



# ePMP™ Force 190

Wireless service providers and enterprises around the globe are challenged to deliver reliable connectivity in overcrowded RF environment. As spectrum increasingly becomes a scarce commodity, finding the right broadband connectivity solution is vital for all low and high density types of deployments.

## FEATURES:

- Cambium Networks' ePMP Force 190 will lower the logistical cost of ownership by reducing shipping costs with its highly compact packaging.
- The ePMP Force 190 is designed to operate in high interference environments and provides throughput of up to 200Mbps with bi-directional traffic of real user data.
- Configurable Modes of operation ensure robust adaptivity to both symmetrical and asymmetrical traffic while providing high performance and round-trip latency as low as 2 – 3 ms.
- QoS management offers an outstanding quality for triple play services – VoIP, video and data and provides three levels of traffic priority.
- Long deployment range is enabled by a high gain antenna combined with 27dBm of transmit power.
- This platform is for the user base that wants a smaller on premises footprint while enabling high gain.
- Install is a breeze with the easy to install mount, capable of pole and wall mounting.



## SPECIFICATIONS

### SPECTRUM

Channel Spacing	Configurable on 5 MHz increments
Frequency Range	4910 - 5970 MHz, 4.9 only for ROW
Channel Width	5   10   20   40 MHz

### INTERFACE

MAC (Media Access Control) Layer	Cambium Proprietary
Physical Layer	2x2 MIMO/OFDM
Ethernet Interface	10/100 BaseT, Compatible with Cambium PoE & Standard PoE pinouts
Protocols Used	IPv4, IPv6, UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping
Network Management	HTTPs, SNMPv2c, SSH
VLAN	802.1Q with 802.1p priority

## SPECIFICATIONS

### PERFORMANCE

ARQ	Yes
Nominal Receive Sensitivity (w/FEC) @20 MHz Channel	MCS0 = -92 dBm to MCS15 = -68 dBm (per branch)
Nominal Receive Sensitivity (w/FEC) @40 MHz Channel	MCS0 = -89 dBm to MCS15 = -65 dBm (per branch)
Modulation Levels (Adaptive)	MCS0 (BPSK) to MCS15 (64QAM 5/6)
Quality of Service	Three level priority (Voice, High, Low) with packet classification by DSCP, COS, VLAN ID, IP & MAC Address, Broadcast, Multicast and Station Priority
Transmit Power Range	-15 to +27 dBm (combined, to regional EIRP limit) (1 dB interval)
Antenna Gain	22dBi

### PHYSICAL

Surge Suppression	1 Joule Integrated
Environmental	IP55
Temperature	-30°C to +50°C (-22°F to +122°F)
Weight	1.0 kg (2.2 lbs)
Wind Survival	125 km/hour (78 mi/hour)
Dimensions (Dia x Depth)	35 cm x 28 cm (13.5 in x 11.2 in)
Pole Diameter Range	3.8 cm - 6.4 cm (1.5 in - 2.5 in)
Power Consumption	8 W Maximum, 5 W Typical
Input Voltage	12 to 30 V

### SECURITY

Encryption	128-bit AES (CCMP mode)
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### CERTIFICATIONS

FCC ID	Z8H80FT0031
Industry Canada Cert	109W-0031
CE	5 GHz EN 302 502 v1.2.1 5 GHz: EN 301 893 v1.7.1

PART NUMBER	DESCRIPTION
C058900C082A	ePMP Force 190 5 GHz Subscriber Module (FCC) (US Cord)
C050900C083A	ePMP Force 190 5 GHz Subscriber Module (EU) (EU Cord)
C050900C873A	ePMP Force 190 5 GHz Subscriber Module (EU) (UK Cord)
C050900C081A	ePMP Force 190 5 GHz Subscriber Module (RoW) (No Cord)
C050900C181A	ePMP Force 190 5 GHz Subscriber Module (RoW) (US Cord)
C050900C281A	ePMP Force 190 5 GHz Subscriber Module (RoW) (EU Cord)
C050900C481A	ePMP Force 190 5 GHz Subscriber Module (RoW) (India Cord)
C050900C581A	ePMP Force 190 5 GHz Subscriber Module (RoW) (China Cord)
C050900C681A	ePMP Force 190 5 GHz Subscriber Module (RoW) (Brazil Cord)
C050900C781A	ePMP Force 190 5 GHz Subscriber Module (RoW) (Argentina Cord)
C050900C881A	ePMP Force 190 5 GHz Subscriber Module (RoW) (ANZ Cord)
C050900C981A	ePMP Force 190 5 GHz Subscriber Module (RoW) (No PSU)

# SPECIFICATIONS

## ANTENNA SPECIFICATIONS 5 GHz SPECIFICATION

Frequency Range	4.910 - 5.970 MHz
Antenna Type	Dish
Peak Gain	22 dBi
3dB Beamwidth-Azimuth	10-11 degrees
3dB Beamwidth-Elevation	10-11 degrees

## ANTENNA PATTERNS

