![Cambium Networks™]

*cn*Pilot™ E501S Outdoor Sector

IP67 802.11ac 90° ~ 120° Outdoor Sector Access Point

Perfect for high density applications and longer range coverage across 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

Highlights

Operational superiority – The E501S with an integrated sector antenna supports 256 max client associations, 16 SSIDs, WPA-2 encryption, Dynamic VLANs, DFS channels, Access control lists (ACL), and more. The 802.11ac E501S 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 E501S 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 E501S 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.
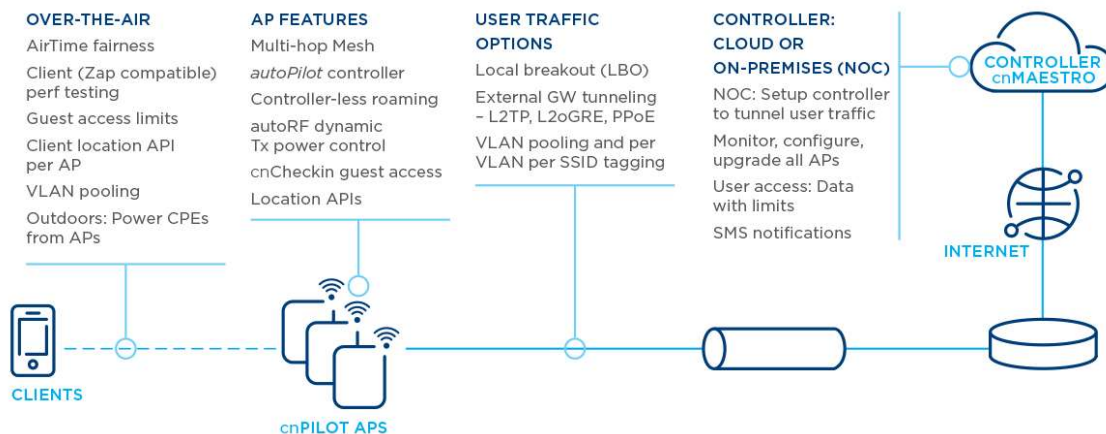
Designed for the outdoors

- 802.11ac, 256 users, 16 SSIDs
- Antenna: 90°~120° coverage
- 23 dBm front-back ratio
- UV rated IP-67 enclosure
- Operating Temp: -30°C ~ +65°C*
- Operating humidity : 10% to 95%
- Electrical heater for cold start
- Ruggedized - ESD protection, Industrial grade components
- Packaged with wall mount brackets
- Special LTE coexistence filters
- Light weight ~ 1Kg

*cn*Maestro - WiFi Controller

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

*   Under conditions when the optional PoE out feature of the E500 is not used.

The cnPilot Wi-Fi Network

OVER-THE-AIR
AirTime fairness
Client (Zap compatible) perf testing
Guest access limits
Client location API per AP
VLAN pooling
Outdoors: Power CPEs from APs

AP FEATURES
Multi-hop Mesh
autoPilot controller
Controller-less roaming
autoRF dynamic Tx power control
cnCheckin guest access
Location APIs

USER TRAFFIC OPTIONS
Local breakout (LBO)
External GW tunneling – L2TP, L2oGRE, PPoE
VLAN pooling and per VLAN per SSID tagging

CONTROLLER: CLOUD OR ON-PREMISES (NOC)
NOC: Setup controller to tunnel user traffic
Monitor, configure, upgrade all APs
User access: Data with limits
SMS notifications

CONTROLLER cnMAESTRO
INTERNET
CLIENTS
cnPILOT APS

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); Actual range will vary based on local RF conditions & client capability. **Mesh**: 2.4 GHz: 3,000 m (9840 Ft.) 5 GHz: 1,500 m (4,900 Ft.)
MAX DATA RATES	1.16 Gbps
ETHERNET PORTS	Dual Gigabit Ethernet ports (2 x 10/100/1000Base-T)
ANTENNA	Dual polarized. 2x2 MIMO. Integrated Sector antenna
ANTENNA GAIN	**10.5** dBi on 2.4GHz **13** dBi on 5GHz
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

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WIFI FEATURES

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Controller modes	• Autonomous Controller-less operations (E.g.: roaming) • Cloud Managed • On-premise virtualized controller			
Secure WLAN	• WPA-TKIP, WPA2 AES, 802.1x • 802.11w (Protected Management Frames)			
Hotspot 2.0/Passpoint	Yes			
Captive Portal	• cnMaestro Controller • Stand-alone AP based	• Redirection to external RADIUS • Server DNS logging		
Authentication	• RADIUS based 802.1x including EAP-SIM/AKA, EAP-PEAP, EAP-TTLS, and EAP-TLS • MAC authentication (local database or External RADIUS server)			
Accounting	Yes. Supports RADIUS based accounting to multiple AAAs			
Scheduled SSID	Turn SSID ON/OFF on a daily/weekly/time of day basis			
Guest Access	Yes. With Active Directory Integration • Vouchers • Rate limiting • Splash page creation on cnMaestro			
VLAN	VLAN pooling, Dynamic VLAN assignment from RADIUS server. VLAN per SSID per user			
Data Limiting	Dynamic rate limiting of client traffic per SSID			
Subscriber QoS	WMM			
Client Isolation	Yes			

ACS: Automatic Channel Selection	autoTune: Autonomous dynamic off-channel scans w/o disconnecting clients. Periodic scans and scheduled scanning
Automatic Tx Power control	autoRF: Autonomous controller-less transmit power control
NAT	Yes
DHCP Server	Yes
Firewall	Yes. NAT logging
ACL, DNS-ACL	Yes. L2, L3 or DNS based access control
Band Steering Band Balancing	Yes
Airtime Fairness	Yes
Tunneling	• L2TP • L2oGRE • PPPoE
Tools	• Packet capture • IP connectivity • Wi-Fi analyzer • Sniffer • Auto logging • • ZapD (Open source) compliant performance test tool
Services	NTP server config / cnPilot's dependent resource Syslog servers / state awareness feature SNMP traps / (ADRES) turns SSID ON/OFF support / based on underlying resource DNS proxy / connectivity state
APIs	Presence Location APIs
Certifications	FCC, ETSI, CE EN 60601-1-2 (Medical EMC)

CNMAESTRO WIFI CONTROLLER

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

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2D Gain Patterns

2.45 GHz Patterns

5 GHz Patterns
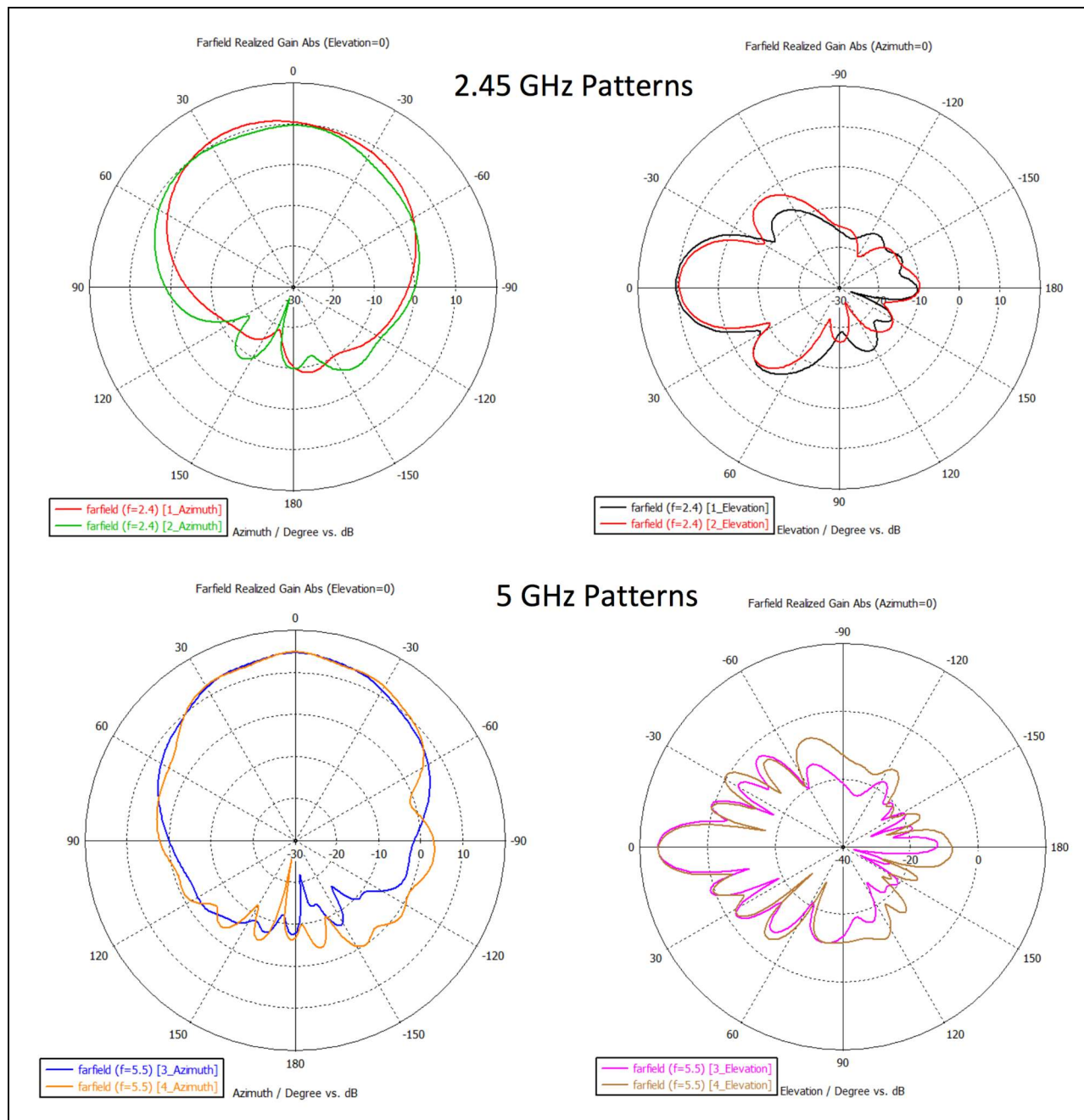
Ordering Information: cnPilot Outdoor E501S

Regulatory Model Number (common to all SKUs): C000100P501A	
Sales part #	**Region**
PL-501SPXXA-<US/EU/RW>	E501S for US, EU or RoW with PoE injector. XX = 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-501S000A-<US/EU/RW>	E501S model without a PoE injector. Available in US, EU or RoW models

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

Comune di Antrodoco Prot. n. 0001563 del 23-02-2021 arrivo Cat. 10 Cl. 7

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