



PTP 450i

Fixed Wireless Backhaul

The ultra-wide band PTP 450i Integrated features dynamic interference filtering, IP-66/67 enclosure, and multifunction AUX port. The PTP 450i boasts triple the power and range of a 450 product, along with ruggedisation to withstand industrial and public safety environments. Available as PMP or PTP.



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 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.

INCREASE THROUGHPUT

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



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)		
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 Synchronisation	Yes, via Autosync (UGPS, CMM4 or CMM5)		
Quality of Service	Diffserve QoS		
PHYSICAL			
Antenna Connection	50 ohm, N-Type (Connectorised 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 & Water Ingress Protection Rating	IP67, IP66		
Temperature / Humidity	-40°C to +75°C (-40°F to +167°F), 0-100% condensing		
Weight	Connectorised: 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		

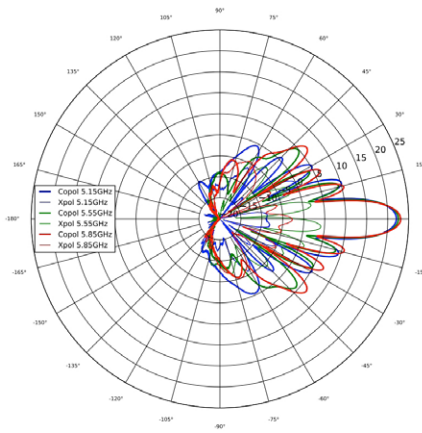


External Icing	NEMA 250-2003 Section 5.6	
Dimensions (HxWxD)	Connectorised: 26.0 x 13.4 x 6.4 cm (10.25" x 5.25" x 3.25"), Integrated: 31.0 x 31.0 x 6.4 cm (12" x 12" x 2.5")	
Power Consumption	15 W typical, 18 W max. Using Aux port PoE for another device will increase power draw	
Input Voltage	48-59 V DC, 802.3at compliant	
Mounting	Wall or Pole mount with Cambium Networks Model # N000045L002A	
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)
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	109AO-50450I
FCC ID	Z8H89FT0028	QWP-50450I
CE	EN 302 326-2 v1.2.2	EN 301 893 v2.1.1 EN 302 502 v2.1.1
SPECTRUM		
	3 GHz	5 GHz
Channel Spacing	Customisable to 50 KHz	Configurable on 2.5 MHz increments
Frequency Range	3300 - 3900 MHz	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

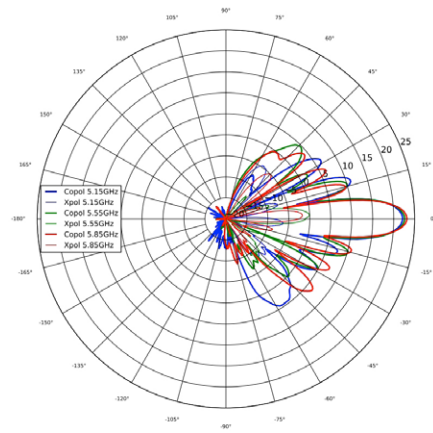
Ordering Information

Product Code	Description
C050045B001B	5 GHz Connectorised
C050045B002B	5 GHz Integrated
C030045B001A	3 GHz Connectorised
C030045B002A	3 GHz Integrated

5 GHz Antenna Pattern for Integrated PTP 450i

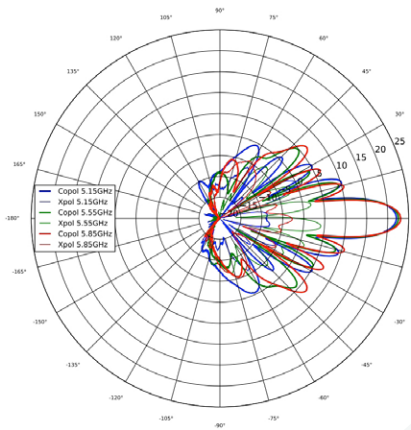


5 GHz Azimuth

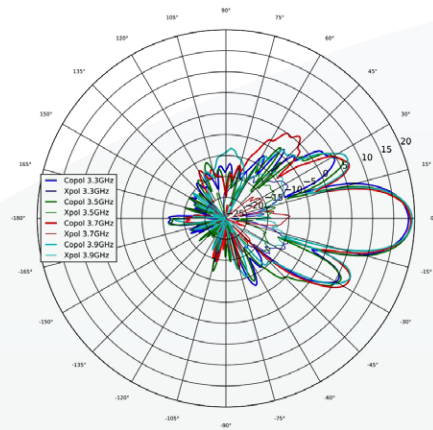


5 GHz Elevation

3 GHz Antenna Pattern for Integrated PTP 450i



3 GHz Azimuth



3 GHz Elevation

Why Rising Connection is using equipment designed and built by Cambium Networks?

- High quality and worldwide longevity track record of installations across a diverse application base
- Using establish world best practices in design and materials with full support of both Australian and International Standards
- Constant evolution of hardware and improvements in firmware for the benefit of the customer
- Established interoperability with various equipment and propriety security systems
- Full portfolio of solution development services and cloud management

This demonstrates to Rising Connection that you will have the Quality, Reliability and Product Support.