PTP 450i

Fixed Wireless Backhaul

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.

QUICK LOOK:

- **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 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

Provides industryleading 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.

INCREASE THROUGHPUT

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

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Product

		RoW	US	EU	DES Only
5 GHz Model Numbers	Connectorized	C050045B001B	C050045B003B	C050045A003B	C050045B007B
	Integrated	C050045B002B	C050045B004B	C050045A049B	C050045B008B
3 GHz Model Numbers	Connectorized	C350045B001A	C350045B001A		C030045B003A
	Integrated	C350045B002A	C350045B002A		C030045B004A

Spectrum

Channel Spacing	**3 GHz:** Customizable to 50 KHz	**5 GHz:** Configurable on 2.5 MHz increments
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

Specifications

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

Security

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

PTP 450i Fixed Wireless Backhaul

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 200 kilometers (124 miles) depending on configuration
Latency	3 - 5 ms, typical
GPS Synchronization	Yes, via Autosync (UGPS, CMM4 or CMM5)
Quality of Service	Diffserve QoS

Physical

Antenna Connection		50 ohm, N-Type (Connectorized version only)
Surge Suppression (LPU fitted)		EN61000-4-5: 1.2us/50us, 500 V voltage waveform 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 +75°C (-40°F to +167°F), 0-100% condensing
Weight	Connectorized	Approx. 2.0 kg (4.5 lbs)
	Integrated	Approx. 2.5 kg (5.5 lbs)
Wind Survival		322 km/h (200 mi/h)
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 (HxWxD)	Connectorized	26.0 x 13.4 x 6.4 cm (10.25” x 5.25” x 3.25”)
	Integrated	31.0 x 31.0 x 6.4 cm (12” x 12” x 2.5”)
Power Consumption		15 W typical, 18 W max, Using Aux port PoE for another device will increase power draw
Input Voltage		48-59 V DC, 802.3at compliant
Mounting		Wall or Pole mount with Cambium Networks Model # N000045L002A

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Link Budget

Antenna Beam Width	10° azimuth for integrated antenna
Antenna Gain	3 GHz Integrated: +19 dBi dual pol, H+V
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)
VSWR	1.5, Reflection Coefficient 0.2, Reflected Power 4%, Return Loss 14 dB
Power Control	ATPC (Automatic Transmit Power Control) at system level, Backhaul slave implements ATPC (Future Software release)

Certifications

	3 GHz	5 GHz
ISED Canada	109W-0028 (3 GHz)	109AO-50450I (4.9, 5.2, 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 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)

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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