

# cnPilot e502S Outdoor Sector AP

## IP67 802.11ac 30° Outdoor Narrow Sector Access Point

Perfect for very high density applications such as Stadiums, High density event coverage, Public Wi-Fi in high noise environments or narrow aisle coverage in Warehouses and more - requiring cost-effective, controller managed WLAN Access Points



### Highlights

**Operational superiority** – The e502S 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 e502S is the essential workhorse for today's demanding high density outdoor Wi-Fi networks.

**High performance Wi-Fi network** - All cnPilot'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 e502S 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 PMP 450 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 e502S 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.

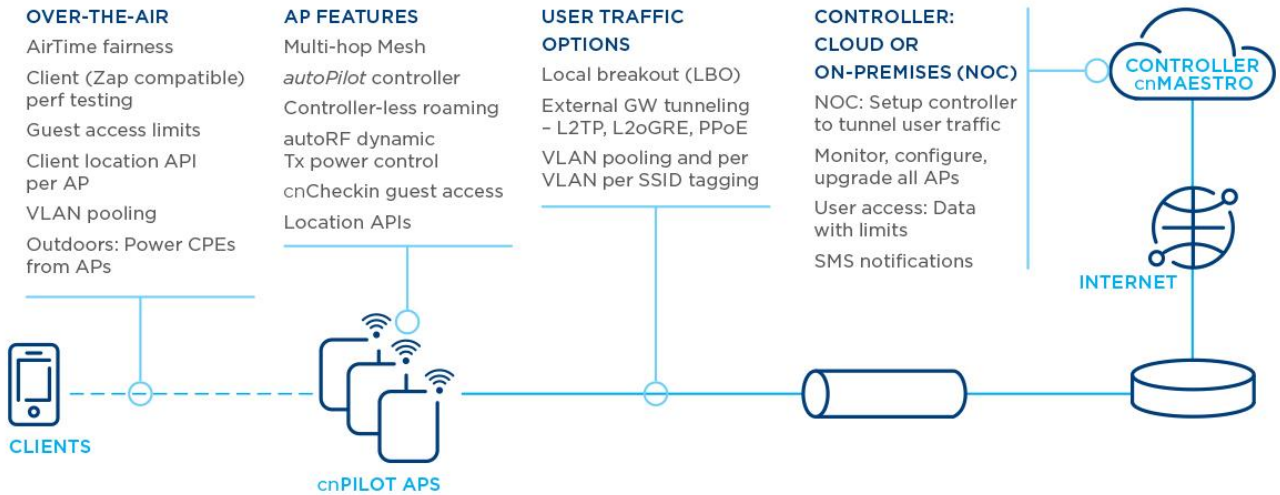
### Designed for the outdoors

- 802.11ac, 256 users, 16 SSIDs
- 30° coverage
- 23 dB front-back ratio
- Tx Power: 29 dBm
- Ant gain: 12.5/15.9 dBi
- UV rated IP-67
- Operating Temp: -30°C ~ +60°C
- Electrical heater for cold start
- Industrial grade components
- Packaged with wall mount brackets
- Special LTE coexistence filters
- Light weight ~ 1Kg

### cnMaestro – Wi-Fi 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: Wi-Fi APs, Clients & Cambium SMs
- Controller: Cloud or Virtual On-premises (NOC) controller

## The cnPilot Wi-Fi Network



### ACCESS POINT SPECIFICATIONS

<b>FREQUENCY BANDS</b>	2.4 GHz: 2.4 – 2.4835 GHz Channels 1 – 13 (ETSI/CE), Channels 1 – 11 (US) 5 GHz: 5.15 – 5.85 GHz
<b>SSID SECURITY</b>	WPA-2 (802.11i): WPA2-Enterprise (802.1x/EAP) & WPA2-Preshared-keys, Open
<b>MAX SSIDS</b>	16
<b>MAX CONCURRENT CLIENTS</b>	256
<b>MAX RANGE</b>	<b>Client:</b> 213 m (700 Ft); Actual range will vary based on local RF conditions & client capability. <b>Mesh:</b> 2.4 GHz: 3,000 m (9840 Ft.) 5 GHz: 1,500 m (4,900 Ft.)
<b>MAX DATA RATES</b>	1.01 Gbps
<b>ETHERNET PORTS</b>	Dual Gigabit Ethernet ports (2 x 10/100/1000Base-T)
<b>ANTENNA</b>	Dual polarized. 2x2 MIMO. Integrated Sector antenna
Antenna Gain	12.5 dBi @ 2.4 GHz and 15.9 dBi @ 5 GHz
<b>POWER SUPPLY</b>	56V/30W Gigabit passive PoE injector
<b>POE OUT</b>	Aux port: capable of 802.3af Power out or Canopy power (for supported Cambium ePMP or PMP450 SMs)
<b>TRANSMIT POWER</b>	29dBm @ 2.4GHz 28dBm @ 5 GHz
<b>POWER CONSUMED</b>	Typical: 8W Max: 12.95W (no auxiliary device connected)
<b>DIMENSIONS (CM)</b>	30 x 20.4 x 6.5 cm (without bracket)
<b>WEIGHT</b>	Without bracket: 881 g (0.88 Kg); with Bracket: 1,063 g (1.06 Kg)
<b>OPERATING TEMPERATURE</b>	-30°C ~ +60°C
<b>MOUNTING OPTIONS</b>	Pole mount bracket (included) or wall-mount (with included bracket or without)
<b>LTE CO-EXISTENCE</b>	Special filter for rejecting interference on 2.4 GHz from adjacent LTE bands 38, 40
<b>PHYSICAL SECURITY</b>	Kensington Lock bracket
<b>VISUAL STATUS</b>	Two (2) multi-color LEDs indicating Access Point & cnMaestro connectivity status

## WI-FI FEATURES

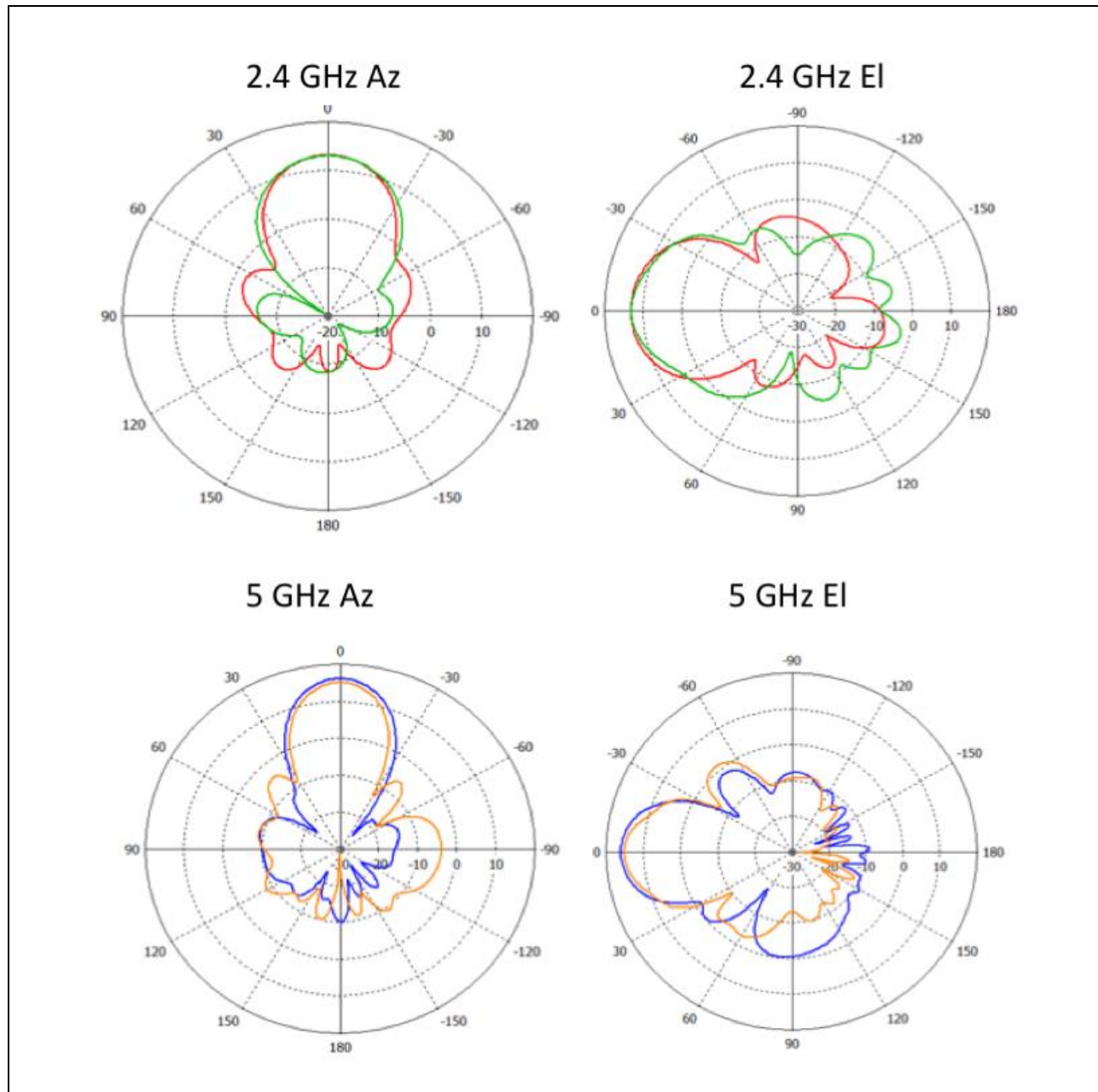
Controller modes	<ul style="list-style-type: none"> <li>Autonomous Controller-less operations (E.g.: roaming)</li> <li>Cloud Managed</li> <li>On-premise virtualized controller</li> </ul>
Secure WLAN	<ul style="list-style-type: none"> <li>WPA-TKIP, WPA2 AES, 802.1x</li> <li>802.11w (Protected Management Frames)</li> </ul>
Hotspot 2.0/Passpoint	Yes
Captive Portal	<ul style="list-style-type: none"> <li>cnMaestro Controller</li> <li>Stand-alone AP based</li> <li>Redirection to external RADIUS</li> <li>Server DNS logging</li> </ul>
Authentication	<ul style="list-style-type: none"> <li>RADIUS based 802.1x including EAP-SIM/AKA, EAP-PEAP, EAP-TTLS, and EAP-TLS</li> <li>MAC authentication (local database or External RADIUS server)</li> </ul>
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	<ul style="list-style-type: none"> <li>Yes. With Active Directory Integration</li> <li>Vouchers</li> <li>Rate limiting</li> <li>Splash page creation on cnMaestro</li> </ul>
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	<ul style="list-style-type: none"> <li>L2TP</li> <li>L2oGRE</li> <li>PPPoE</li> </ul>
Tools	<ul style="list-style-type: none"> <li>Packet capture</li> <li>Sniffer</li> <li>ZapD (Open source) compliant performance test tool</li> <li>IP connectivity</li> <li>Auto logging</li> <li>Wi-Fi analyzer</li> </ul>
Services	<ul style="list-style-type: none"> <li>NTP server config</li> <li>Syslog servers</li> <li>SNMP traps support</li> <li>DNS proxy</li> <li>cnPilot's dependent resource state awareness feature (ADRES) turns SSID ON/OFF based on underlying resource connectivity state</li> </ul>
APIs	Presence Location APIs
Certifications	FCC, ETSI, CE EN 60601-1-2 (Medical EMC) UL2043 Plenum rated

## CNMAESTRO WI-FI CONTROLLER

<b>COMMON FRAMEWORK</b>	Single-pane-of-glass common manager for Cambium's cnPilot Wi-Fi, ePMP and PMP wireless backhaul products
<b>ON-BOARDING</b>	Secure zero touch fast on-boarding
<b>PROVISIONING</b>	Easy zero touch virtual network provisioning Provision before install (pre-provision)
<b>DEVICE INVENTORY</b>	Inventory tracking
<b>TROUBLE SHOOTING</b>	ezDetect: Advanced end to end troubleshooting of Wi-Fi 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
<b>INTUITIVE VIEWS</b>	Map location Hierarchical Dashboard views
<b>CLIENT INSIGHT</b>	Client history with client manufacturer view
<b>MONITORING &amp; ALARMS</b>	Alarms and events management – Critical/Major/Minor Key statistics graphs and <i>sticky</i> alarm summary display
<b>CONFIGURATION</b>	GUI based configuration or template based configuration options
<b>SOFTWARE UPGRADE</b>	Bulk upgrade with ability to upgrade multiple Wi-Fi APs
<b>MULTIPLE ADMINS</b>	Multiple admin provisioning per account

## 2D Radiation Patterns



### Ordering Information: cnPilot Outdoor e502S

Regulatory Model Number: C000100P502A	
Sales part #	Region
PL-502SPUSA-US, PL-502SPEU-UE, PL-502SPXX-RW	e502S for US, EU or RoW with PoE injector. XX = various country cords examples: IN (India), UK (The United Kingdom), AN (Australia & NZ), CN (China), BR (Brazil) etc.
PL-502S000A-US, PL-502S00A-EU, PL-502S000A-RW	e502S model <u>without</u> a PoE injector. Available in US, EU or RoW models. XX = various country cords. examples: IN (India), UK (The United Kingdom), AN (Australia & NZ), CN (China), BR (Brazil) etc.

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