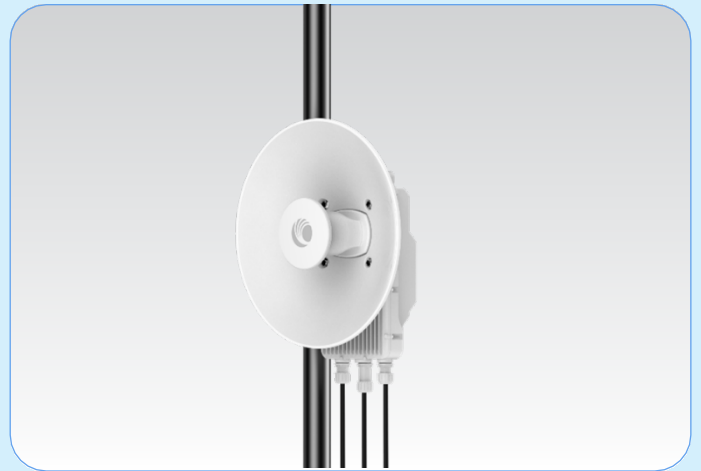# PMP 450v 4x4 Fixed Wireless Subscriber Module and PTP Backhaul

QUICK LOOK:

Deliver higher performance to business and residential locations. Reduce churn and remain competitive by offering enhanced service plans by providing more bandwidth.

- Operates from 5.15 to 7.125 GHz
- 4x4 MIMO Subscriber Module
- Can be deployed as Point-to-Point (PTP) backhaul link

5 GHz to 7 GHz support in same hardware
Easily stock and maintain a single SKU

Ultra-Wide-band support (up to 2x100 MHz channels)
Achieve a total capacity increase with more bandwidth to offer

Frequency Flexibility
Achieve flexibility in spectrum usage using with 5 GHz or 6 GHz frequency bands

Model Numbers

		ROW	FCC	ISED	EU	No Encryption
Integrated 4x4 High Gain Dish	Subscriber Module	C060045C401A	C060045C401A	C060045C401A	C060045C401A	C060045C401A
	Backhaul	C060045B401A*	C060045B402A*	C060045B403A*	C060045B404A*	C060045B405A*

Spectrum

Channel Spacing	Configurable on 2.5 MHz increments
Frequency Range	5.150 GHz - 7.125 GHz
Channel Bandwidths	5, 10, 15, 20, 30, 40, 50*, 80, 100*, 120*, 150*, 160*, 200*

* Future release

PMP 450v 4x4 Fixed Wireless Subscriber Module and PTP Backhaul

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), 802.1Q with 802.1p priority, dynamic port VID

Performance

Packets Per Second	100,000	
ARQ	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	256QAM	32
Ultimate Sensitivity	-94 dBm	
Maximum Deployment Range	Up to 40 miles (64 km), in PMP mode, up to 124 miles (200 km) in PTP mode	
Latency	3-5 ms, typical	
GPS Synchronization	Yes, via embedded GPS	
Quality of Service	Diffserve QoS	

Antenna

Integrated Antenna Peak Gain	22 dBi @ 5 GHz, 24 dBi @ 6 GHz
3 dB Beamwidth - Azimuth	7°
3 dB Beamwidth - Elevation	7°
Polarization	Dual Linear, H+V
Front-to-Back Isolation	> 30 dB (> 25 dB at sector edge)
Cross Polarization	15 dB
VSWR	< 2

PMP 450v 4x4 Fixed Wireless Subscriber Module and PTP Backhaul

Link Budget	
Maximum Transmit Power	+28 dBm (MIMO, Combined H+V) for 5 GHz, +20 dBm for 6 GHz
Maximum EIRP	+50 dBm combined output (may be limited by regulations) for 5 GHz, +44 dBm for 6 GHz
Power Control	ATPC (Automatic Transmit Power Control) at system level, all Subscribers implement ATPC

Physical	
Antenna Connection	N/A - Integrated Dish antenna
Surge Suppression	EN 61000-4-5: 10x700 µs, 6 kV, EN 61000-4-2: ESD 8 kV contact / 15 kV air
	Recommended external surge suppressor: Cambium Networks Model # C000000L033A
Mean Time Between Failure	> 40 Years
Dust and Water Ingress Protection Rating	IP67, IP66
Temperature / Humidity	-40°C to +60°C (-40°F to +140°F), 0-100% condensing
Weight	4.5 kg (9.9 lbs), 6.5 kg (14.3 lbs) with bracket
Wind Survival	200 kph (124 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 (Dia x Depth)	462 mm (diameter) x 264 mm (18.1" diameter x 10.4" depth)
Power Consumption	45W Typical, 55W Max
Input Voltage	48-59 VDC, 802.3bt type 4 class 8 (also accepting passive PoE)

Security	
Encryption	FIPS-197 128-bit AES,
	256-bit AES (Requires Optional License)

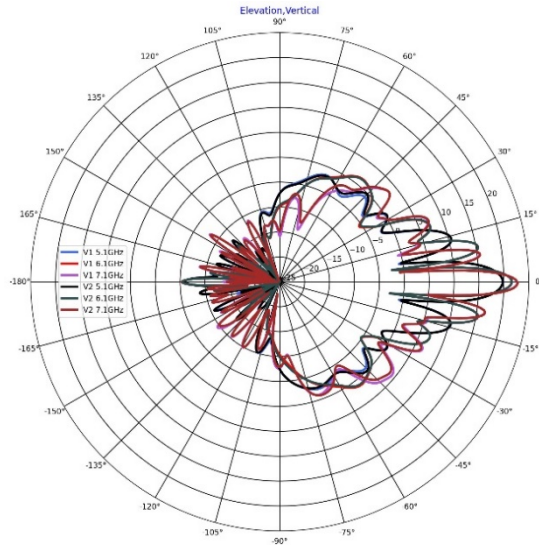| Certifications	
ISED Canada	109W-0082
FCC ID	Z8H89FT0082
CE	EN 301 893 V2.1.1
	EN 302 502 V2.1.1

PMP 450v 4x4 Fixed Wireless Subscriber Module and PTP Backhaul

Antenna Pattern

Azimuth
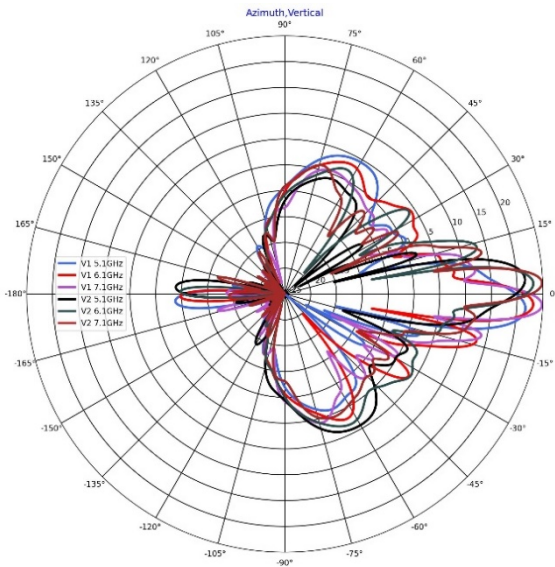
Elevation

ABOUT CAMBIUM NETWORKS

Cambium Networks empowers millions of people with wireless connectivity worldwide. Its wireless portfolio is used by commercial and government network operators as well as broadband service providers to connect people, places and things. With a single network architecture spanning fixed wireless and Wi-Fi, Cambium Networks enables operators to achieve maximum performance with minimal spectrum. End-to-end cloud management transforms networks into dynamic environments that evolve to meet changing needs with minimal physical human intervention. Cambium Networks empowers a growing ecosystem of partners who design and deliver gigabit wireless solutions that just work.

cambiumnetworks.com

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