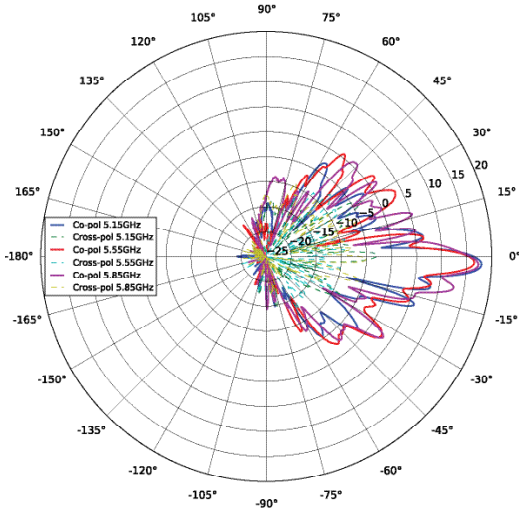
Channel 0 Vertical Polarization Elevation



Channel 1 Vertical Polarization Azimuth



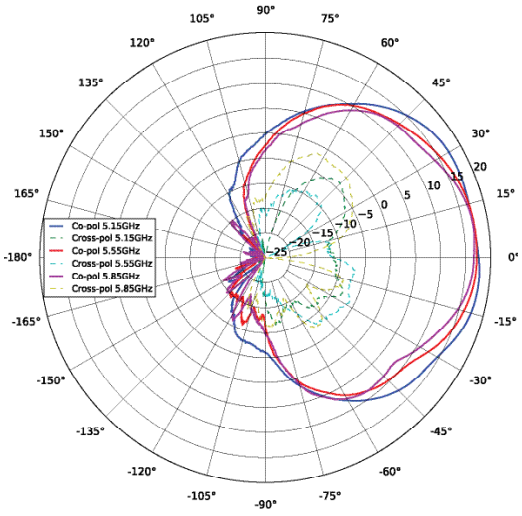
Channel 1 Vertical Polarization Elevation



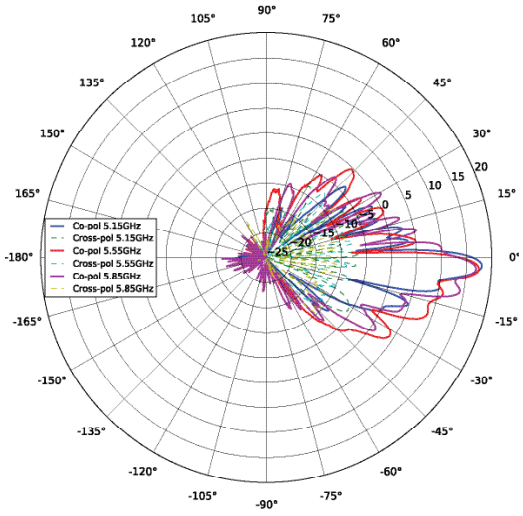
ePMP™ 3000 Antenna Series

ePMP 3000 Sector Antenna Patterns - continued

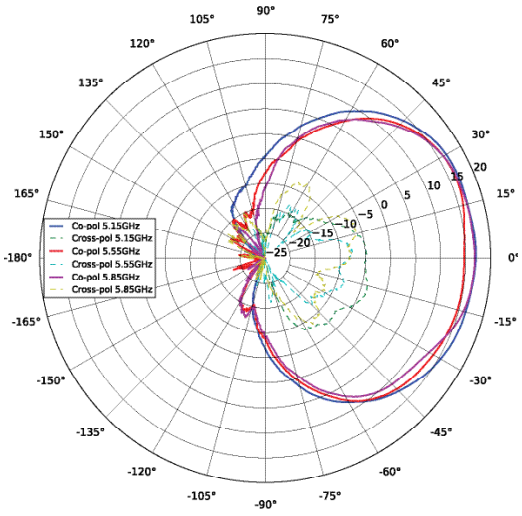
Channel 2 Vertical Polarization Azimuth



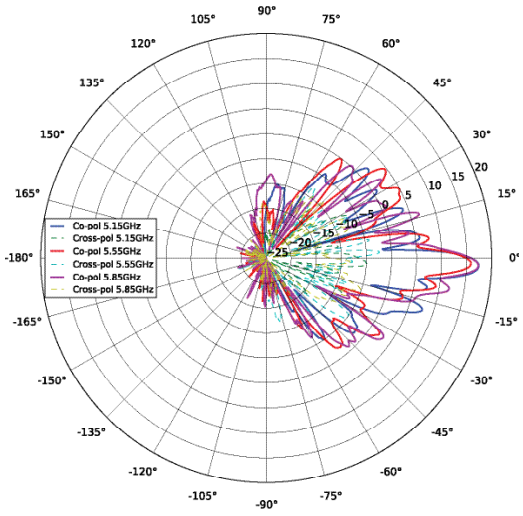
Channel 2 Vertical Polarization Elevation



Channel 3 Vertical Polarization Azimuth



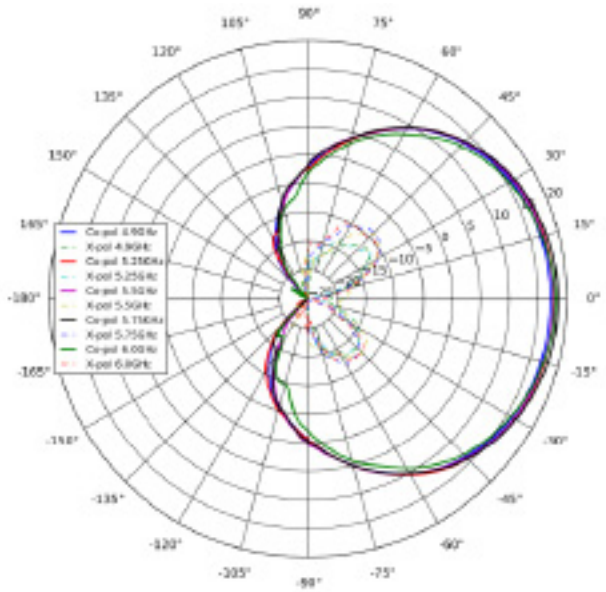
Channel 3 Vertical Polarization Elevation



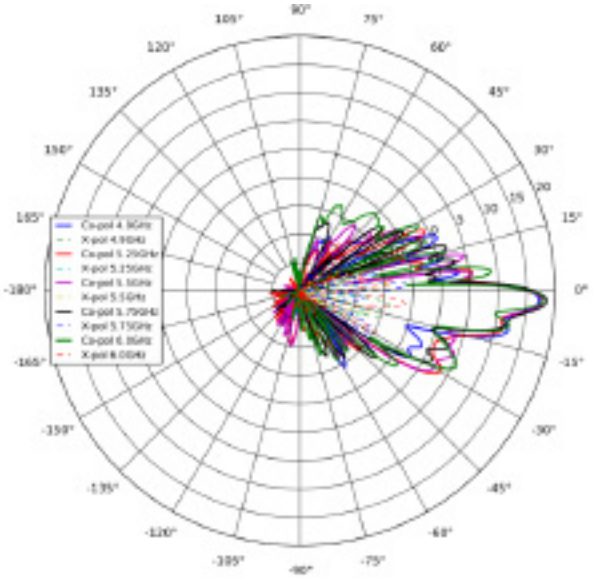
ePMP™ 3000 Antenna Series

ePMP 90º Sector Antenna Patterns

Azimuth, Horizontal



Azimuth, Vertical



ePMP™ 3000 Antenna Series

ePMP 3000
Sector Antenna

90° Sector
Antenna

Dual-Horn MU-MIMO
Antenna

Ordering Information	
C050910D301A	ePMP 3000 MU-MIMO Sector Antenna
C050900D021A	ePMP 3000L 2x2 Sector Antenna
C050900D025A	ePMP 3000 Dual-Horn MU-MIMO Sector Antenna
C050900D020A	ePMP 3000 Smart Beamforming Module

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.

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07272022

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