

# PMP 450i Subscriber Module

Cambium Networks industry-leading 450 platform includes the all new PMP 450i and PTP 450i radios. The 450i product platform is the most scalable industrial-grade wireless broadband solution available.

## Key Features:

- **Ultra-wide band** radios support the entire band, whether in 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. Optional ATEX/HAZLOC certified models available for hazardous deployments.
- **Dynamic Interference Filtering** to provide industry leading noise isolation for improved performance
- Updated FPGA and SoC architecture **triples the processing power** compared to PMP 450
- **Multifunction AUX port** allows for greater flexibility for deployment by adding a camera or other PoE directly.
- Now capable of **up to 300 Mbps per sector** in a 40 MHz channel.



PRODUCT	3 GHz		5 GHz	
Model Numbers	Connectorized	C030045C001A	Connectorized	C050045C001B
	Integrated	C030045C002A	Integrated	C050045C002C

## 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	1700 bytes
VLAN	802.1ad (DVLAN Q-inQ), 80 2.1Q with 802.1p priority, dynamic port VID

## PERFORMANCE

ARQ	Yes
Modulation Levels (Adaptive)	MCS
2X	QPSK
4X	16QAM
6X	64QAM
8X	256QAM
Maximum Deployment Range	Up to 40 miles (64 km)
Latency	3 - 5 ms, typical
GPS Synchronization	Yes, via Autosync (CMM3, CMM4)
Quality of Service	Diffserve QoS

## LINK BUDGET

### 3 GHz

### 5 GHz

Antenna Beam Width	17° azimuth for integrated antenna	10° azimuth for integrated antenna
Antenna Gain	+19 dBi dual slant integrated, or external	+23 dBi H+V integrated, or external
Maximum Transmit Power	+25 dBm (MIMO, Combined H+V)	+28 dBm (MIMO, Combined H+V) (may be limited by regulations)
Maximum EIRP	+43 dBm combined output (may be limited by regulations)	+50 dBm combined output (may be limited by regulations)

## PHYSICAL

Antenna Connection	50 ohm, N-Type (Connectorized version only)	
Surge Suppression	EN61000-4-5: 1.2us/50us, 500 V voltage waveform Recommended external surge suppressor: Cambium Networks Model # C000000L033A	
Mean Time Between Failure	> 40 Years	
Environmental	IP66, IP67	
Temperature / Humidity	-40°C to +60°C (-40°F to +140°F), 0-100% condensing	
Weight	Connectorized	Approx. 2.0 kg (4.5 lbs)
	Integrated	Approx. 2.5 kg (5.5 lbs)
Wind Survival	Connectorized	322 km/h (200 mi/h)
	Integrated	200 km/h (124 mi/h)
Dimensions (HxWxD)	Connectorized	26.0 x 13.4 x 6.4 cm (10.3" x 5.3" x 3.3")
	Integrated	31.0 x 31.0 x 6.4 cm (12" x 12" x 2.5")
Power Consumption	15 W typical, 18 W max, 45 W max with Aux port PoE out enabled	
Input Voltage	48-59 V DC, 802.3at compliant	
Mounting	Wall or Pole mount with Cambium Networks Model # N000045L002A	

## SECURITY

Encryption	FIPS-197 128-bit AES , 256-bit AES*	
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## Certifications

### 3 GHz

### 5 GHz

Industry Canada	109W-0028 (3 GHz)	109A0-50450I (4.9, 5.4, 5.8 GHz)
FCC ID	Z8H89FT0028 (3 GHz)	QWP-50450I (4.9, 5.1, 5.2, 5.4, 5.8 GHz)
CE	EN 302 326-2 v1.2.2 (3 GHz)	EN 301 893 v1.8.1 (5.4 GHz)
		EN 302 625 v1.1.1 (Broadband Disaster Relief, 4.9 GHz, 5.1 GHz)
		EN 302 502 v1.2.1 (5.8 GHz)