

5 GHz PMP 450m Access Point

Subscriber and Backhaul

QUICK LOOK:

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

- **Throughput of over 550 Mbps in a 20 MHz channel; More than 1.2 Gbps in a 40 MHz channel**
- **MU-MIMO with spectral efficiency of more than 60 bps/Hz**
- **Features smart beamforming to reduce interference**



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.
- Protect your investment in the 450 platform equipment by continuing to utilize existing Subscriber Modules (all 450 platform subscribers work with the 450m and cnMedusa technology, including prior generation 430 modules)
- 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.



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Product Model Numbers

	RoW	US	EU	No Encryption	ISED
Integrated 90° 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 (4940-4990 MHz with optional license, C000045K149A)
Channel Width	5, 10, 15, 20, 30 and 40 MHz

Specifications

Interface

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

Security

Encryption	FIPS-197 128-bit AES, 256-bit AES (<i>Requires Optional License</i>)
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Performance

Subscribers Per Sector Up to 238

ARQ Yes

Modulation Levels (Adaptive)	MCS	Signal to Noise Required (SNR, in dB)
2x	QPSK	10
4x	16 QAM	17
6x	64 QAM	24
8x	256 QAM	32

Ultimate Sensitivity -94 dBm

Maximum Deployment Range Up to 64 km (40 miles)

Latency 10 ms, typical

GPS Synchronization Yes, via Autosync (CMM5 or UGPS)

Quality of Service Diffserve QoS

Antenna

Beam width - Azimuth 90° integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff)

Beam width - Elevation 2° Electrical Downtilt, 8° Elevation Beamwidth and Null Fill down to -30°

Maximum EIRP + 45 dBm (or up to maximum allowed by regulation)

Physical

Antenna Connection Integrated Sector Array

Surge Suppression (with LPU) EN61000-4-5: 10/700µs, 2 kV voltage waveform
Recommended external surge suppressor: Cambium Networks Model # C000065L007C

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 (31.31 lbs)

Wind Survival 200 kph (124 mph)

Wind Loading - Front Facing

@144 kph / 90 mph:	376 N
@177 kph / 110 mph:	562 N
@200 kph / 124 mph:	780 N

Dimensions (Diameter x Depth) Integrated - 52 x 65 x 11 cm (20.3 x 25.7 x 4.4 in)

Power Consumption 70 W typical, 80 W peak (up to 110 W max with AUX port PoE enabled)

Input Voltage 40 - 60 VDC

Mounting Pole mount with included brackets (1.25 in to 4 in pole diameter)

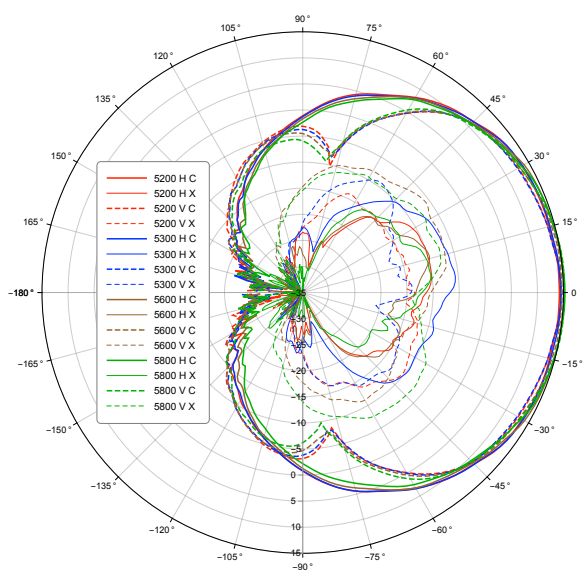
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Certifications

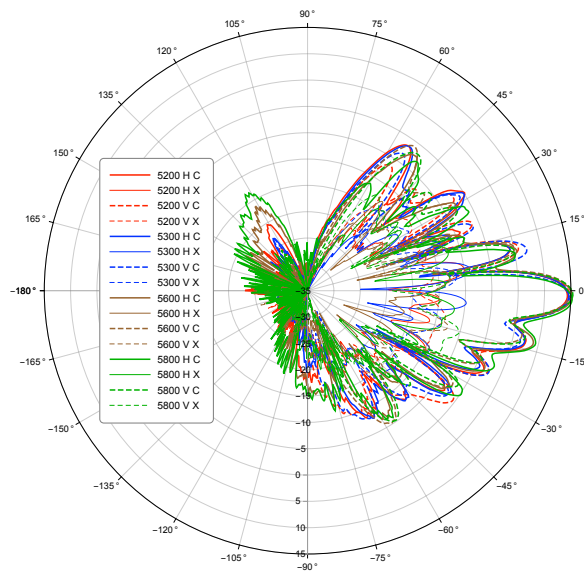
ISED Canada	109A0-50450M (5.1*, 5.2, 5.4, 5.8 GHz)
FCC ID	QWP-50450M (4.9*, 5.1, 5.2, 5.4, 5.8 GHz)
CE	EN 301 893 v2.1.1 EN 302 502 v2.1.1

*License required

5 GHz 450m Antenna Patterns (Sector Mode)



5 GHz Azimuth



5 GHz Elevation

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.