PMP 450 Access Point

VERTICAL MARKETS AND SOLUTIONS

WIRELESS SERVICE PROVIDERS (WISPs)

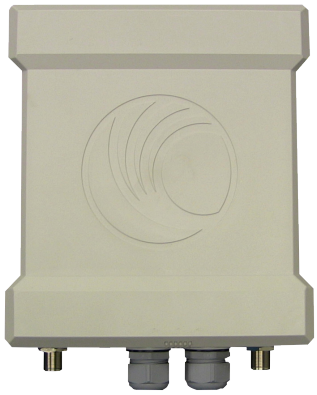
- Rural connectivity
- Municipal connectivity
- Remote office connectivity
- Primary or redundant connectivity

GOVERNMENT PUBLIC SAFETY SECTOR

- Data Connectivity and Video Surveillance for Public Safety
- Disaster Recovery for Public Service
- Data Network for Public Works

ENTERPRISES

- Video surveillance backhaul
- Device/site monitoring
- LAN extension
- Leased line replacement



PMP 450 Access Point

Introduction

The Cambium Networks PMP 450 is our industry-leading wireless access network platform. Our solution is ideal for industry verticals such as WISPs (Wireless Service Providers), Enterprises and the Government Public Safety Sector. Designed for fixed outdoor applications, the PMP 450 platform is optimized for rate, reach, reliability and throughput. It features the most resilient and effective set of wireless broadband technologies in the marketplace.

Available in most popular global bands, 2.4, 3.5 and 3.65, the Cambium Networks Point-to-Multipoint (PMP) 450 Access Point (AP) delivers a consistent and exceptionally high throughput - more than 190 Mbps per sector and more than 1.5 Gbps per tower.

From the innovative GPS Synchronization options to interoperability with existing portfolio modules, the PMP 450 provides flexible deployment options that make it an excellent fit for high capacity, high reliability networks.

Main Differentiators

» **MAXIMIZED SPECTRAL EFFICIENCY IN DENSE SERVICES AREAS** is enabled by our innovative GPS Sync Technology in combination with long range and high density coverage. This allows for configuration of more subscribers utilizing fewer access points, while preserving quality of service in spectrum-constrained environments. By lowering installation costs and maintenance, GPS Sync reduces operating expenses and improves growth and profitability.

» **OPTIMAL TRIPLE PLAY BACKHAUL** empowered by effective Quality of Service (QoS) management allows providers to confidently offer triple play services – VoIP (Voice over IP), video and data. Providing customers with excellent service ensures their continued loyalty and transforms them into advocates, helping WISPs and enterprises expand their business.

» **CARRIER-GRADE RELIABLE HARDWARE** by Cambium Networks is constructed from high quality industrial components; it is outdoor-rated and rigorously tested to satisfy the most difficult environmental conditions. With 40-year MTBF, our equipment standards are unsurpassed in industries requiring fixed wireless broadband.

Powerful Features

The Cambium Networks PMP 450 platform is designed for growth. It allows service providers to efficiently and cost-effectively offer popular multi-media services that maximize their revenue - high-speed data and cloud access, video on demand, reliable fixed voice and VoIP. The PMP 450 solution provides reliable coverage across large service areas in urban, suburban, rural and remote locations.

2x2 MIMO-OFDM technology allows dual stream operation for most channel conditions, guaranteeing successful deployment of wireless networks in challenging environments.

Low latency of 3 - 5 ms effectively supports video and VoIP services. **Flexible channel width** (5, 7, 10, 15, 20 or 30 MHz) allows users to select the most effective channel width for the current network environment. **256-QAM** modulation rate offers the unique ability to use the PMP 450 platform for services requiring fast and reliable transmission. **System performance** is ensured by vigorous testing with a com-patible set of radios, guaranteeing predictable link budget results. Cambium Networks specifications are consistent with real life conditions.

Specifications

PRODUCT		
MODEL NUMBERS	**PMP 450 ACCESS POINT** C024045A001A, C024045A003A (2.4 GHz) C035045A001A, C035045A003A (3.3 – 3.6 GHz) C036045A001A, C036045A003A (3.55 – 3.8 GHz)	**PMP 450 ACCESS POINT LITE** C024045A011A (2.4 GHz) C034045A011A (3.3 - 3.6 GHz) C036045A011A (3.55 – 3.8 GHz) C000045K008A PMP 450 AP LITE UPGRADE KEY
SPECTRUM		
FREQUENCY RANGE	2400 - 2483.5 MHz	3300 – 3600 MHz 3550 – 3800 MHz
CHANNEL WIDTH	5 MHz, 10 MHz, 15 MHz, 20 MHz or 30 MHz	5 MHz, 7 MHz, 10 MHz, 15 MHz, 20 MHz or 30 MHz
CHANNEL SPACING	Selectable on 2.5 MHz increments	Configurable to 50 KHz

INTERFACE		
MAC (MEDIA ACCESS CONTROL) LAYER	Cambium Networks proprietary	
PHYSICAL LAYER	2x2 MIMO OFDM	
ETHERNET INTERFACE	10/100/1000BaseT, half/full duplex, rate auto negotiated (802.3 compliant)	
PROTOCOLS USED	IPv4, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP	
NETWORK MANAGEMENT	HTTP, HTTPS, Telnet, FTP, SNMP v3 (add line between this & v LAN)	
VLAN	802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID	
PERFORMANCE		
SUBSCRIBERS PER SECTOR	UP TO 238	
ARQ	YES	
MODULATION LEVELS (ADAPTIVE)	MODULATION	SIGNAL TO NOISE REQUIRED (SNR, IN dB)
2X	QPSK	10
4X	16-QAM	17
6X	64-QAM	24
8X	256-QAM	32
MODULATION MODES (DYNNAMIC)	Dual Payload (higher throughput) MIMO-8 or Single Payload (polarity diversity) MIMO-A	
MAXIMUM DEPLOYMENT RANGE	Up to 40 miles	
LATENCY	3 - 5 ms, typical	
GPS SYNCHRONIZATION	Yes, via Autosync (CMM3, CMM4, uGPS, iGPS)	
QUALITY OF SERVICE	Diffserv QoS	
LINK BUDGET		
ANTENNA BEAM WIDTH (SEE ANTENNA SPEC SHEET FOR MORE DETAIL & RPE)	2.4 GHz - 60° Sector (Dual Slant) 3 GHz - 90° Sector (Dual Slant)	
TRANSMIT POWER RANGE	-30 TO +22 dBm (combined, to EIRP limit by region) (1 dB interval) (+25 dBm FOR 3 GHz)	
ANTENNA GAIN	2.4 GHz - 17 dBi Dual Slant (Sector Antenna available for 60°) 3 GHz – 17 dBi Dual Slant (Sector Antenna available for 90°)	
MAXIMUM TRANSMIT POWER	+22 dBm combined (+25 dBm combined for 3 GHz)	

PHYSICAL	
ANTENNA CONNECTION	50 ohm, N-type
SURGE SUPPRESSION	IEC 61000-4-2 (ESD) 15kV (AIR), 8kV (contact) IEC 61000-4-4 (EFT) 40A (5/50 ns) IEC 61000-4-5 (Lightning) 25A (8/20 µs)
MEAN TIME BETWEEN FAILURE	> 40 Years
ENVIRONMENTAL	IP67, IP66
TEMPERATURE	-40°C TO +60°C (-40°F TO +140°F), 0-95% non-condensing
WEIGHT	2.5 kg (5.5 lbs)
DIMENSIONS (HxWxD)	27 x 21 x 7 cm (10.6" x 8.3" x 2.8")
TYPICAL POWER CONSUMPTION	11 W (2.4 GHz), 12 W (3 GHz)
MAXIMUM POWER CONSUMPTION	14 W (2.4 GHz), 15 W (3 GHz)
INPUT VOLTAGE	22 to 32 VDC
SECURITY	
ENCRYPTION	56-bit DES, FIPS-197 128-bit AES
CERTIFICATIONS	
INDUSTRY CANADA	109W-0004 (2.4 GHz) 109W-0008 (3.5 GHZ) 109W-0010 (3.65 GHz)
FCC ID	Z8H89FT0004 (2.4 GHz) Z8H89FT0010 (3.65 GHz)
CE	EN 302 326-2 V1.2.2 (3 GHz) EN 302 326-3 V1.3.1 (3 GHz)

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