

PMP 450m Access Point

Cambium Networks industry-leading 450 platform adds Multi-User MIMO capability with *cn*Medusa™ 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					

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Specifications

The Library This	INTERFACE					
	MAC (Media Access Control) Layer	Cambium Networks proprietary				
Powd Description Powd Description	Physical Layer	14x14 Multi-User MIMO OFDM				
Net Name Net	Ethernet Interface	100/1000BaseT, full duplex, rate auto negotiated (802.3 compliant), SFP support up to 2.5G BiDi				
PREFERENCE PRESENTION Up to 238	Protocols Used	IPv4, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP				
Subscriber Per Sector Up to 228 Signal to Noise Required (SNR, in dB)	Network Management	HTTP, HTTPS, Telnet, FTP, SNMP v3				
### APP Sector Up to 238 ### APP APP APP Sector Ves	VLAN	802.1ad (DVLAN Q-inQ), 802.1Q	with 802.1p priority, dynamic port VID			
MC MC MC MC MC MC MC MC	PERFORMANCE					
MCS Signal to Noise Required (SNR, in dB)	Subscriber Per Sector	Up to 238				
2X	ARQ	Yes				
4X 160AM 170AM 6X 640AM 24 8X 2560AM 32 Asximum Deployment Range Up to 40 miles (64 km)	Modulation Levels (Adaptive)	MCS	Signal to Noise Required (SNR, in dB)			
6X 640AM 2560AM 32 Asximum Deployment Range Up to 40 miles (64 km) Attenue Spr Synchronization Yes, via Autosync (CMM5 or UGPS) Duality of Service Diffser/ CoS LINK BUDGET Antenna Beam Width (Azimuth) 90° integrated sector (dual polarity, H-Y) Antenna Beam Width (Elevation) 2° Electrical Downtilt. 8° Elevation (with Null Fill) Antenna Beam Width (Elevation) 10 mos, mum allowed by regulation PPYSICAL Antenna Gonnection Integrated Sector Array Antenna Gonnection Integrated Sector Array Antenna Beam Fillure 20 Vers Environmental PP67, IP66 Antenna Between Failure 20 Vers Antenna Gonnection 30 PF67, IP66 Approx. 14.2 kg (31 bs) Approx. 14	2X	QPSK	10			
8X 2560AM 32 Advairmum Deployment Range Up to 40 miles (64 km) Attency 10 ms, typical SPS Synchronization Yes, via Autosync (CMM5 or UGPS) Duality of Service Diffserv OoS 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) Antenna Beam Width (Elevation) 2° Electrical Downtilt. 8° Elevation (with Null Fill) PHYSICAL Antenna Connection Integrated Sector Array Entry Suppression (with LPU) Entry	4X	16QAM	17			
Animum Deployment Range Up to 40 miles (64 km) Jest Synchronization Yes, via Autosync (CMM5 or UGPS) Judity of Service Diffsery QoS LINK BUDGET Antenna Beam Width (Azimuth) 90° integrated sector (dual polarity, H+V) Antenna Beam Width (Azimuth) 2° Electrical Downtilt. 8° Elevation (with Null Fill) Antenna Beam Width (Hevation) 2° Electrical Downtilt. 8° Elevation (with Null Fill) Antenna Beam Width (Elevation) 42′ Blectrical Downtilt. 8° Elevation (with Null Fill) Antenna Beam Width (Hevation) 10 Integrated Sector Array PHYSICAL Antenna Connection Integrated Sector Array Berogroup Suppression (with LPU) 800000-45-12 Lus/50us 500 V voltage waveform Recommended external surge suppressor: Cambium Networks Model # C0000651,007B Mean Time Between Failure > 40 Years Environmental IP67, IP66 Remperature / Humidity - 40°C to +60°C (-40°F to +140°F), 0-95% non-condensing Weight Integrated Approx. 14.2 kg (31 bs) Wind Loading - Front Facing @ 90 mph / 144 kph 376N Wind Loading - Front Facing @ 90 mph / 144 kph 376N Wind Loading - Front Facing @ 90 mph / 147 kph 562 N @ 110 mph / 177 kph 562 N @ 124 mph / 200 kph Wind Loading - Front Facing @ 90 mph / 144 kph 376N 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)	6X	64QAM	24			
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SPS 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) Haximum EIRP +42 dBm (or up to maximum allowed by regulation) PHYSICAL Antenna Connection Integrated Sector Array Burge Suppression (with LPU) ENGIODO-4-5: 12us/Sous, 500 V voltage waveform Recommended external surge suppressor: Cambium Networks Model # C000065L007B Wean Time Between Failure > 40 Years Environmental IP67, IP66 Femperature / Humidity -40°C to +60°C (-40°F to +140°F), 0-95% non-condensing Weight Integrated 90 mph / 104 kph 376N Wind Survival 124 mph / 200 kph 780 N Wind Loading - Front Facing @ 90 mph / 144 kph 376N @ 110 mph / 177 kph 562 N @ 124 mph / 200 kph 780 N @ 124 mph / 200 kph 780 N Dimensions (HxWxD) Integrated 50 W beak (up to 110 W max with AUX port PoE enabled) Physical Road School Road School Road School Road Road Road School Road Road Road Road Road Road Road Road	Maximum Deployment Range	Up to 40 miles (64 km)				
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nput Voltage 42.5-59 V DC	Dimensions (HxWxD)		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)				
4ounting Pole mount with included brackets	Input Voltage	42.5-59 V DC				
	Mounting	Pole mount with included brack	ets			

SECURITY		
Encryption	FIPS-197 128-bit AES , 256-bit AES*	
CERTIFICATIONS		
Industry Canada (ISEDC)	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