Cambium Networks™

*cn*Pilot™ E500 Outdoor Omni

Gigabit IP67 802.11ac Outdoor Access Point

Omni coverage for Enterprise campuses, Public Wi-Fi, Hospitality, Educational institutions, Industrial campuses or just about any demanding outdoor environment requiring cost-effective, controller managed WLAN Access Points

Wi-Fi CERTIFIED

Highlights

Operational superiority - Supporting 256 max concurrent client associations, 16 SSIDs, WPA-2 encryption, Dynamic VLANs, DFS channels, Access control lists (ACL), zero touch provisioning and more, the 802.11ac E500 is the essential workhorse for today's demanding high density outdoor WiFi networks

High performance Wi-Fi network - All *cn*Pilot's Enterprise Access Points (APs), support features like controller-less roaming, dynamic channel selection, automatic transmit power control, band steering, and more – essential features for easy Wi-Fi operations

Mesh Rapidly setup multi-hop mesh networks either dedicating one radio (e.g.: 5 GHz) for mesh backhaul, or using both bands for client access at the same time

Wireless Backhaul Integration – the aux PoE port on the E500 offers *PoE out* eliminating the need for a second power line – perfect for powering on a standard 802.3af camera, or powering on Cambium's PMP450 or ePMP backhaul subscriber modules (SMs) for wireless backhaul enabled Wi-Fi hotspots

Resilience - Dual on-board Active/Standby memory banks ensure higher availability. The E500 can store two versions of the software and if needed fall back to a working operational software, reducing the likelihood of site visits and increasing network up-time.

Designed for the outdoors

- 802.11ac, 256 users, 16 SSIDs
- Omni coverage
- UV rated IP-67 enclosure
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- Operating Temp: -30°C ~ +60°C
- Electrical heater for cold start
- Ruggedized - ESD protection, Industrial grade components
- Packaged with wall mount brackets
- Special LTE coexistence filters
- Light weight - 881g

*cn*Maestro - WiFi Controller

- Guest Access: Custom Splash pages, Vouchers, Social login
- Zero-touch Provisioning
- Inventory tracking
- Map location
- Monitoring: key Stats, Alarms
- Mass (bulk) upgrade
- Integrated troubleshooting: WiFi APs, Clients & Cambium SMs
- Available in Cloud or as On-premises (NOC) Virtual controller

A cnPilot E500 Wi-Fi Network

| cnMaestro - WiFi Controller | Outdoor E500 | 2.4 GHz & 5 GHz Client devices |

- Configure, Monitor & Manage
- 802.11ac Omni coverage Mesh APs
- High client capacity

ACCESS POINT SPECIFICATIONS

FREQUENCY BANDS	2.4 GHz: 2.4 – 2.4835 GHz
	  Channels 1 – 13 (ETSI/CE),
	  Channels 1 – 11 (US)
	5 GHz: 5.15 – 5.85 GHz

SSID SECURITY	WPA-2 (802.11i): WPA2-Enterprise (802.1x/EAP) & WPA2-Preshared-keys, Open
MAX SSIDS	16
MAX CONCURRENT CLIENTS	256
MAX RANGE	**Client**: 213 m (700 Ft); Range will vary based on RF conditions & client capability. **Mesh**: 2.4 GHz: 3,000 m (9840 Ft.) 5 GHz: 1,500 m (4,900 Ft.)
MAX DATA RATES	1.01 Gbps
ETHERNET PORTS	Dual Gigabit Ethernet ports (2 x 10/100/1000Base-T)
ANTENNA	Dual polarized. 2x2 MIMO. Integrated Omni (360°) antenna
ANTENNA GAIN	5 dBi
POWER SUPPLY	56V/30W Gigabit passive PoE injector
POE OUT	Aux port: capable of 802.3af Power out or Canopy power (for supported Cambium ePMP or PMP450 SMs)
TRANSMIT POWER	29dBm @ 2.4GHz 28dBm @ 5 GHz
POWER CONSUMED	Typical: 8W Max: 12.95W (no auxiliary device connected)
DIMENSIONS (CM)	30 x 20.4 x 6.5 cm (without bracket)
WEIGHT	Without bracket: 881 g (0.88 Kg); with Bracket: 1,063 g (1.06 Kg)
OPERATING TEMPERATURE	-30°C ~ +60°C
MOUNTING OPTIONS	Pole mount bracket (included) or wall-mount (with included bracket or without)
LTE CO-EXISTENCE	Special filter for rejecting interference on 2.4 GHz from adjacent LTE bands 38, 40
PHYSICAL SECURITY	Kensington Lock bracket
VISUAL STATUS	Two (2) multi-color LEDs indicating Access Point & cnMaestro connectivity status

WIFI FEATURES

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Controller modes	• Autonomous Controller-less operations (E.g.: roaming) • Cloud Managed • On-premise virtualized controller	ACS: Automatic Channel Selection	autoTune: Autonomous dynamic off-channel scans w/o disconnecting clients. Periodic scans and scheduled scanning
Secure WLAN	WPA-TKIP, WPA2 AES, 802.1x 802.11w (Protected Management Frames)	Automatic Tx Power control	autoRF: Autonomous controller-less transmit power control
Hotspot 2.0/Passpoint	Yes	NAT	Yes
Captive Portal	• *cn*Maestro Controller • Redirection to external RADIUS • Stand-alone AP based • Server DNS logging	DHCP Server	Yes
Authentication	• RADIUS based 802.1x including EAP-SIM/AKA, EAP-PEAP, EAP-TTLS, and EAP-TLS MAC authentication (local database or External RADIUS server)	Firewall	Yes. NAT logging
		ACL, DNS-ACL	Yes. L2, L3 or DNS based access control
Accounting	Yes. Supports RADIUS based accounting to multiple AAAs	Band Steering Band Balancing	Yes
Scheduled SSID	Turn SSID ON/OFF on a daily/weekly/time of day basis	Airtime Fairness	Yes
Guest Access	Yes. With Active Directory Integration • Vouchers • Rate limiting • Splash page creation on cnMaestro	Tunneling	• L2TP • L2oGRE • PPPoE
VLAN	VLAN pooling, Dynamic VLAN assignment from RADIUS server. VLAN per SSID per user	Tools	• Packet capture • IP connectivity • Wi-Fi analyzer • Sniffer • Auto logging • • Open source ZapD compliant performance test tool
Data Limiting	Dynamic rate limiting of client traffic per SSID	Services	NTP server config *cn*Pilot's dependent resource state
Subscriber QoS	WMM		Syslog servers awareness feature (ADRES) turns SNMP traps support SSID ON/OFF based on underlying DNS proxy resource connectivity state
Client Isolation	Yes	APIs	Presence Location APIs
Controller-Less Fast Roaming	Yes. 802.11r, Opportunistic Key Caching supports Enhanced roaming. Disconnect for sticky clients	Certifications	FCC, ETSI, CE EN 60601-1-2 (Medical EMC) UL2043 Plenum rated
Airtime Fairness	Yes		
Meshing	Multi-hop meshing supported (3)		

# CNMAESTRO WIFI CONTROLLER

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COMMON FRAMEWORK	Single-pane-of-glass common manager for Cambium's cnPilot WiFi, ePMP and PMP wireless backhaul products
ON-BOARDING	Secure zero touch fast on-boarding
PROVISIONING	Easy zero touch virtual network provisioning Provision before install (pre-provision)
DEVICE INVENTORY	Inventory tracking
TROUBLE SHOOTING	ezDetect: Advanced end to end troubleshooting of WiFi Access Point and Client devices on one single screen. Extends to Wireless backhaul (PTP), Wi-Fi Hotspot & Clients . Includes Packet capture and Wireless Analyzer functions
INTUITIVE VIEWS	Map location Hierarchical Dashboard views
CLIENT INSIGHT	Client history with client manufacturer view
MONITORING & ALARMS	Alarms and events management – Critical/Major/Minor Key statistics graphs and *sticky* alarm summary display
CONFIGURATION	GUI based configuration or template based configuration options
SOFTWARE UPGRADE	Bulk upgrade with ability to upgrade multiple WiFi APs
MULTIPLE ADMINS	Multiple admin provisioning per account
GUEST PORTAL (ezCheck In)	Create free or paid guest sessions – Limit by Time, Rate and Bytes. Includes portal customization and built-in social login

2D Gain Patterns

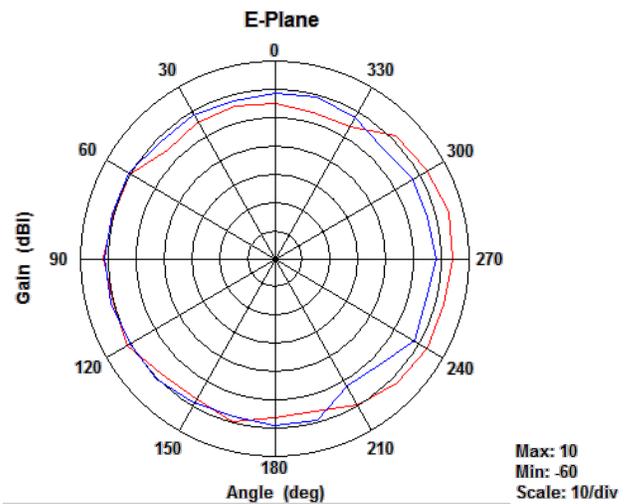2.4 GHz Azimuth (Horizontal) Gain Pattern

H-Plane

2.4 GHz Elevation (Vertical) Gain pattern

E-Plane

Max: 10
Min: -60
Scale: 10/div
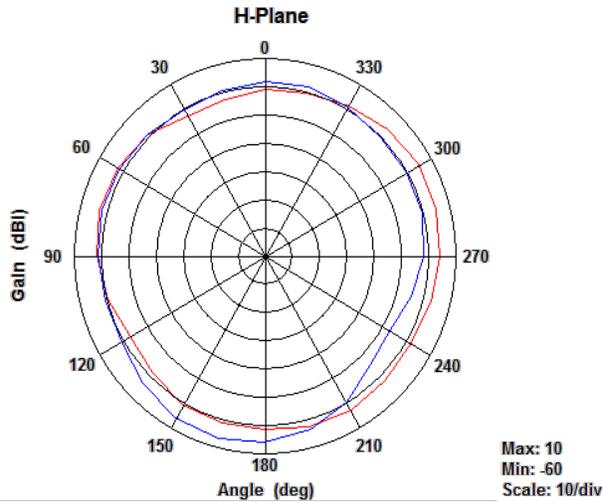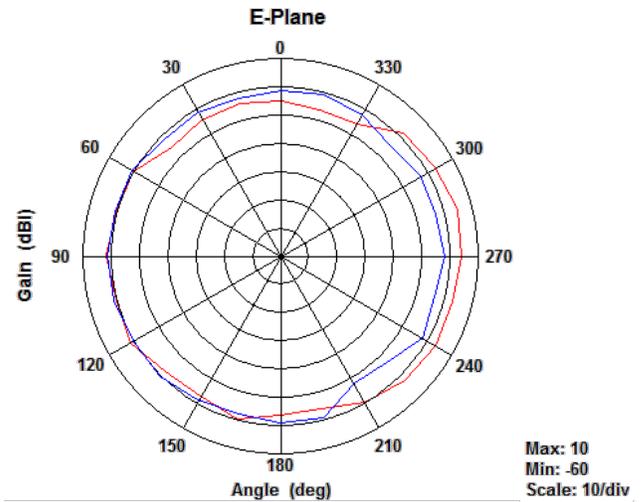
Notation 2.4 GHz: Red: Antenna 1 , Blue Antenna 2

5 GHz Azimuth (Horizontal) Gain Pattern

H-Plane
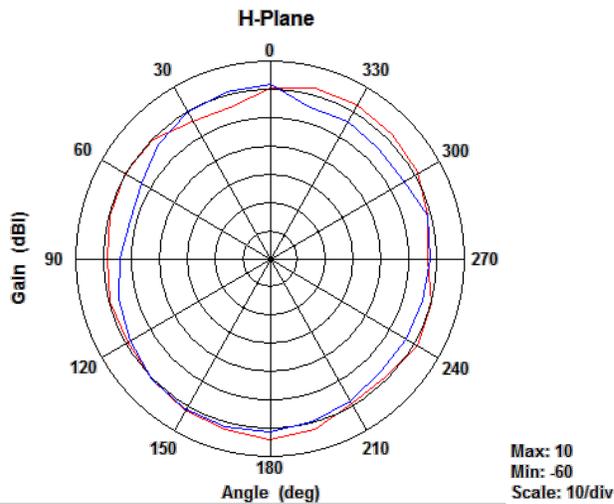
5 GHz Elevation (Vertical) Gain pattern

E-Plane

Max: 10
Min: -60
Scale: 10/div

Notation: Red: Antenna 3, Blue Antenna 4

E500 Ordering Information: cnPilot Outdoor E500

Regulatory Model Number (common to all SKUs): C000100P500A	
Sales part #	Region
PL-E500XXXA-<US/EU/ROW>	E500 for US, EU or RoW with PoE injector. XXX = US, EU and various other country cords supported models XX examples: IN (India), UK (The United Kingdom), AN (Australia & NZ), CN (China), BR (Brazil) etc.
PL-E500NPSA-RW	E500 without a PoE injector. Available in RoW model

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