

# 450b Retro

## Point-to-Point Link / Subscriber Module

### QUICK LOOK:

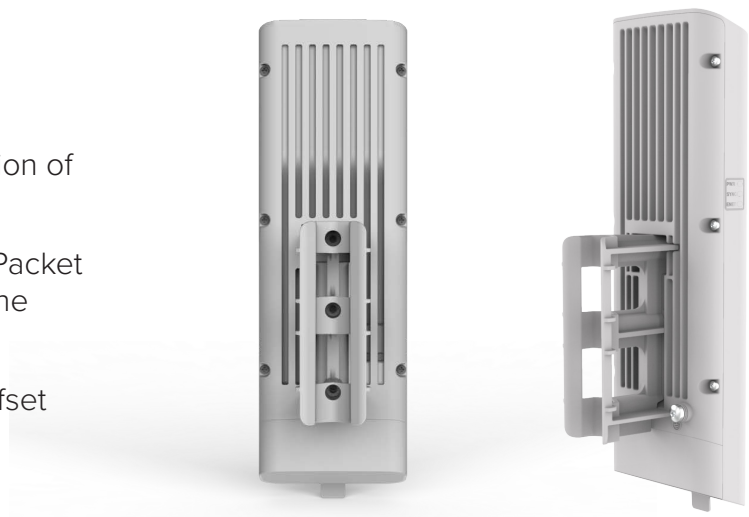
Cambium Networks 450 platform increases performance with the addition of the 450b Subscriber and Backhaul Module.

- **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
<b>Model Numbers</b>	C050045B101A	C050045B102A	C050045B103A	C050045B104A	C050045B105A

Spectrum	
<b>Channel Spacing</b>	Configurable on 2.5 MHz increments
<b>Frequency Range</b>	4900 - 5925 MHz
<b>Channel Width</b>	5 MHz, 10 MHz, 15 MHz, 20 MHz, 30 MHz or 40 MHz

## Specifications

Interface	
<b>MAC (Media Access Control) Layer</b>	Cambium Networks proprietary
<b>Physical Layer</b>	2x2 MIMO OFDM
<b>Ethernet Interface</b>	100/1000 BaseT, full duplex, rate auto negotiated, 802.3 compliant
<b>Protocols Used</b>	IPv4, IPv6, UDP, TCP/IP, ICMP, Telnet, SNMP, HTTP, FTP
<b>Network Management</b>	IPv4/IPv6 (dual stack), HTTP, HTTPS, Telnet, FTP, SNMPv2c and v3, Cambium Networks cnMaestro™
<b>MTU</b>	1700 bytes
<b>VLAN</b>	802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID

Security	
<b>Encryption</b>	FIPS-197 128-bit AES, 256-bit AES ( <i>Requires Optional License for attached Access Point</i> )

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

Performance	
<b>PPS</b>	50,000
<b>ARQ</b>	Yes
<b>Modulation Levels (Adaptive)</b>	<b>MCS</b>
2x	QPSK
4x	16QAM
6x	64QAM
8x	256QAM
<b>Signal to Noise Required (SNR, in dB)</b>	
	10
	17
	24
	32
<b>Ultimate Sensitivity</b>	-94 dBm
<b>Maximum Deployment Range</b>	Up to 40 miles (64 km) in PMP mode, up to 124 miles (200 km) in PTP mode
<b>Latency</b>	3 - 5 ms, typical
<b>GPS Synchronization</b>	Yes, synchronized by Access Point or via 3.5mm port using cnPulse (for PTP mode)
<b>Quality of Service</b>	Diffserve QoS

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

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

### 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

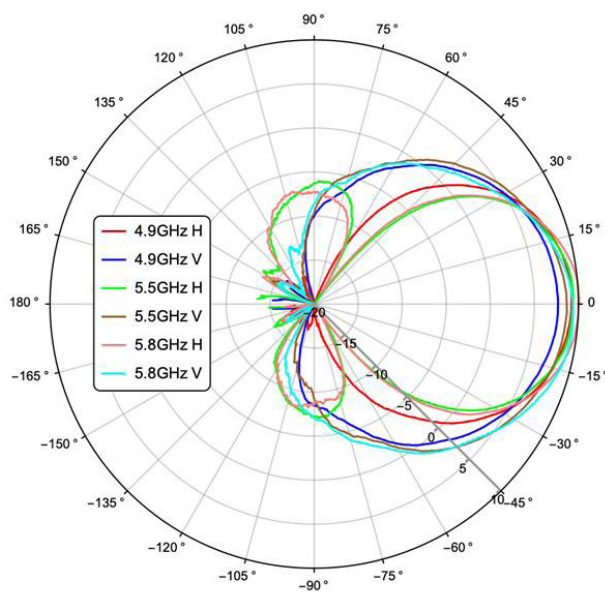
**FCC ID** Z8H89FT0042

EN 301 893 v2.1.1

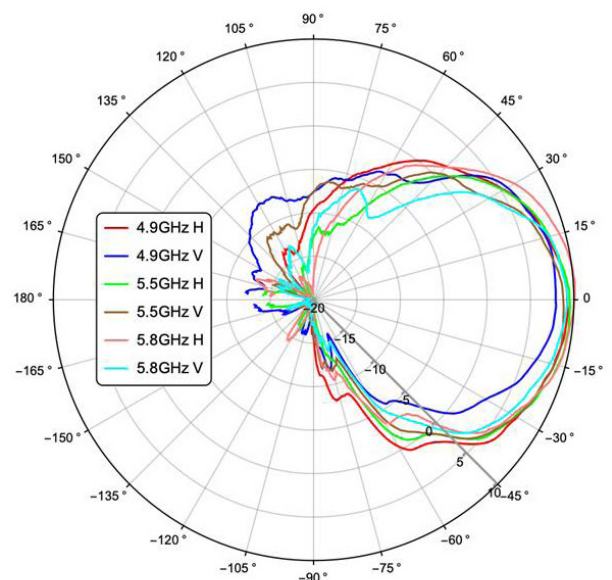
EN 302 502 v2.1.1

### 450b Retro Antenna Patterns

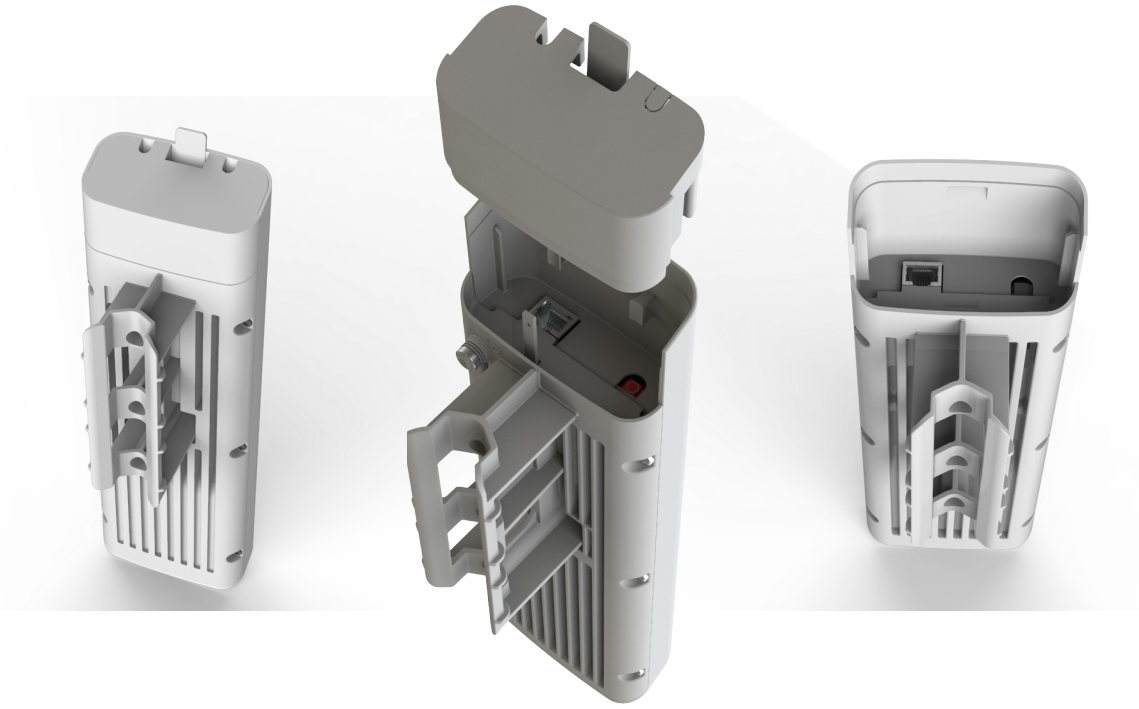
Azimuth



Elevation



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



### 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](http://cambiumnetworks.com)

10022020