

# ePMP™ Force 300-19R



Wireless service providers and enterprises around the globe are challenged to deliver reliable connectivity in overcrowded RF environments. As spectrum increasingly becomes a scarce commodity, finding the right broadband connectivity solution is vital for all low and high density deployments. Cambium Networks resolves this challenge with a breakthrough technology solution that delivers superior performance, resiliency and reach in the most congested environments. Combining the latest 802.11ac Wave 2 technology and the field proven scalable performance of ePMP, the Force 300-19R delivers up to 600 Mbps of capacity. The Force 300-19R is a powerful yet affordable subscriber module compatible with the ePMP3000 Access Point and using the forward compatibility features also interoperates with the ePMP 2000 to ease the migration into the 802.11ac Wave 2 technology. The Force 300-19R has a 19 dBi integrated antenna with a narrow beamwidth and reliable IP67 mechanics.

## FEATURES:

- Cambium Networks' ePMP Force 300-19R is designed to operate in high interference environments and provides superior throughput up to 600 Mbps of real user data.
- The Force 300-19R also supports narrow 5 and 10 MHz channels especially useful in 4.9 GHz licensed bands and other areas where smaller channels are needed.
- The ePMP Force 300-19R supports real time spectrum monitoring without degradation in throughput.
- Configurable modes of operation ensure robust adaptivity to both symmetrical and asymmetrical traffic while providing high performance and round-trip latency as low as 3-5 ms.
- QoS management offers outstanding quality for triple play services - VoIP, video, and data - and provides three levels of traffic priority.
- The integrated 19 dBi panel antenna has a small form factor and provides excellent range. Refer to Cambium Networks LINKPlanner™ for estimating capacity and availability.
- Installations are quick and reliable with the IP67 ruggedized housing and easy to install mount, capable of pole and wall mounting

## SPECIFICATIONS

### SPECTRUM

Channel Spacing	Configurable in 5 MHz increments
Frequency Range	Wide Band Operation 4910 - 5970 MHz (Note: Allowable frequencies and bands are dictated by individual country regulations.)
Channel Width	5 / 10 / 20 / 40 / 80

## SPECIFICATIONS

### INTERFACE

MAC (Media Access Control) Layer	Cambium
Proprietary Physical Layer	802.11ac Wave 2 (2x2 MIMO/OFDM)
Ethernet Interfaced	10/100/1000 BaseT, Compatible with Cambium PoE & Standard PoE pinouts
Protocols Used	IPv4/IPv6 (Dual Stack), UDP, TCP, ICMP, SNMPv2c, NTP, STP, IGMP, SSH
Network Management	IPv4/IPv6, HTTPS, SNMPv2c, SSH, Cambium Networks CnMaestro™
VLAN	802.1Q with 802.1p priority

### PERFORMANCE

ARQ	Yes
Nominal Receive Sensitivity (w/FEC) @20 MHz Channel	MCS0 = -89 dBm to MCS8 (256 QAM-3/4) = -68 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @40 MHz Channel	MCS0 = -87 dBm to MCS9 (256 QAM-5/6) = -66 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @80 MHz Channel	MCS0 = -84 dBm to MCS9 (256 QAM-5/6) = -61 dBm (per chain)
Modulation Levels (Adaptive)	MCS0(BPSK) to MCS9 (256 QAM-5/6)
Transmit Power Range	0 to +28 dBm (combined up to the regional EIRP limit) (1 dB interval)

### PHYSICAL

Surge Suppression	1 Joule Integrated (C000000L065A - 30V Gigabit surge suppressor is recommended for optimum protection)
Environmental	IP67
Temperature	-30°C to +60°C (-22°F to +140°F)
Weight	1.45 kg (3.2 lbs.) (includes mounting bracket)
Wind Survival	180 km/hour (112 mi/hour)
Dimensions (Dia x Depth)	27.8 x 27.8 x 4.5 cm (10.9 x 10.9 x 1.8 in) without mounting bracket
Pole Diameter Range	1 – 1.6 in (2.5 – 4.1 cm) with included clamp; up to 2.25 in (5.7 cm) with larger clamp
Power Consumption	12 Watts
Input Voltage	Passive POE (30 VDC Nominal); 14-30 VDC range

### SECURITY

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

FCCID	Z8H89FT0048
Industry Canada Cert	109W-0048
CE	EN 301 893 V2.1.1 (5.4 GHz), EN 302 502 V2.1.1 (5.8 GHz)**

## SPECIFICATIONS

PART NUMBER	DESCRIPTION
C058900C901A	ePMP 5GHz Force 300-19R SM (FCC) (US cord)
C050900C901A	ePMP 5GHz Force 300-19R SM (IC) (Canada/US cord)
C050900C902A	ePMP 5GHz Force 300-19R SM (EU) (EU cord)
C050900C903A	ePMP 5GHz Force 300-19R SM (EU) (UK cord)
C050900C904A	ePMP 5GHz Force 300-19R SM (ROW) (no cord)
C050900C905A	ePMP 5GHz Force 300-19R SM (ROW) (US cord)
C050900C906A	ePMP 5GHz Force 300-19R SM (ROW) (EU cord)
C050900C907A	ePMP 5GHz Force 300-19R SM (ROW) (UK cord)
C050900C908A	ePMP 5GHz Force 300-19R SM (ROW) (India cord)
C050900C909A	ePMP 5GHz Force 300-19R SM (India) (India cord)
C050900C910A	ePMP 5GHz Force 300-19R SM (ROW) (China cord)
C050900C911A	ePMP 5GHz Force 300-19R SM (ROW) (Brazil cord)
C050900C912A	ePMP 5GHz Force 300-19R SM (ROW) (Argentina cord)
C050900C913A	ePMP 5GHz Force 300-19R SM (ROW) (ANZ cord)
C050900C914A	ePMP 5GHz Force 300-19R SM (ROW) (South Africa cord)
C050900C915A	ePMP 5GHz Force 300-19R SM (ROW) (No PSU)

ANTENNA SPECIFICATIONS	5 GHZ SPECIFICATION
Frequency Range	4.9 – 5.970 MHz
Antenna Type	Panel
Peak Gain	19 dBi
3dB Beamwidth-Azimuth	14.5 degrees
3dB Beamwidth-Elevation	12.5 degrees

Discover more information on ePMP at: <http://community.cambiumnetworks.com/>