ePMP™ Force 300 CSM
Connectorized Subscriber Module

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.

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 chipset and the field proven TDD MAC of ePMP, the Force 300 CSM offers a versatile solution enabling a wide variety of deployment models including high-gain parabolic dishes and narrow-beam horns for point to point applications and, with the ePMP 3000 Access Point, point to multipoint operations.

KEY ADVANTAGES:

- Cambium Networks' ePMP Force 300 CSM is designed to operate in high interference environments and provides superior throughput of over 500 Mbps of real user data.

- The ePMP Force 300 CSM supports channel size configurations from 20 MHz up to 80 MHz and modulations up to 256 QAM.

- 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 an outstanding quality for triple play services – VoIP, video, data – and provides three levels of traffic priority.

- Long deployment range is enabled by up to 27dBm of transmit power and connectorized antenna ports.

- The Force 300 CSM offers deployment versatility with options for parabolic dishes and compatibilty with the RF Elements Twistport™ ePMP adaptor.

- Installation is a breeze with the easy to install mount, capable of pole and wall mounting.

SPECIFICATIONS

SPECTRUM	
Channel Spacing	Configurable in 5 MHz increments
Frequency Range	Wide Band Operation 4.910 – 5.970 MHz (Note: Allowable frequencies and bands are dictated by individual country regulations.)
Channel Width	20 | 40 | 80 MHz

SPECIFICATIONS

INTERFACE

MAC (Media Access Control) Layer	Cambium Proprietary
Physical Layer	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) = -66 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @40 MHz Channel	MCS0 = -87 dBm to MCS9 (256QAM-5/6) = -64 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @80 MHz Channel	MCS0 = -84 dBm to MCS9 (256QAM-5/6) = -59 dBm (per chain)
Modulation Levels (Adaptive)	MCS0(BPSK)to MCS9 (256QAM5/6)
Transmit Power Range	0 to +29 dBm (combined, to regional EIRP limit) (1 dB interval)

PHYSICAL

Surge Suppression	1 Joule Integrated; Optional 30V Surge Suppressor (C000000L065A)
Environmental	IP67
Temperature	-22°F to +140°F (-30°C to +60°C)
Weight	0.46 kg (1.0 lbs.)
Wind Survival	180 km/hour (112 mi/hour)
Dimensions (Dia x Depth)	220mm x 80mm x 25mm (8.7in. x 3.15in. x 1.0 in.)
Pole Diameter Range	6.4 cm – 7.6 cm (2.5 in – 3 in)
Power Consumption	12 Watts
Input Voltage	**30 Volts** nominal (14 to 30V range)

SECURITY

Encryption	128-bit AES (CCMP mode)

CERTIFICATIONS

FCCID	Z8H-89FT0047
Industry Canada Cert	109W-0047
CE	EN301 893 V2.1.1 (5.4 GHz), EN 302 502 V2.1.1 (5.8 GHz)

PART NUMBER	DESCRIPTION
C058910C122A	ePMP 5 GHz Force 300 CSM Radio (FCC) (US cord)
C050910C124A	ePMP 5 GHz Force 300 CSM Radio (IC) (Canada/US cord)
C050910C223A	ePMP 5 GHz Force 300 CSM Radio (EU) (EU cord)
C050910C323A	ePMP 5 GHz Force 300 CSM Radio (EU) (UK cord)
C050910C021A	ePMP 5 GHz Force 300 CSM Radio (ROW) (no cord)
C050910C121A	ePMP 5 GHz Force 300 CSM Radio (ROW) (US cord)
C050910C221A	ePMP 5 GHz Force 300 CSM Radio (ROW) (EU cord)
C050910C321A	ePMP 5 GHz Force 300 CSM Radio (ROW) (UK cord)
C050910C421A	ePMP 5 GHz Force 300 CSM Radio (ROW) (India cord)
C050910C422A	ePMP 5 GHz Force 300 CSM Radio (India) (India Cord)

SPECIFICATIONS

PART NUMBER	DESCRIPTION
C050910C521A	ePMP 5 GHz Force 300 CSM Radio (ROW) (China cord)
C050910C621A	ePMP 5 GHz Force 300 CSM Radio (ROW) (Brazil cord)
C050910C721A	ePMP 5 GHz Force 300 CSM Radio (ROW) (Argentina cord)
C050910C821A	ePMP 5 GHz Force 300 CSM Radio (ROW) (ANZ cord)
C050910C921A	ePMP 5 GHz Force 300 CSM Radio (ROW) (South Africa cord)
C050910CZ21A	ePMP 5 GHz Force 300 CSM Radio (ROW) (No PSU)
ANTENNA CONNECTORS	**5 GHZ SPECIFICATION**
Frequency Range	4.910– 5.970 MHz
Antenna Type	Connectorized
Connectors	2 x 50 ohm, RP-SMA (Reverse Polarity SMA) Compatible with RF-Elements TwistPort™ Adaptor for ePMP