![Cambium Networks™]

ePMP™
Force 300-13

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 300-13 delivers up to 600 Mbps of capacity. The Force 300-13 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 300-13 has a 13 dBi integrated antenna with a narrow beamwidth.

FEATURES:

- Cambium Networks' ePMP Force 300-13 is designed to operate in high interference environments and provides superior throughput up to 600 Mbps of real user data.

- The ePMP Force 300-13 supports channel sizes from 20 MHz up to 80 MHz and modulations up to 256QAM.

- The ePMP Force 300-13 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 13 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 supporting both 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	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 regioanl EIRP limit) (1 dB interval)

PHYSICAL

Surge Suppression	1 Joule Integrated (C000000L065A - 30V Gigabit surge suppressor is recommended for optimum protection)
Environmental	IP55
Temperature	-30°C to +60°C (-22°F to +140°F)
Weight	0.48 kg (1.05 lbs.) (includes integrated mounting bracket)
Wind Survival	180 km/hour (112 mi/hour)
Dimensions (Dia x Depth)	13.0 x 20.3 x 5.40 cm (5.1 x 8.0 x 2.1 inches)
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)

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
C058900C701A	ePMP 5GHz Force 300-13 SM (FCC) (US cord)
C050900C701A	ePMP 5GHz Force 300-13 SM (IC) (Canada/US cord)
C050900C702A	ePMP 5GHz Force 300-13 SM (EU) (EU cord)
C050900C703A	ePMP 5GHz Force 300-13 SM (EU) (UK cord)
C050900C704A	ePMP 5GHz Force 300-13 SM (ROW) (no cord)
C050900C705A	ePMP 5GHz Force 300-13 SM (ROW) (US cord)
C050900C706A	ePMP 5GHz Force 300-13 SM (ROW) (EU cord)
C050900C707A	ePMP 5GHz Force 300-13 SM (ROW) (UK cord)
C050900C708A	ePMP 5GHz Force 300-13 SM (ROW) (India cord)
C050900C709A	ePMP 5GHz Force 300-13 SM (India) (India cord)
C050900C710A	ePMP 5GHz Force 300-13 SM (ROW) (China cord)
C050900C711A	ePMP 5GHz Force 300-13 SM (ROW) (Brazil cord)
C050900C712A	ePMP 5GHz Force 300-13 SM (ROW) (Argentina cord)
C050900C713A	ePMP 5GHz Force 300-13 SM (ROW) (ANZ cord)
C050900C714A	ePMP 5GHz Force 300-13 SM (ROW) (South Africa cord)
C050900C715A	ePMP 5GHz Force 300-13 SM (ROW) (No PSU)
ANTENNA SPECIFICATIONS	**5 GHZ SPECIFICATION**
Frequency Range	4.9 – 5.970 MHz
Antenna Type	Panel
Peak Gain	13 dBi
3dB Beamwidth-Azimuth	30 degrees
3dB Beamwidth-Elevation	28 degrees

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