

ePMP Force 300 CSM FSR

ePMP Force 300 CSM FSR Quick Look

- High-performance subscriber module for PTP & PMP fixed wireless broadband applications
- Up to 600 Mbps capacity and up to 80 MHz channels leveraging proven protocols on 802.11ac Wave 2 technology
- Covers 5.1 GHz to 5.98 GHz
- Compatible with 3000 series access points for MU-MIMO performance and backward compatible to 1000/2000 APs

cnMaestro

• 3-year hardware warranty



High-Performance and Low Latency

Service providers face ever-increasing demands for capacity in a limited amount of spectrum. The ePMP[™] Force 300 CSM FSR subscriber module (SM) meets this demand offering high performance and low latency across both point-to-multipoint and point-topoint deployments.

The Force 300 CSM FSR offers a wide range of antenna options with these differentiating features:

- Up to 600 Mbps capacity and latencies as low as 2 ms when using PTP technology
- Proven air interface on top of 802.11ac Wave 2 technology
- Interoperability with the ePMP 3000, which uses MU-MIMO to achieve 1.2 Gbps per sector by transmitting to 2 Force 300 SMs simultaneously
- Interoperability with ePMP 3000L and ePMP 3000 MicroPop; backward compatibility with ePMP 2000 and ePMP 1000

- Integrated always-on spectrum analyzer for assessing the noise floor across a wide swath of 5 GHz spectrum
- Multiple levels of Quality of Service (QoS) for voice, video, and data applications supporting a wide variety of service packages for both residential and enterprise users
- Security features meeting the requirements of enterprise, industrial, government, and service provider users
- Management by Cambium's cnMaestro[™] Network Management System for easy provisioning, monitoring, and upgrading
- Network planning with LINKPlanner and cnHeat
- Cambium's 3-year hardware warranty and support
- Includes Power over Ethernet (PoE) injector and pole mount hardware



ePMP Force 300 CSM FSR

Spectrum*	
Channel Width MHz	20 40 80
Proprietary Physical Layer	Air interface on top of 802.11ac Wave 2 technology (2x2 MIMO/OFDM)
Channel Spacing	Configurable in 5 MHz increments
Frequency Range	Wideband operation 5100–5980 MHz (allowable frequencies and bands are dictated by individual country regulations)
MAC (Media Access Control) Layer	Cambium proprietary
Ethernet Interfaced	100/100/1000BaseT, 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, 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 MCS 9 (256QAM 5/6)
Transmit Power Range	0 to +29 dBm (combined, to regional EIRP limit) (1 dB interval)
Quality of Service (QoS)	3-level priority (voice, high, low) with packet classification by DSCP; COS;
	VLAN ID; IP & MAC address; broadcast, multicast, and station priority;
	MIR/CIR support

Physical	
Surge Suppression*	1 joule integrated
Environmental	IP67 & IP68
Temperature	-30°C to 60°C (-22°F to 140°F)
Weight	0.5 kg (1.1 lb) includes mounting bracket
Wind Survival	180 km/hr (112 mi/hr)
Dimensions	84 x 223 x 32 mm (3.3 x 8.8 x 1.3 in) without brackets
Pole Diameter Range	6.4–7.6 cm (2.5–3 in) with included clamp
Power Consumption	12W (up to 15W in extreme cold temperatures when heater activated)
Input Voltage	30V passive PoE (14V to 30V DC input)
	Note that 14V minimum must be maintained at radio connector under all conditions, including long cable lengths

*Optional 30V Surge Suppressor (C000000L065A)



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 Security

 Encryption

 128 bit AES (CCMP mode)

Certifications	
FCCID	Z8H-89FT0047
FCC Regulatory Part #	C058910C122A
ETSI Regulatory Part #	C050910C221A
Industry Canada	109W-0047
CE	EN 301 893 V2.1.1 (5.4 GHz), EN 302 502 V2.1.1 (5.8 GHz)*

*Certifications are a placeholder until official grant is given

Antenna Specifications		
Frequency Range	5100 to 5980 MHz	
Antenna Type	Connectorized	
Connectors	2x50 ohm, RP-SMA (reverse polarity SMA) compatible with RF Elements TwistPort [™] Adaptro fro ePMP	

Ordering Information		
C050911C121A	ePMP 5 GHz Force 300 CSM Radio FSR 5.1–5.98 GHz (ROW) (US cord)	
C050911C221A	ePMP 5 GHz Force 300 CSM Radio FSR 5.1–5.98 GHz (ROW) (EU cord)	

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Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences and device connectivity with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We make connectivity that just works.

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