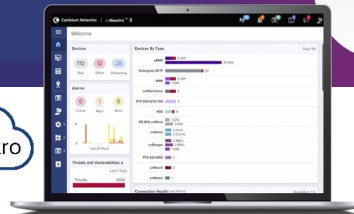
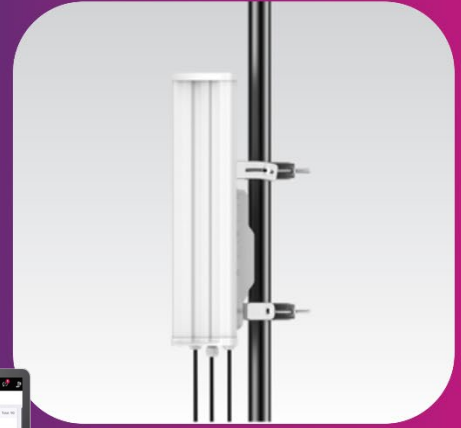


# PMP 450v 4x4 Fixed Wireless Access Point

## PMP 450V AP Quick Look

Deliver high performance to business and residential locations while extending the life of deployed PMP 450 gear. Reduce churn and remain competitive by offering enhanced service plans by providing more bandwidth.

- Operates from 5.15 GHz to 7.125 GHz
- Backward and forward compatible *and* future proof
- 4x4 MIMO access point



### 5 GHz to 7 GHz Support in Same Hardware

Easily stock and maintain a single SKU, maintain existing 5 GHz deployment, and expand into 6 GHz.

### Backward *and* Forward Compatibility

Leverage existing platform investment, and migrate gracefully to the next generation.

### Ultra-Wide-Band Support (Up to 2 x 100 MHz Channels\*)

Achieve a total capacity increase with more bandwidth to offer.

### Dual Sector Mode

Operate 2 carriers independently (i.e., one 5 GHz and one 6 GHz) with increased flexibility.

### Carrier Aggregation

Achieve flexibility in spectrum usage with 2 carriers on different bandwidths (e.g., when 5 GHz may be congested requiring smaller channels, and 6 GHz can utilize larger channels).

## Model Numbers

	ROW	FCC	ISED	No Encryption
Integrated 90-Degree Sector	C060045A401A	C060045A402A	C060045A403A	C060045A405A

\*Future software release

## PMP 450v 4x4 Fixed Wireless Access Point

Interface	
<b>MAC (Media Access Control) Layer</b>	Cambium Networks proprietary
<b>Physical Layer</b>	2x2 MIMO OFDM
<b>Ethernet Interface</b>	100/1000BaseT, full duplex, rate auto negotiated (802.3 compliant)
<b>Protocols Used</b>	IPv4, IPv6, UDP, TCP/IP, ICMP, Telnet, SNMP, HTTP, FTP
<b>Network Management</b>	IPv4/IPv6 (dual stack), HTTP, HTTPS, Telnet, FTP, SNMPv2c and v3, Cambium Networks cnMaestro™
<b>MTU</b>	1700 bytes
<b>VLAN</b>	802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID

Performance		
<b>Subscribers Per Sector</b>	Up to 238	
<b>ARQ</b>	Yes	
Modulation Levels (Adaptive)	MCS	Signal to Noise Required (SNR, in dB)
2x	QPSK	10
3x	8QAM	13
4x	16QAM	17
5x	32QAM	21
6x	64QAM	24
7x	128QAM	28
8x	<b>256QAM</b>	32
<b>Maximum Deployment Range</b>	Up to 40 mi (64 km)	
<b>Latency</b>	3–5 ms, typical	
<b>GPS Synchronization</b>	Yes, via embedded GPS, or Cambium Sync	
<b>Quality of Service</b>	Diffserve QoS	

Antenna	
<b>Integrated Sector Peak Gain</b>	17 dBi ±1 dBi integrated 90°/120° sector
<b>3 dB Beamwidth – Azimuth</b>	±45° (±60° @ 6 dB roll-off)
<b>3 dB Beamwidth – Elevation</b>	5° with null fill
<b>Electrical Downtilt</b>	2°
<b>Polarization</b>	Dual linear, H+V
<b>Front-to-Back Isolation</b>	>30 dB
<b>Cross Polarization</b>	15 dB
<b>VSWR</b>	2:1

## PMP 450v 4x4 Fixed Wireless Access Point

### Link Budget

<b>Maximum Transmit Power</b>	+28 dBm (MIMO, combined H+V) for 5 GHz, +20 dBm for 6 GHz (may be limited by regulations)
<b>Maximum EIRP</b>	+45 dBm combined output in 5 GHz, +37 dBm in 6 GHz (may be limited by regulations)
<b>Power Control</b>	ATPC (Automatic Transmit Power Control) at system level, all subscribers implement ATPC

### Physical

<b>Antenna Connection</b>	N/A – Integrated sector antenna
<b>Surge Suppression</b>	EN 61000-4-5: 10x700 $\mu$ s, 6 kV, EN 61000-4-2: ESD 8 kV contact / 15 kV air Recommended external surge suppressor: Cambium Model # C000000L033A
<b>Mean Time Between Failure</b>	>40 Years
<b>Dust &amp; Water Ingress Protection Rating</b>	IP55
<b>Temperature/Humidity</b>	-40°C to +60°C (-40°F to +140°F), 0%–100% condensing
<b>Weight</b>	6.3 kg (13.9 lb), 9.1 kg (20 lb) with bracket
<b>Wind Survival</b>	200 kph (124 mph)
<b>Vibration</b>	NEMA TS2 Section 2.1.9 and Section 2.2.3
<b>Shock</b>	NEMA TS2 Section 2.1.10 and Section 2.2.4
<b>External Icing</b>	NEMA 250-2003 Section 5.6
<b>Dimensions (H x W x D)</b>	673 x 222 x 134 mm (26.5 x 8.75 x 5.3 in)
<b>Power Consumption</b>	45W typical, 55W max, using aux port PoE for another device will increase power draw
<b>Input Voltage</b>	48-59 VDC, 802.3bt type 4 class 8 (also accepting passive PoE)

### Security

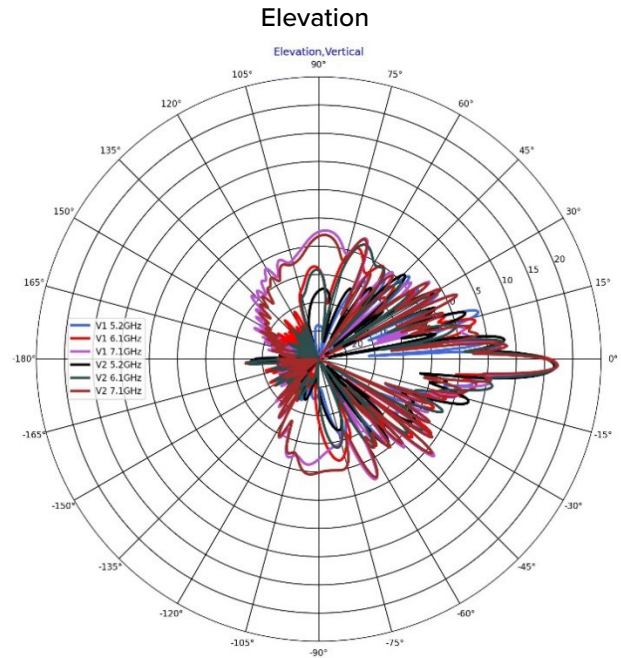
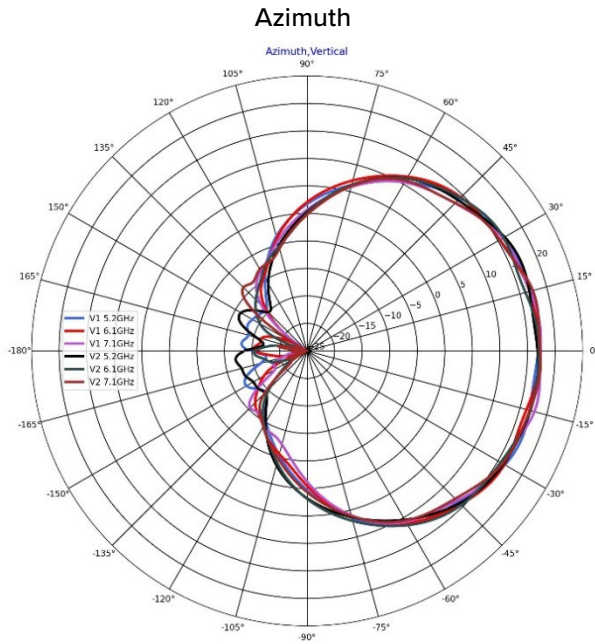
<b>Encryption</b>	FIPS-197 128 bit AES, 256-bit AES (requires optional license)
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### Certifications

<b>ISED Canada</b>	109W-0081
<b>FCC ID</b>	Z8H89FT0081
<b>CE</b>	TBD

## PMP 450v 4x4 Fixed Wireless Access Point

### Antenna Patterns



#### 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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