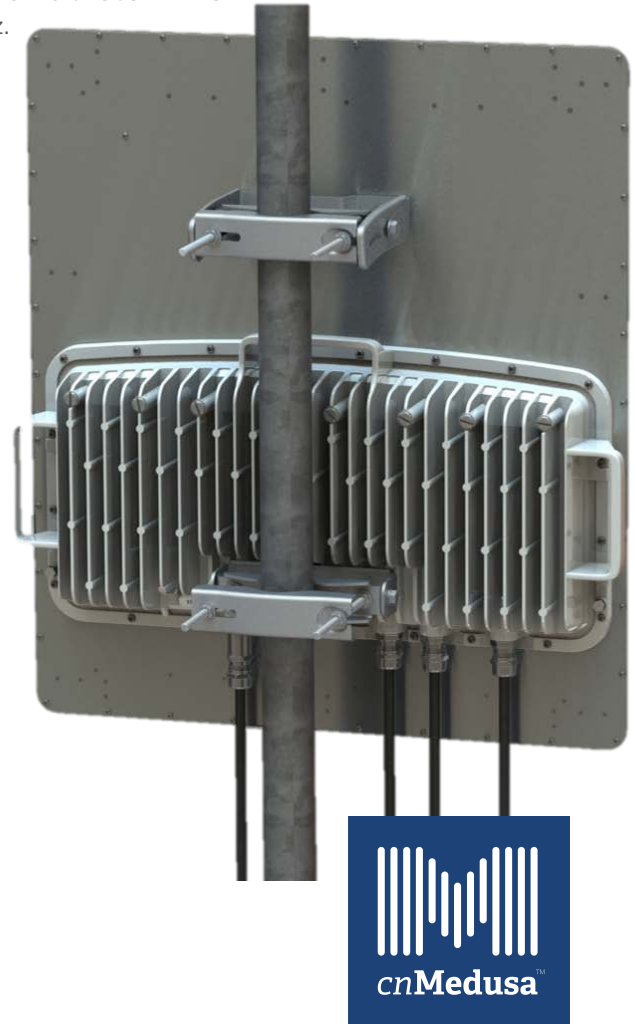


3 GHz PMP 450m Access Point

Cambium Networks industry-leading 450 platform adds Massive Multi-User MIMO capability with *cnMedusa™* technology, now available at 3 GHz.

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 **450 Mbps** in a 20 MHz channel, and **over 800 Mbps** per sector when using a 40 MHz channel.
- Multi-User MIMO uses available spectrum more efficiently by making simultaneous transmissions to multiple subscribers, increasing **spectral efficiency** to more than 50 bps/Hz per site.
- **Protects your investment** in the 450 platform equipment by continuing to utilize existing Subscriber Modules (450 and 450i platform subscribers work with the 450m and cnMedusa technology)
- Dramatically reduce the effect of interference in both Uplink and Downlink 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

		Global Model	No Encryption
Model Numbers	Integrated 90 degree sector	C030045A101A	C030045A104A
	Limited Version	C030045A111A	C030045A114A

SPECTRUM

Channel Spacing	Customizable channel selection to 50 KHz raster
Frequency Range	3300 - 3900 MHz
Channel Width	5, 7, 10, 15, 20, 30 and 40 MHz

INTERFACE

MAC (Media Access Control) Layer	Cambium Networks proprietary
Physical Layer	8x8 Multi-User MIMO OFDM
Ethernet Interface	100/1000BaseT, full duplex, rate auto negotiated (802.3 compliant), SFP support for 1 Gbps optical
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

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 (UGPS, CMM5 (GPS only, no power))		
Quality of Service	Diffserv QoS		

LINK BUDGET

Antenna Beam Width (Azimuth)	90° integrated sector (3dB rolloff), 120° (6dB rolloff), (dual slant polarity, ±45°)
Antenna Beam Width (Elevation)	2° Electrical Downtilt , 8° Elevation Beamwidth and Null Fill down to -30°
Maximum EIRP	+52 dBm (or up to maximum allowed by regulation) (achieved by combining 16 dBi Antenna Gain and +36 dBm Max Tx Power)

PHYSICAL

Antenna Connection	Integrated Sector Array		
Surge Resilience with LPU	MAIN and AUX ports : EN61000-4-5: 10/700us, 4 kV voltage waveform : Recommended external surge suppressor: Model # C000065L007B DC IN port : EN61000-4-5: 10/700us, 4 kV voltage waveform : Recommended external surge suppressor: Model # C000000L114A		
Mean Time Between Failure	> 40 Years		
Environmental	IP67, IP66		
Temperature / Humidity	-40°C to +60°C (-40°F to +140°F) / 100% condensing		
Weight	Without Mounting Brackets: 20.4 kg (45 lbs)		With Mounting Brackets: 22.6 kg (49.8 lbs)
Wind Survival	124 mph / 200 kph		
Wind Loading - Front Facing	@ 90 mph / 144 kph	613 N	
	@ 110 mph / 177 kph	927 N	
	@ 124 mph / 200 kph	1183 N	
Dimensions (HxWxD)	69 x 61 x 17.5 cm (27.2" x 24" x 7")		
Power Consumption	140 W typical, 150 W peak (up to 180 W max with AUX port PoE enabled)		
Recommended Power Supply	N000000L054B - 54VDC, 240W		
Input Voltage	40 - 60 V DC		
Mounting	Pole mount with included brackets (1.25" to 4" pole diameter)		

SECURITY

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

CERTIFICATIONS

Industry Canada (ISED)	109A0-30450M (3 GHz)
------------------------	----------------------

FCC ID	QWP-30450M (3 GHz)
--------	--------------------

CE	EN 302 326-2 v1.2.2 (3 GHz)
----	-----------------------------

* License Required