3 GHz 450b

Subscriber and Backhaul

QUICK LOOK:

Cambium Networks 450 platform increases performance with the addition of the 3 450b Subscriber and Backhaul Module.

- **Ultra-wide band radios: 3.3 GHz to 3.9 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
- CBRS CBSD Category B device
- 3.5 mm audio jack allows direct connection of headphones for alignment without any adapters
- New System on a Chip (SoC) enhances Packet Processing Power more than 4x that of the 450 SM
- "No Encryption" models only required for countries with export control license requirements



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Product

High Gain (20 dBi)	Global	No Encryption	4-pack Antenna Assembly
Model Numbers	C030045B021A	C030045B025A	N030045D001A

Spectrum

Channel Spacing	Configurable on 500 KHz increments
Frequency Range	3300 - 3900 MHz
Channel Width	5 MHz, 7 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 *(Requires Optional License for attached Access Point)*

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Performance

PPS	50,000
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

Ultimate Sensitivity	-94 dBm
Maximum Deployment Range	Up to 64 km (40 miles) in PMP mode, up to 200 km (124 miles) 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

Antenna

Integrated Antenna Peak Gain	20 dBi
3 dB Beamwidth - Azimuth	12°
3 dB Beamwidth - Elevation	12°
Polarization	Dual slant, +-45
Front-To-Back Isolation	> 30 dB
Cross Polarization	> 15 dB

Physical

Antenna Accessories	Optional Radome: N000900L021A
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; Optional glands to enhance to IP67 - Part number N000000L135A
Temperature / Humidity	-40°C to 60°C (-40°F to 140°F), 0-95% non-condensing
Weight	3.1 kg (7 lb) (includes mounting bracket)
Wind Survival	200 kph (124 mph)
Dimensions (Diameter x Depth)	45 cm x 28 cm (17.8 in x 11.2 in)
Pole Diameter Range (w/ included mount)	2.5 cm to 7.6 cm (1 in to 3 in) ± 20 degrees mechanical tilt
Power Consumption	12 W typical, 15 W peak
Input Voltage	20-32 VDC, Canopy-style PoE

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Link Budget

Transmit Power Range	56 dB dynamic range (to EIRP limit by region) (1 dB step)
Maximum Transmit Power	+29 dBm (MIMO, combined polarities)

Certifications

ISED Canada	109W-0053
FCC ID	Z8H89FT0053
ETSI	EN 302 326-2





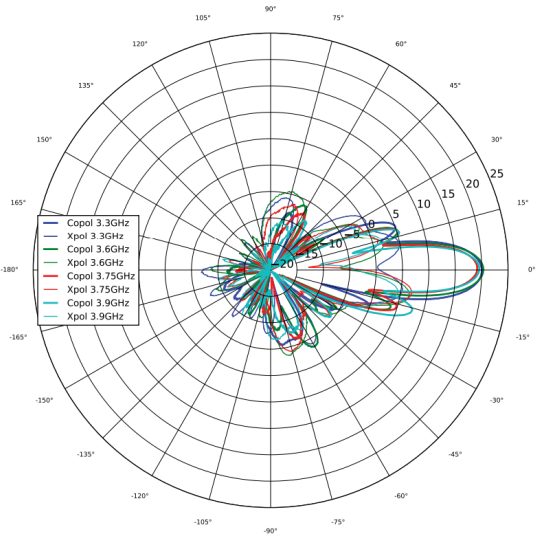




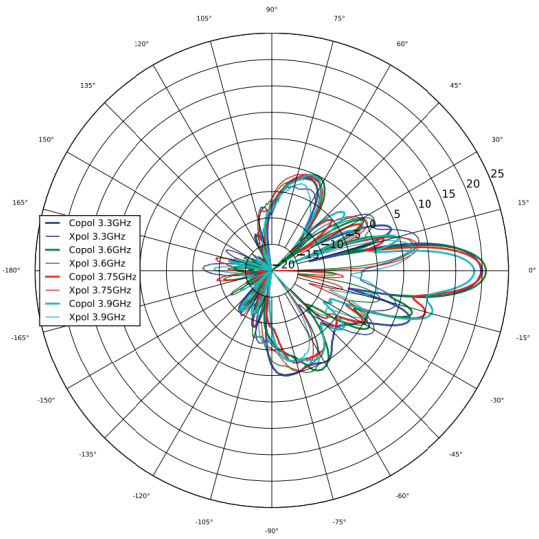
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3 GHz 450b High-Gain Antenna Patterns

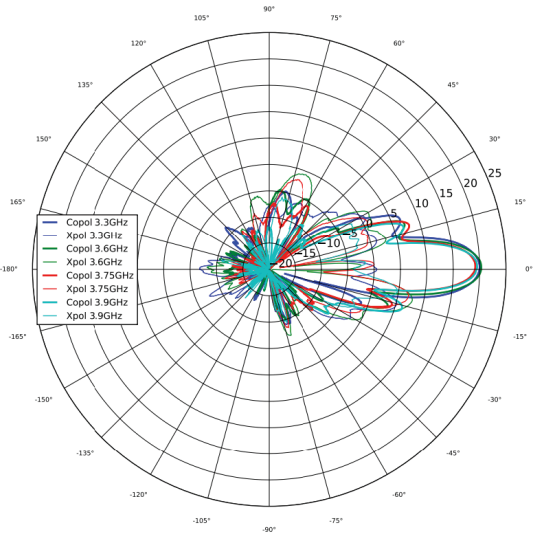
Azimuth, +45



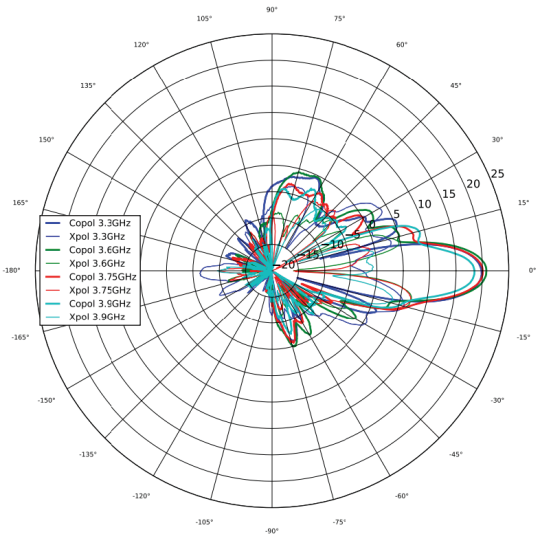
Azimuth, -45



Elevation, +45



Elevation, -45



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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