

PMP 450i Fixed Wireless Access Point

PMP 450i AP Quick Look

- Most scalable, industrial-grade wireless broadband solution available
- Ultra-wide-band radios: 5 GHz or 3 GHz
- Rugged metal enclosure
- 2x2 OFDM MIMO radio capable of up to 300 Mbps per sector



Ultra-Wide-Band Radios

Supports the entire band, whether 5 GHz or 3 GHz. Advanced radio design improves transmit power and increases receive sensitivity.

Rugged Metal Enclosure

Designed to meet IP-66 and IP-67 standards to withstand harsh environments.

Dynamic Interference Filtering

Provides industry leading noise isolation for improved performance.

Updated FPGA and SoC Architecture

Triplies the processing power compared to PMP 450.

Multifunction AUX Port

Allows for greater flexibility for deployment by adding a camera or other PoE directly.

Options for Integrated 90°/120° Sector Antenna

Optimized for frequency re-use (>35 dB F/B), high gain, null fill, and predictable performance or integrated 10° sector antenna for highly directional sectors.

Increased Throughput

Now capable of up to 300 Mbps per sector in a 40 MHz channel.

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Product						
		ROW	US	ISED	EU	No Encryption
5 GHz Models	Connectorized	C050045A001C	C050045A002C	C050045A015C	C050045A003C	C050045A004C
	Connectorized – Lite*	C050045AL01C	C050045AL02C	C050045AL15C	C050045AL03C	C050045AL04C
	Integrated 10° Sector	C050045A046C	C050045A047C	C050045A048C	C050045A049C	C050045A050C
	Integrated 90° Sector	C050045A005D	C050045A006D	C050045A016D	C050045A007D	C050045A008D
	Integrated 90° Sector – Lite*	C050045AL05D	C050045AL06D	C050045AL16D	C050045AL07D	C050045AL08D
3 GHz Models	Connectorized	C030045A001B	C030045A001B	C030045A001B	C030045A001B	C030045A003B
	Connectorized – Lite*	C030045AL01B	C030045AL01B	C030045AL01B	C030045AL01B	C030045AL03B
	Integrated 90° Sector	C030045A002B	C030045A002B	C030045A002B	C030045A002B	C030045A004B
	Integrated 90° Sector – Lite*	C030045AL02B	C030045AL02B	C030045AL02B	C030045AL02B	C030045AL04B

*Lite models limited to 20 subscribers.

Spectrum	
Channel Spacing	Configurable on 2.5 MHz increments; 3 GHz customizable to 50 KHz
Frequency Range	3 GHz: 3300–3900 MHz 5 GHz: 4900–5925 MHz
Channel Width	5 MHz, 7 MHz, 10 MHz, 15 MHz, 20 MHz, 30 MHz, or 40 MHz 5 MHz, 10 MHz, 15 MHz, 20 MHz, 30 MHz, or 40 MHz

Interface	
MAC (Media Access Control) Layer	Cambium Networks proprietary
Physical Layer	2x2 MIMO OFDM
Ethernet Interface	100/1000BaseT, full duplex, rate auto-negotiated (802.3 compliant)
Protocols Used	IPv4, IPv6, UDP, TCP/IP, ICMP, Telnet, SNMP, HTTP, FTP
Network Management	IPv4/IPv6 (dual stack), HTTP, HTTPS, Telnet, FTP, SNMPv2c and v3, Cambium Networks cnMaestro™
MTU	1,700 bytes
VLAN	802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID

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Performance

Subscriber per Sector* Up to 238 - Lite models limited to 20 subscribers, license key (C000045K010A) available to remove this limit

ARQ Yes

Modulation Levels (Adaptive)	MCS	Signal to Noise Required (SNR, in dB)
2x	QPSK	10
4x	16QAM	17
6x	64QAM	24
8x	256QAM	32

Maximum Deployment Range Up to 40 miles (64 km)

Latency 3–5 ms, typical

GPS Synchronization Yes, via AutoSync (CMM5 or UGPS)

Quality of Service Diffserve QoS

Link Budget

Integrated Sector Antenna 90° azimuth (3dB roll-off), 120° azimuth (6dB roll-off)
8° elevation (3dB roll-off), 2° electrical downtilt, dual polarity, or 10° azimuth, 10° elevation (3dB roll-off), dual polarity

Antenna Gain 17 dBi $\pm$ 1 dBi integrated 90/120° sector, 23 dBi $\pm$ 1 dBi integrated 10° sector

Maximum Transmit Power +28 dBm (MIMO, combined H+V) (+25 dBm for 3 GHz) (may be limited by regulations)

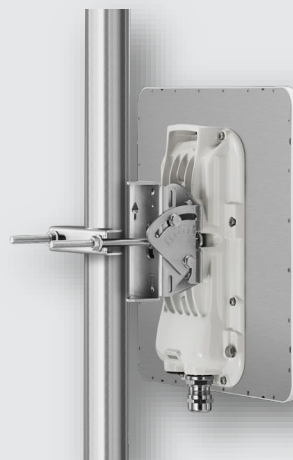
Maximum EIRP +43 dBm combined output (may be limited by regulations)

VSWR 1.5, reflection coefficient 0.2, reflected power 4%, return loss 14 dB

Power Control ATPC (automatic transmit power control) at system level, all subscribers implement ATPC



450i AP Integrated 90° Sector



450i AP Integrated 10° Sector

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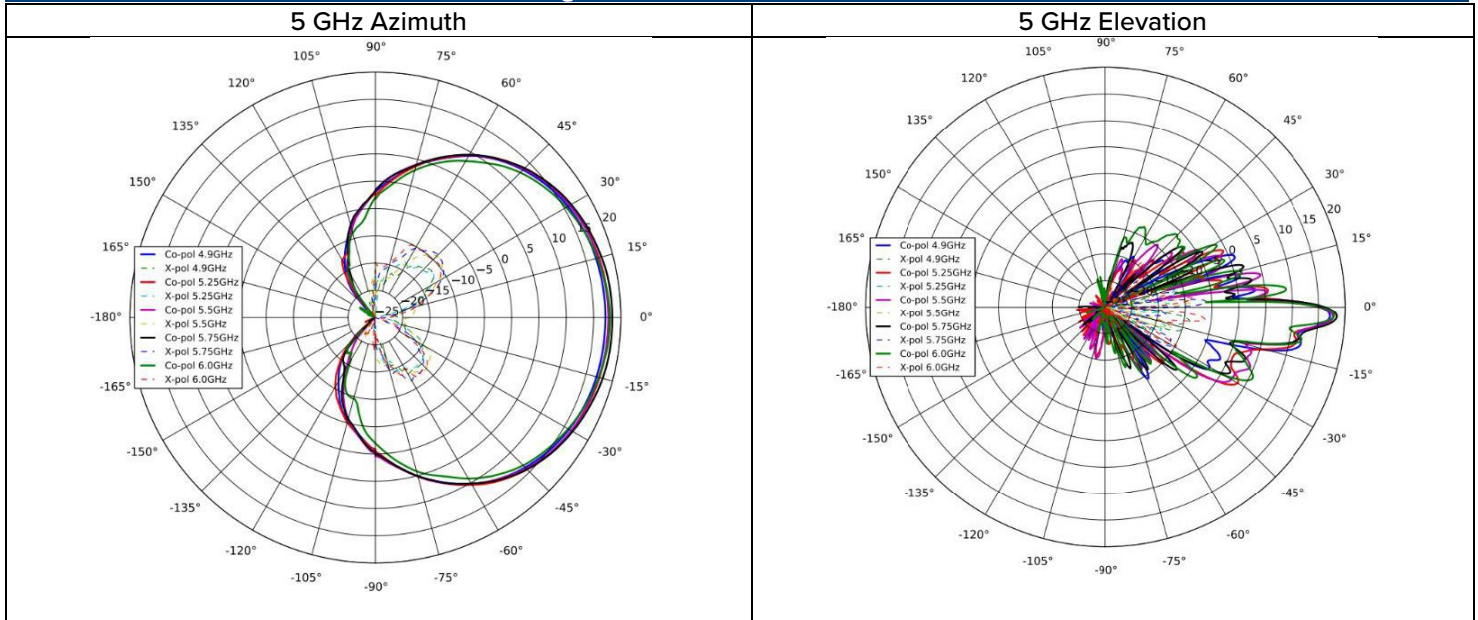
Physical			
		3 GHz	5 GHz
Antenna Connection	50 ohm, N-type (connectorized version only)		
Surge Suppression (LPU Fitted)	EN61000-4-5: 1.2us/50us, 500V voltage waveform Recommended external surge suppressor: Cambium model C000000L033A		
Mean Time Between Failure	>40 Years		
Dust and Water Ingress Protection Rating	IP67, IP66		
Weight	Connectorized	≈2.0 kg (4.5 lb)	≈2.0 kg (4.5 lb)
	Integrated	≈7 kg (15.5 lb)	≈6.3 kg (14 lb)
Wind Survival	322 km/h (200 mph)		
Vibration	NEMA TS2 Section 2.1.9 and Section 2.2.3		
Shock	NEMA TS2 Section 2.1.10 and Section 2.2.4		
External Icing	NEMA 250-2003 Section 5.6		
Dimensions (H x W x D)	Connectorized	26.0 x 13.4 x 6.4 cm (10.3 x 5.3 x 3.3 in)	26.0 x 13.4 x 6.4 cm (10.3 x 5.3 x 3.3 in)
	90° Integrated	73.2 x 19.7 x 15 cm (28.8 x 7.8 x 5.9 in)	59.1 x 23.3 x 15.8 cm (23.3 x 6.2 x 5.8 in)
	10° Integrated	—	31.0 x 31.0 x 6.4 cm (12 x 12 x 2.5 in)
Power Consumption	15W typical, 18W max, using aux port PoE for another device will increase power draw		
Input Voltage	48-59V DC, 802.3at compatible		

Security	
Encryption	FIPS-197 128-bit, AES, 256-bit AES (requires optional license)

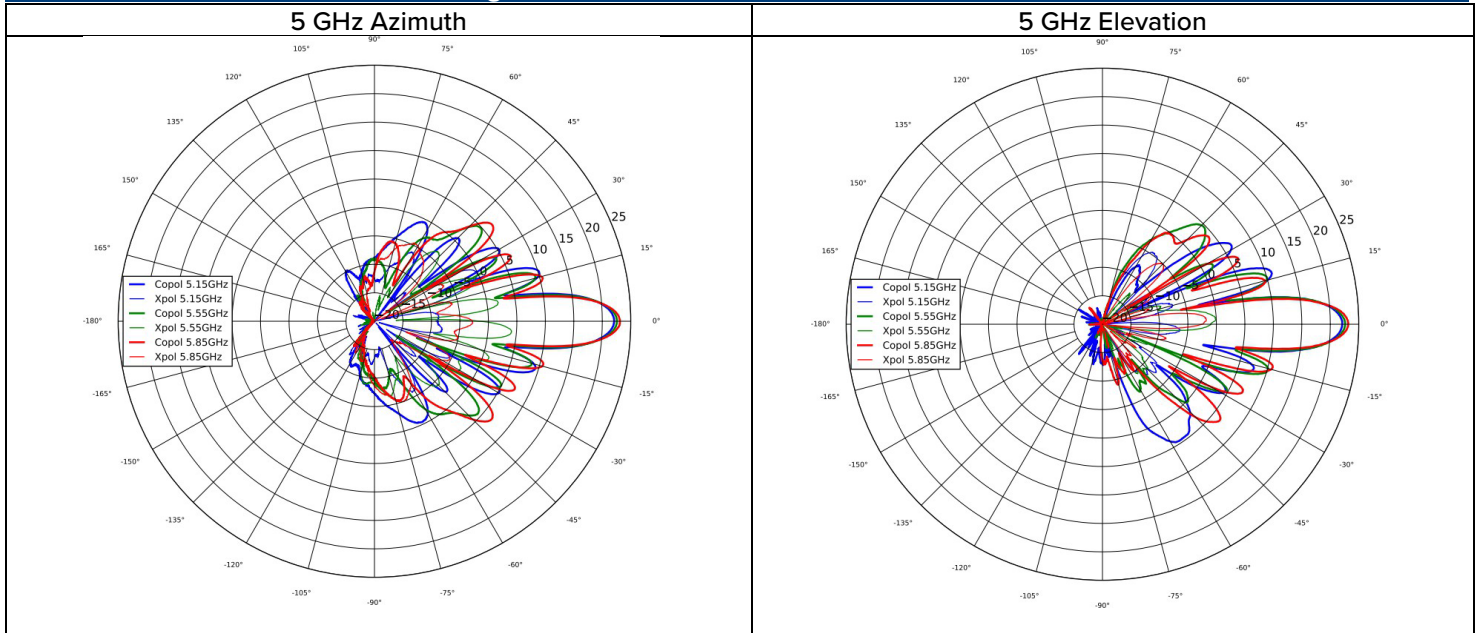
Certifications		
	3 GHz	5 GHz
ISED Canada	109W-0028	109AO-50450I
FCC ID	Z8H89FT0028	QWP-50450I
CE	EN 302 326-2 v1.2.2	EN 301 893 v2.1.1 EN 302 502 v2.1.1

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5 GHz Antenna Patterns for 90°/120° Integrated Sector

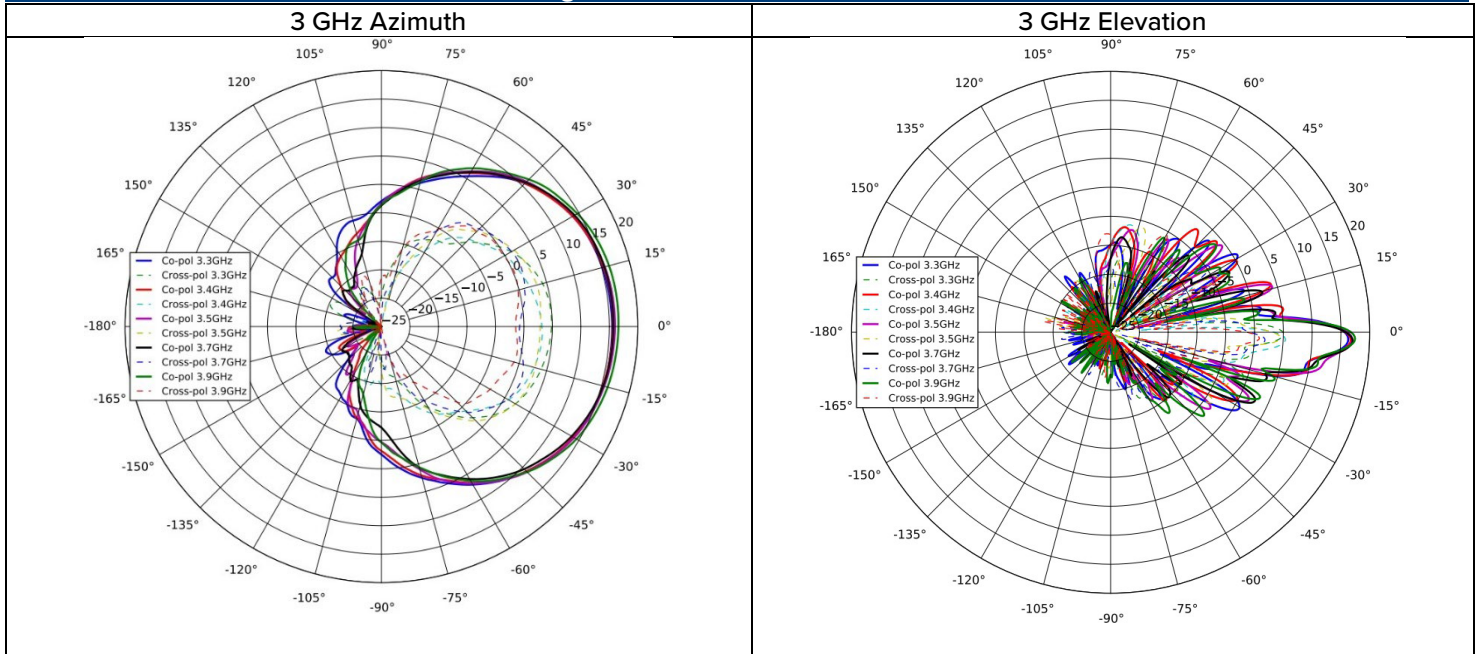


5 GHz Antenna Patterns for 10° Integrated Sector



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3 GHz Antenna Patterns for 90°/120° Integrated Sector



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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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