ePMP™ 6 GHz Force 4600 Series Subscriber Module

QUICK LOOK:

- **Broad selection of high-performance subscriber modules (SM) for point-to-point (PTP) and point-to-multipoint (PMP) fixed wireless broadband applications**

- **Gbps capacity leveraging 160 MHz channels**

- **SM in PMP applications interoperates with ePMP 4600 Access Points (AP)**

- **3-year hardware warranty**

Service providers face ever-increasing demand for capacity in a limited amount of spectrum. The Force 4600 series of subscriber modules meets this demand offering high performance and low latency across both PMP and PTP deployments.

The Force 4600 Series of SMs is available in two form factors: connectorized with 2 x RP-SMA connectors and integrated with a 25 dBi dish antenna. Both models include the following:

- High capacity and latencies less than 5 ms when using ePTP technology
- Interoperability with the ePMP 4600 Series APs
- Force 4600C provides 2 Gbps capacity in PTP applications, meeting the requirements of enterprise, industrial, government, and service provider users
- Management by Cambium Networks cnMaestro™ element management system for easy provisioning, monitoring, and upgrades
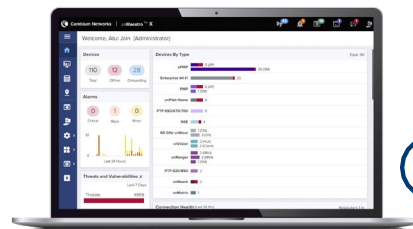
- Network planning with LINKPlanner and cnHeat
- 3-year hardware warranty and support from Cambium Networks
- Each SM comes with a Power over Ethernet (PoE) injector and pole mount hardware included

ePMP Force 4600 Series Subscriber Module

Spectrum	
Specs in this table apply to all models, except where noted.	
Available Models	Force 4600C and Force 4625
Channel Width MHz	20 | 40 | 80 | 160 MHz
Proprietary Physical Layer	ePMP air interface with 2x2 MIMO/OFDMA
Channel Spacing	Configurable in 5 MHz increments
Frequency Range	**Force 4600C:** 5725–7125 MHz [1,2] **Force 4625:** 5925–7125 MHz [1] 1) Allowable frequencies and bands are dictated by individual country regulations. Operation under AFC (Automatic Frequency Coordination) control in FCC jurisdictions 2) Performance of radio from 5725–5925 MHz is TBD
MAC Layer **(Media Access Control)**	Cambium Proprietary
Ethernet Interface	100/1000 BaseT, rate auto negotiated, 802.3at compliant; 4600C has SFP+ port
Protocols Used	IPv4/IPV6 , UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping
Network Management	HTTP/HTTPS, SNMPv1/2, SNMPv3, SSH
VLAN	802.1Q with 802.1p priority

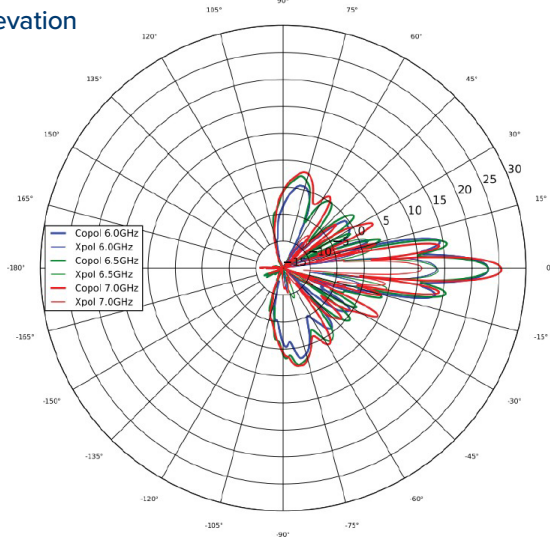| Performance		
	Force 4600C	**Force 4625**
ARQ	Yes	Yes
Nominal Receive Sensitivity (w/FEC) @20 MHz Channel	MCS 0 = -92 dBm to MCS 13 (4096 QAM-5/6) = -53 dBm (per chain)	MCS 0 = -92 dBm to MCS 11 (1024 QAM-5/6) = -61 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @40 MHz Channel	MCS 0 = -89 dBm to MCS 13 (4096 QAM-5/6) = -50 dBm (per chain)	MCS 0 = -89 dBm to MCS 11 (1024 QAM-5/6) = -58 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @80 MHz Channel	MCS 0 = -86 dBm to MCS 13 (4096 QAM-5/6) = -47 dBm (per chain)	MCS 0 = -86 dBm to MCS 11 (1024 QAM-5/6) = -55 dBm (per chain)
Nominal Receive Sensitivity (w/FEC) @160 MHz Channel	MCS 0 = -83 dBm to MCS 13 (4096 QAM-5/6) = -44 dBm (per chain)	MCS 0 = -86 dBm to MCS 11 (1024 QAM-5/6) = -51 dBm (per chain)
Modulation Levels (Adaptive)	MCS 0 (BPSK) to MCS 13 (4096 QAM-5/6)	MCS 0 (BPSK) to MCS 11 (1024 QAM-5/6)
Geolocation	Integrated GPS with antenna puck	External USB GPS receiver
Transmit Power Range	+3 to +30 dBm (combined, to regional EIRP limit) (1 dB interval)	+3 to +30 dBm (combined, to regional EIRP limit) (1 dB interval)
Quality of Service (QoS)	Three-level priority (Voice, High, Low) with packet classification by DSCP, COS, VLAN ID, IP & MAC Address, Broadcast, Multicast and Station Priority	Three-level priority (Voice, High, Low) with packet classification by DSCP, COS, VLAN ID, IP & MAC Address, Broadcast, Multicast and Station Priority

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Physical

	Force 4600C	Force 4625
Surge Suppression	1 Joule Integrated	1 Joule Integrated
Environmental	IP67	IP55
Temperature	-30°C to 55°C (-22°F to 131°F)	-30°C to 55°C (-22°F to 131°F)
Weight	0.73 kg (1.61 lb) without bracket	2.76 kg (6.1 lb)
Dimensions (Dia x Depth)	256 x 125 x 47 mm (10.1 x 4.9 x 1.9 in)	472 x 472 x 296 mm (18.5 x 18.5 x 11.7 in)
Pole Diameter Range	Center: 3.1 to 7.6 cm (1.25 to 3.0 in)	Center: 3.1 to 7.6 cm (1.25 to 3.0 in)
Power Consumption	28W	13W (up to 15W in extreme cold temperatures when heater is activated)
Input Voltage	44V–59V	44V–59V
Antenna	External Dish, PN# 2 x 50 ohm, RP SMA (Reverse Polarity)	25 dBi Integrated Dish
GPS Antenna Connection	1 x 50 ohm, SMA; external GPS; GPS Puck Antenna: Part # N000900L030A	External USB GPS receiver with integrated antenna for regions requiring geolocation; GPS Integrated Receiver: Part # N000940L001A

Security

Encryption	**All models:** 128-bit AES (CCMP mode), 256-bit AES optional, where allowed

Certifications

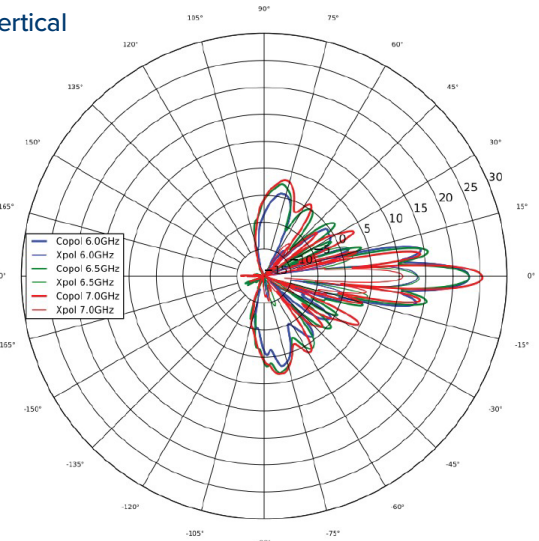|	Force 4600C	Force 4625
FCCID	Z8H89FT0069	Z8H89FT0075
FCC Regulatory Part #	C068940P151A	C068940P142A
ETSI Regulatory Part #	C060940P051A	C060940P041A
Industry Canada Cert	109W-0069 (Certification Pending)	109W-0075 (Certification Pending)
CE	Visit **cambiumnetworks.com** for declaration of conformity	Visit **cambiumnetworks.com** for declaration of conformity

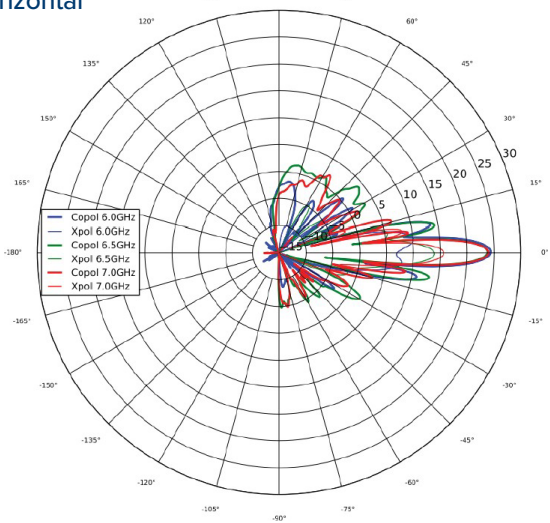# ePMP Force 4600 Series Subscriber Module
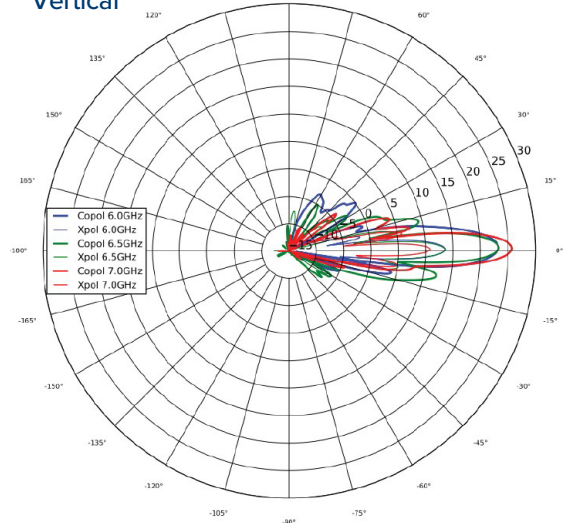
Force 4625 Antenna Patterns

Azimuth Elevation

Legend:
- Copol 6.0GHz
- Xpol 6.0GHz
- Copol 6.5GHz
- Xpol 6.5GHz
- Copol 7.0GHz
- Xpol 7.0GHz

Azimuth Vertical

Legend:
- Copol 6.0GHz
- Xpol 6.0GHz
- Copol 6.5GHz
- Xpol 6.5GHz
- Copol 7.0GHz
- Xpol 7.0GHz

Elevation Horizontal

Legend:
- Copol 6.0GHz
- Xpol 6.0GHz
- Copol 6.5GHz
- Xpol 6.5GHz
- Copol 7.0GHz
- Xpol 7.0GHz

Elevation Vertical

Legend:
- Copol 6.0GHz
- Xpol 6.0GHz
- Copol 6.5GHz
- Xpol 6.5GHz
- Copol 7.0GHz
- Xpol 7.0GHz

ePMP Force 4600 Series Subscriber Module

Force 4600C Ordering Information	
C060940C021A	ePMP 6 GHz Force 4600C SM Radio (ROW) (no cord)
C060940C121A	ePMP 6 GHz Force 4600C SM Radio (ROW) (US cord)
C068940C124A	ePMP 6 GHz Force 4600C SM Radio (IC) (Canada/US cord)
C060940C221A	ePMP 6 GHz Force 4600C SM Radio (ROW) (EU cord)
C060940C223A	ePMP 6 GHz Force 4600C SM Radio (EU) (EU cord)
C060940C321A	ePMP 6 GHz Force 4600C SM Radio (ROW) (UK cord)
C060940C323A	ePMP 6 GHz Force 4600C SM Radio (EU) (UK cord)
C060940C421A	ePMP 6 GHz Force 4600C SM Radio (ROW) (India cord)
C060940C425A	ePMP 6 GHz Force 4600C SM Radio (India) (India Cord)
C060940C521A	ePMP 6 GHz Force 4600C SM Radio (ROW) (China cord)
C060940C621A	ePMP 6 GHz Force 4600C SM Radio (ROW) (Brazil cord)
C060940C721A	ePMP 6 GHz Force 4600C SM Radio (ROW (Argentina cord)
C060940C821A	ePMP 6 GHz Force 4600C SM Radio (ROW) (ANZ cord)
C060940C921A	ePMP 6 GHz Force 4600C SM Radio (ROW) (South Africa cord)
C060940CZ21A	ePMP 6 GHz Force 4600C SM Radio (ROW) (No PSU)
C068940C122B	ePMP 6 GHz Force 4600C SM Radio (FCC) (US Cord)
C060940C226A	ePMP 6 GHz Force 4600C SM Radio (Indonesia (EU Cord)

Force 4625 Ordering Information	
C060940M041A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (no cord)
C060940M141A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (US cord)
C068940M144A	ePMP 6 GHz Force 4625 SM Bulk packaging (IC) (Canada/US cord)
C060940M241A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (EU cord)
C060940M243A	ePMP 6 GHz Force 4625 SM Bulk packaging (EU) (EU cord)
C060940M341A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (UK cord)
C060940M343A	ePMP 6 GHz Force 4625 SM Bulk packaging (EU) (UK cord)
C060940M441A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (India cord)
C060940M445A	ePMP 6 GHz Force 4625 SM Bulk packaging (India) (India Cord)
C060940M541A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (China cord)
C060940M641A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (Brazil cord)
C060940M741A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (Argentina cord)
C060940M841A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (ANZ cord)
C060940M941A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (South Africa cord)
C060940MZ41A	ePMP 6 GHz Force 4625 SM Bulk packaging (ROW) (No PSU)
C068940M142A	ePMP 6 GHz Force 4625 SM Bulk packaging (FCC) (US Cord)
C060940M246A	ePMP 6 GHz Force 4625 SM Bulk packaging (Indonesia) (EU Cord)

ABOUT CAMBIUM NETWORKS

Cambium Networks empowers millions of people with wireless connectivity worldwide. Its wireless portfolio is used by commercial and government network operators as well as broadband service providers to connect people, places and things. With a single network architecture spanning fixed wireless and Wi-Fi, Cambium Networks enables operators to achieve maximum performance with minimal spectrum. End-to-end cloud management transforms networks into dynamic environments that evolve to meet changing needs with minimal physical human intervention. Cambium Networks empowers a growing ecosystem of partners who design and deliver gigabit wireless solutions that just work.

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