

# 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 **>250 Mbps per sector** in a 40 MHz channel.



## PRODUCT

Model Numbers	3 GHz	Connectorized	C030045C001A	5 GHz	Connectorized	C050045C001A
		Integrated	C030045C002A		Integrated	C050045C002A

## 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, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP
Network Management	HTTP, HTTPS, Telnet, FTP, SNMP v3
VLAN	802.1ad (DVLAN Q-inQ), 80 2.1Q with 802.1p priority, dynamic port VID

## PERFORMANCE

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 (CMM3, CMM4)		
Quality of Service	Diffserve QoS		

## LINK BUDGET

Antenna Beam Width	10° azimuth for integrated antenna		
Antenna Gain	3 GHz : +19 dBi dual slant integrated, or external	5 GHz : +23 dBi H+V integrated, or external	
Transmit Power Range	40 dB dynamic range (to EIRP limit by region) (1 dB step)		
Maximum Transmit Power	+27 dBm combined output (+25 dBm combined for 3 GHz)		

## 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), 0-95% non-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, 25 W max, 55 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	56-bit DES, FIPS-197 128-bit AES		
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## Certifications

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)