

450b Retro

Point-to-Point Link / Subscriber Module

QUICK LOOK:

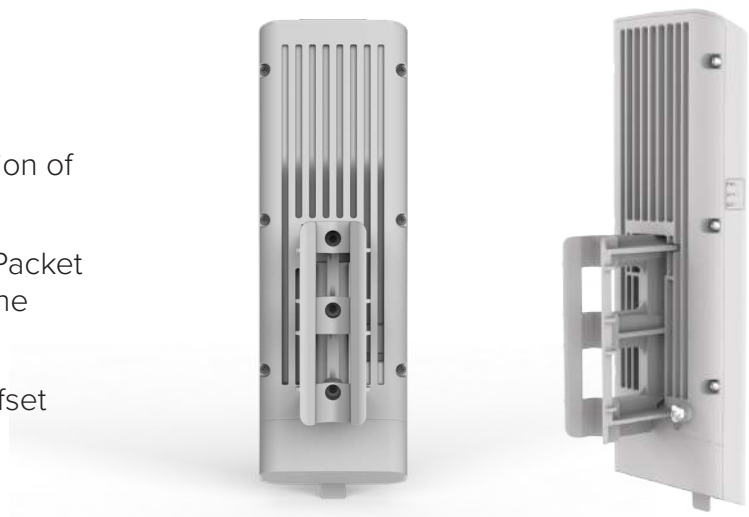
Cambium Networks 450 platform increases performance with the addition of the 450b Subscriber and Backhaul Module.

- **Ultra-wide band radios:
4.9 GHz to 5.925 GHz**
- **Capable of up to 300 Mbps aggregate in a 40 MHz channel**
- **Can function as a Point-to-Point (PTP) link or as a Subscriber Module (SM)**



KEY FEATURES

- Gigabit Ethernet Interface provides the maximum transfer rates to the device.
- 3.5 mm audio jack allows direct connection of headphones without any adapters.
- New System on a Chip (SoC) enhances Packet Processing Power more than 4x that of the 450 SM.
- Form factor allows the use of existing Offset Reflector dishes.



450b Retro Point-to-Point Link / Subscriber Module

Product					
	RoW	FCC	ISED	EU	No Encryption
Model Numbers	C050045B101A	C050045B102A	C050045B103A	C050045B104A	C050045B105A

Spectrum	
Channel Spacing	Configurable on 2.5 MHz increments
Frequency Range	4900 - 5925 MHz
Channel Width	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	100/1000 BaseT, 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 (<i>Requires Optional License for attached Access Point</i>)

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Performance	
PPS	50,000
ARQ	Yes
Modulation Levels (Adaptive)	MCS
2x	QPSK
4x	16QAM
6x	64QAM
8x	256QAM
Signal to Noise Required (SNR, in dB)	
	10
	17
	24
	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, synchronized by Access Point or via 3.5mm port using cnPulse (for PTP mode)
Quality of Service	Diffserve QoS

Physical	
Integrated Antenna Gain	9 dBi
Azimuth (3 dB rolloff)	45°
Elevation (3 dB rolloff)	45°
VSWR (MAX)	2:1
Antenna Accessories	Optional Offset Reflector dish: HK2022A - 4-pack -- Enables total gain of 24 dBi
Surge Suppression	EN 61000-4-5: 10x700 μs, 4 kV, EN 61000-4-2: ESD 30 kV contact / 30 kV air
Mean Time Between Failure	> 40 Years
Environmental	IP55
Temperature / Humidity	-40°C to 60°C (-40°F to 140°F), 0-95% non-condensing
Weight	0.4 kg (1 lb) (includes mounting bracket)
Wind Survival	200 kph (124 mph)
Dimensions (HxWxD)	28.6 cm x 8.9 cm x 8.9 cm (11.25 in x 3.5 in x 3.5 in)
Pole Diameter Range (w/ included mount)	1 in to 3 in pole diameter
Power Consumption	9 W typical, 12 W peak
Input Voltage	24-30 VDC, Canopy-style PoE

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Link Budget

Transmit Power Range 57 dB dynamic range (to EIRP limit by region) (1 dB step)

Maximum Transmit Power +27 dBm (MIMO, combined V+H) (+22 dBm @ 256QAM)

Power Control ATPC (Automatic Transmit Power Control) at system level, all Subscribers implement ATPC

Certifications

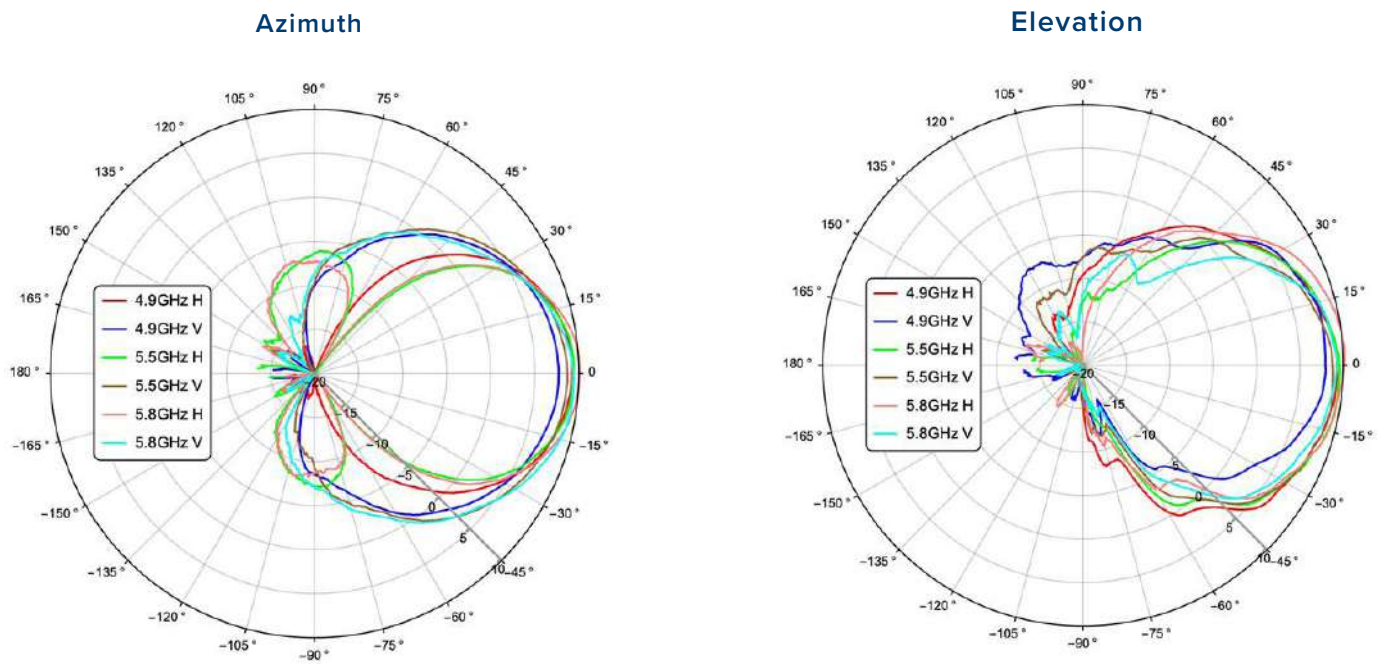
ISED Canada 109W-0042

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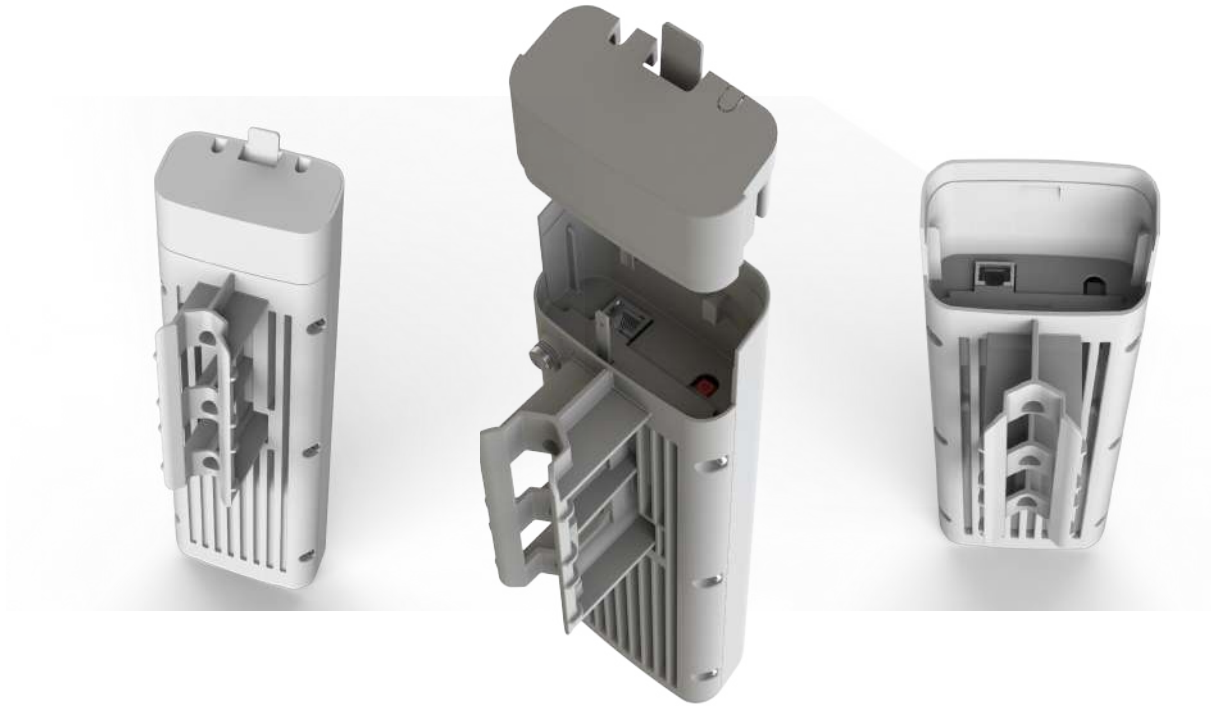
EN 301 893 v2.1.1

EN 302 502 v2.1.1

450b Retro Antenna Patterns



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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.

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