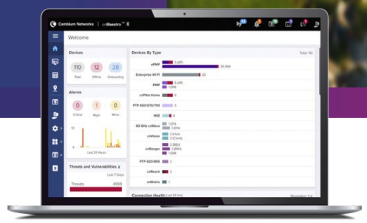
# 3 GHz 450b

Subscriber and Backhaul

## 3 GHz 450b Quick Look

- Ultra-wide band radios: 3.3 GHz to 4.2 GHz
- Capable of up to 300 Mbps aggregate in a 40 MHz channel
- Can function as a point-to-point link or as a subscriber module





cnMaestro

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

### 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 subscriber module (SM).
- No Encryption models required only for countries with export control license requirements.



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# 3 GHz 450b Subscriber and Backhaul

## 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 | 3300–4200 MHz |
| Channel Width | 5 MHz, 7 MHz, 10 MHz, 15 MHz, 20 MHz, 30 MHz, or 40 MHz |

## Interface

| | |
|---|---|
| MAC* 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, cnMaestro™ |
| MTU | 1700 bytes |
| VLAN | 802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID |

*Media Access Control

## Security

| | |
|---|---|
| Encryption | FIPS-197 128-bit AES<br>256-bit AES (requires optional license for attached access point) |

# 3 GHz 450b Subscriber and Backhaul

## 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 mi) in point-to-multipoint (PMP) mode<br>Up to 200 km (124 mi) in point-to-point (PTP) mode |
| Latency | 3–5 ms, typical |
| GPS Synchronization | Yes, synchronized by access point or via 3.5 mm port using cnPulse Sync Generator (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: Part number 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° mechanical tilt |
| Power Consumption | 12 W typical, 15 W peak |
| Input Voltage | 20–32 VDC, Canopy-style PoE |

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# 3 GHz 450b Subscriber and Backhaul

## 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 (RSS-192, RSS-198) |
| **FCC ID** | Z8H89FT0053 |
| **ETSI** | EN 302 326-2 |



Front



Back



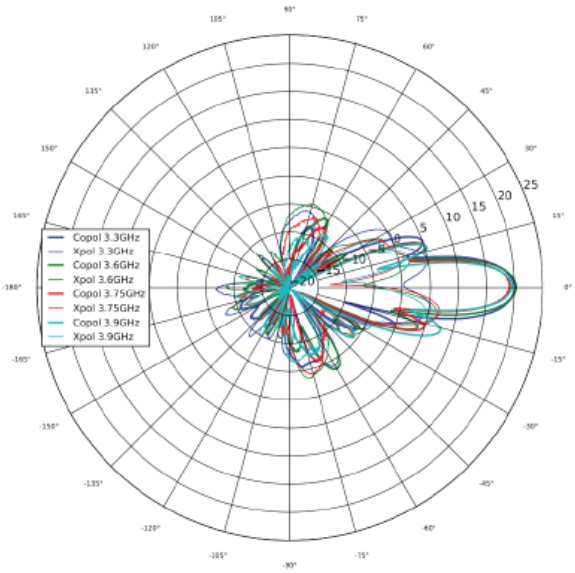


Sides

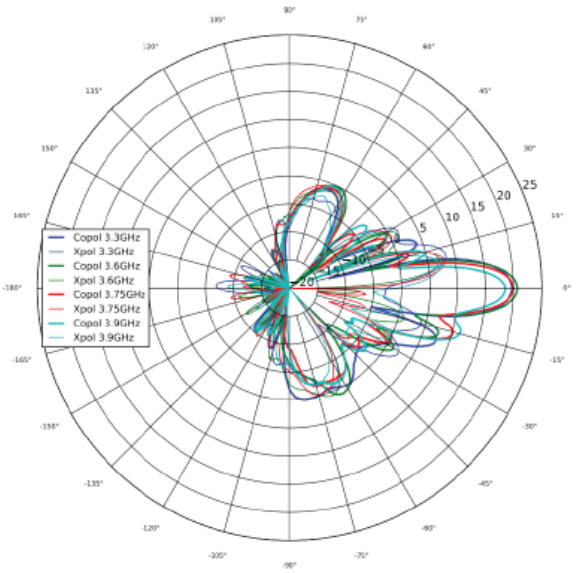
# 3 GHz 450b Subscriber and Backhaul

## High-Gain Antenna Patterns

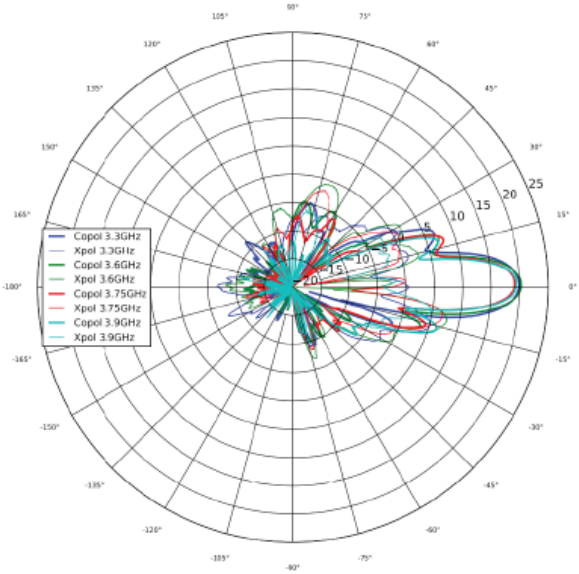
Azimuth, +45



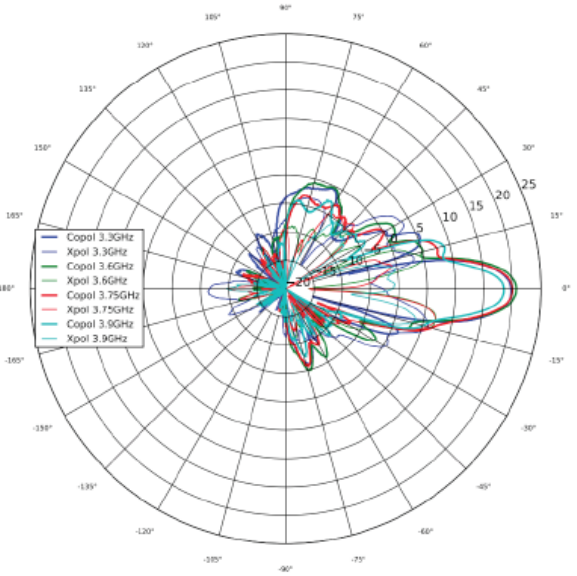

Azimuth, -45




Elevation, +45




Elevation, -45




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Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences and device connectivity with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We make connectivity that just works.

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