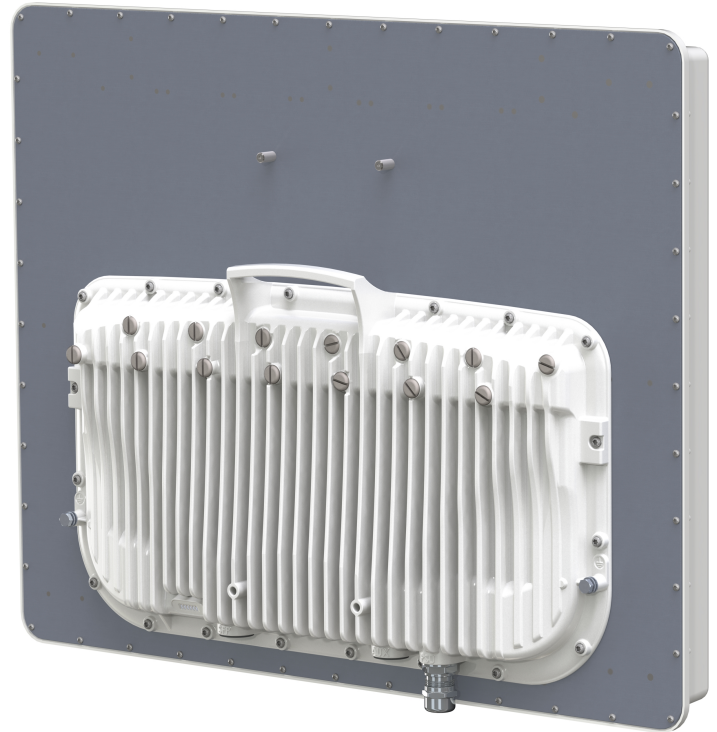


PMP 450m Access Point

Cambium Networks industry-leading 450 platform adds Multi-User MIMO capability with *cnMedusa™* technology.

Key Features:

- **cnMedusa™ technology** enhances sector capacity by combining a smart beamforming antenna array with multiple RF transmit and receive chains, effectively multiplying available capacity by more than three times.
- Capable of throughput of **over 550 Mbps** in a 20 MHz channel, and **more than 1 Gigabit per second per sector** when using a 40 MHz channel*.
- Multi-User MIMO more effectively uses available spectrum by simultaneous transmissions to multiple subscribers, increasing **spectral efficiency** to more than 40 bps/Hz.
- **Protect your investment** in the 450 platform equipment by continuing to utilize existing Subscriber Modules (both 450 and 450i SMs work with the 450m and cnMedusa technology, even prior generation 430 will connect)
- Dramatically reduce the effect of interference with **smart beamforming**
- **SFP** port allows for greater deployment flexibility, and **AUX** port allows for connection of camera or other PoE directly.
- The **Limited Version** can reduce capital investment until additional capacity is actually required. A 30-day trial of MU-MIMO operation is included, and a simple license key can permanently enable MU-MIMO operation when needed.



PRODUCT

| | | RoW | US | EU | DES only | IC |
|---------------|-----------------------------|--------------|--------------|--------------|--------------|--------------|
| Model Numbers | Integrated 90 degree sector | C050045A101A | C050045A102A | C050045A103A | C050045A104A | C050045A105A |
| | Limited Version | C050045A111A | C050045A112A | C050045A113A | C050045A114A | C050045A115A |

SPECTRUM

| | |
|-----------------|---|
| Channel Spacing | Configurable to 2.5 MHz channel spacing |
| Frequency Range | 5150-5925 MHz |
| Channel Width | 5, 10, 15, 20, 30* and 40* MHz |

INTERFACE

| | |
|----------------------------------|---|
| MAC (Media Access Control) Layer | Cambium Networks proprietary |
| Physical Layer | 14x14 Multi-User MIMO OFDM |
| Ethernet Interface | 100/1000BaseT, full duplex, rate auto negotiated (802.3 compliant), SFP support up to 2.5G BiDi |
| Protocols Used | IPv4, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP |
| Network Management | HTTP, HTTPS, Telnet, FTP, SNMP v3 |
| VLAN | 802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID |

PERFORMANCE

| | | |
|------------------------------|----------------------------------|---------------------------------------|
| Subscriber Per Sector | Up to 238 | |
| 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 40 miles (64 km) | |
| Latency | 10 ms, typical | |
| GPS Synchronization | Yes, via Autosync (CMM5 or UGPS) | |
| Quality of Service | Diffserv QoS | |

LINK BUDGET

| | |
|--------------------------------|---|
| Antenna Beam Width (Azimuth) | 90° integrated sector (dual polarity, H+V) |
| Antenna Beam Width (Elevation) | 2° Electrical Downtilt , 8° Elevation (with Null Fill) |
| Maximum EIRP | +42 dBm (or up to maximum allowed by regulation) |

PHYSICAL

| | | |
|------------------------------|---|--|
| Antenna Connection | Integrated Sector Array | |
| Surge Suppression (with LPU) | EN61000-4-5: 1.2us/50us, 500 V voltage waveform Recommended external surge suppressor: Cambium Networks Model # C000065L007B | |
| Mean Time Between Failure | > 40 Years | |
| Environmental | IP67, IP66 | |
| Temperature / Humidity | -40°C to +60°C (-40°F to +140°F), 0-95% non-condensing | |
| Weight | Integrated | Approx. 14.2 kg (31 bs) |
| Wind Survival | 124 mph / 200 kph | |
| Wind Loading - Front Facing | @ 90 mph / 144 kph | 376N |
| | @ 110 mph / 177 kph | 562 N |
| | @ 124 mph / 200 kph | 780 N |
| Dimensions (HxWxD) | Integrated | 52 x 65 x 11 cm (20.3" x 25.7" x 4.4") |
| Power Consumption | 70 W typical, 80 W peak (up to 110 W max with AUX port PoE enabled) | |
| Input Voltage | 42.5-59 V DC | |
| Mounting | Pole mount with included brackets | |

SECURITY

| | |
|------------|-------------------------------------|
| Encryption | FIPS-197 128-bit AES , 256-bit AES* |
|------------|-------------------------------------|

CERTIFICATIONS

| | |
|------------------------|---------------------------------------|
| Industry Canada (ISED) | 109A0-50450M (5.1, 5.2, 5.4, 5.8 GHz) |
|------------------------|---------------------------------------|

| | |
|--------|-------------------------------------|
| FCC ID | QWP-50450M (5.1, 5.2, 5.4, 5.8 GHz) |
|--------|-------------------------------------|

| | |
|----|---|
| CE | EN 301 893 v1.8.1 + EN 301 893 v2.1.1 Clause 4.8 (5.4GHz) |
|----|---|

| | |
|--|-----------------------------|
| | EN 302 502 v2.1.1 (5.8 GHz) |
|--|-----------------------------|

* Indicates Future Software Release