

PMP 450 Remote Module

Now available in 2.4 GHz as well as 5 GHz (dual band), the Cambium Networks Point-to-Multipoint (PMP) 450 Access Point (AP) provides more than 90 Mbps of useable throughput distributed over Remote Modules (RM) in the sector.

With GPS synchronization, industry leading spectral efficiency, and 2x2 MIMO-OFDM technology, new deployments can take advantage of Cambium Networks' proprietary feature set, while achieving data rates higher than 125 Mbps per sector. From the available synchronization options to its diverse feature set, the PMP 450 provides flexible deployment options that make it ideal for high capacity, high reliability networks.

Cambium Networks provides exceptional wireless broadband connectivity solutions. With more than 4 million modules deployed in thousands of networks around the world, Cambium Networks solutions are proven to provide cost effective, reliable data, voice and video connectivity.



SPECIFICATIONS									
PRODUCT									
MODEL NUMBER	Frequency	4 Mbps		10 Mbps		20 Mbps		Uncapped	
(-005A through -008A are connectorized)	5 GHz	C054045C001A		C054045C002A		C054045C003A		C054045C004A	
		C054045C005A		C054045C006A		C054045C007A		C054045C008A	
	2.4 GHz	C024045C001A		C024045C002A		C024045C003A		C024045C004A	
C024045C005A		C024045C006A		C024045C007A		C024045C008A			
SPECTRUM									
CHANNEL SPACING	Configurable on 2.5 MHz increments								
FREQUENCY RANGE	2400 - 2483.5 MHz , 5470 - 5875 MHz								
CHANNEL WIDTH	5 MHz, 10 MHz or 20 MHz								
INTERFACE									
MAC (MEDIA ACCESS CONTROL) LAYER	Cambium Networks proprietary								
PHYSICAL LAYER	2x2 MIMO OFDM								
ETHERNET INTERFACE	10/100/1000BaseT, half/full duplex, rate auto negotiated (802.3 compliant)								
PROTOCOLS USED	IPv4, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP								
NETWORK MANAGEMENT	HTTP, Telnet, FTP, SNMP v2c								
VLAN	802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID								
PERFORMANCE									
ARQ	Yes								
MODULATION LEVELS (ADAPTIVE)	MCS				Signal to Noise Required (SNR, in dB)				
1X	QPSK – SISO				10				
2X	QPSK – MIMO-B				10				
4X	16QAM – MIMO-B				17				
6X	64QAM – MIMO-B				24				
8X	256QAM – MIMO-B				30				
RECEIVE SENSITIVITY (PER CHAIN, in dB)	2.4 GHz				5 GHz				
	1X/2X	4X	6X	8X	1X/2X	4X	6X	8X	
@ 5MHZ CHANNEL	-93	-87	-80	-68	-90	-85	-79	-69	
@ 10MHZ CHANNEL	-90	-84	-77	-66	-87	-81	-75	-64	
@ 20MHZ CHANNEL	-87	-80	-73	-66	-84	-77	-70	-63	
MAXIMUM DEPLOYMENT RANGE	Up to 25 miles (5 GHz) Up to 40 miles (2.4 GHz)								
MODULATION LEVELS (ADAPTIVE)	OFDM: QPSK, 16-QAM, 64-QAM (MIMO-B)								
LATENCY	3 - 5 ms								
GPS SYNCHRONIZATION	Yes, via CMM3, CMM4 or UGPS								
QUALITY OF SERVICE	Diffserve QoS								

LINK BUDGET	
ANTENNA BEAM WIDTH	55° azimuth, 55° elevation (both polarizations)
ANTENNA GAIN	+9 dBi H+V, integrated patch (5 GHz) +8 dBi Dual Slant, integrated patch (2.4 GHz)
TRANSMIT POWER RANGE	-30 to +22 dBm (combined, to EIRP limit by region) (1 dB interval)
MAXIMUM TRANSMIT POWER	22 dBm combined OFDM
REFLECTOR GAIN	+14 dBi (5 GHz), +12 dBi (2.4 GHz)
CLIP GAIN	+8 dBi (with CLIP (Cassegrain Lens for Improved Performance), for 5 GHz only)
PHYSICAL	
ANTENNA CONNECTION	Integrated patch antenna, Connectorized versions available
SURGE SUPPRESSION	IEC 61000-4-2 (ESD) 15kV (air), 8kV (contact) IEC 61000-4-4 (EFT) 40A (5/50ns) IEC 61000-4-5 (Lightning) 100A (8/20µs)
MEAN TIME BETWEEN FAILURE	> 40 Years
ENVIRONMENTAL	IP55, IP66 with NEMA enclosure
TEMPERATURE / HUMIDITY	-40°C to +55°C (-40°F to +131°F), 0-95% non-condensing
WEIGHT	0.45 kg (1 lb.)
WIND SURVIVAL	190 km/hour (118 mi/hour)
DIMENSIONS (HxWxD)	30 x 9 x 9 cm (11.75" x 3.4" x 3.4")
TYPICAL POWER CONSUMPTION	9 W (5 GHz and 2.4 GHz)
MAXIMUM POWER CONSUMPTION	12 W (5 GHz and 2.4 GHz)
INPUT VOLTAGE	20 to 32 V
SECURITY	
ENCRYPTION	56-bit DES, FIPS-197 128-bit AES
CERTIFICATIONS	
INDUSTRY CANADA	109W-0002 (5.4, 5.8 GHz) 109W-0004 (2.4 GHz)
FCC ID	Z8H89FT0002 (5.4, 5.8 GHz) Z8H89FT0004 (2.4 GHz)
CE	EN 301 893 v1.6.1 (5.4 GHz) EN 302 502 v1.2.1 (5.8 GHz)

