

Cambium cnPilot E500 vs Ubiquiti UniFi AC Mesh Pro

Top-7 reasons why the hardware and software of the cnPilot E500 make it a better choice than Ubiquiti UniFi AC Mesh Pro Access Point for outdoor WiFi.

Feature	cnPilot E500	UniFi AC Mesh Pro	Why it matters
IP67 Reliability	✓	✗	cnPilot E500 is strongly resistant to water and dust ingress (IP67 rated). APs that fail due to weather can cost in downtime as well as costs of replacement hardware and labor.
LTE filtering	✓	✗	Outdoor WiFi APs may share a tower with LTE base stations, and a hardware filter like the one on the E500 can be critical for reliable, interference-free operation.
Enterprise class RF Features	✓	✗	From 802.11r Fast Roaming, to Band Steering, to Enhanced Roaming, to packet capture tools, the cnPilot E500 has a suite of features that improve user experience with better handling of RF
Capacity	✓	✗	Be it number of supported clients, higher transmit power or number of SSIDs the cnPilot E500 beats the UniFi Mesh Pro on most capacity related metrics.
Passpoint 2.0 Soft GRE	✓	✗	Features such as Passpoint/Hotspot2.0 and softGRE are critical for public WiFi access managed by carriers.
Auxiliary Port PoE	✓	✗	The Auxiliary Ethernet port on the cnPilot E500 provides PoE to another device such as a ePMP/PMP SM or a surveillance camera, making cable runs on poles and towers simple and easy.
Single pane management of Access + Backhaul	✓	✗	cnMaestro provides end to end network management and visibility. Control and troubleshooting extended all the way from access to backhaul in your network. Critical if backhaul is wireless.

Things to consider when selecting an outdoor AP:

- What is the outdoor reliability rating, given these access points will be installed out in the elements and have to potentially deal with dust and water on a regular basis?
- What features are dependent on the controller being continuously accessible? Does the controller going offline take down the captive portal?
- What happens when there are more than 200-250 clients as happens when there are spikes at events or in high traffic areas, or if the AP install needs more than 4 SSIDs to be in use?
- If you need any support, is there a dedicated phone number or a support email from the vendor that you can turn to? Before the install are there field representatives with whom you can discuss ideas and options?
- Does the vendor have extensive experience in outdoor with a portfolio of products for an end to end solution?
- With outdoor installs backhaul is typically a fixed wireless broadband PMP/PTP solution. How do you install, maintain and troubleshoot your network if the backhaul and access use different management solutions?

Detailed feature comparison:

	Ubiquiti Mesh Pro UniFi Controller	Cambium cnPilot E500 cnMaestro
Platform Capability		
RF Technology	3x3 802.11ac wave1	2x2 802.11ac wave1
Number of SSIDs	4	16
Tx Power (2.4/5 GHz)	22/22dBm	28/29dBm
Antenna Gain	8dBi	5dBi
IP67 Weather Protection	NO	YES
Client Capacity	250+	350+
Installation Flexibility		
Pole and Wall Mount	YES	YES
PoE-out port for Aux	NO	YES
LTE Filter	NO	YES

Enterprise WiFi		
802.11r Fast Roaming	NO	YES
Enhanced Roaming	NO	YES
Band Steering	YES	YES
Carrier WiFi		
AAA Failover	YES	YES
Realm based Servers	NO	YES
Passpoint 2.0 (Hotspot 2.0)	NO	YES
EoGRE / SoftGRE tunnel	NO	YES
SNMP V3 Secure Monitoring	NO	YES
Captive Portal		
On AP/Controller/External	Controller-only	All options supported
Voucher Based Access	YES	YES
Network Services		
DHCP Server, NAT on AP	NO	YES
Packet Capture	NO	YES
Troubleshooting Tools		
Remote packet capture	NO	YES
WiFi RF Analyzer	NO	YES
Controller Options		
Cloud Based Controller	NO	YES
No Feature/AP Licenses	YES	YES
On-Premises Controller	YES	YES