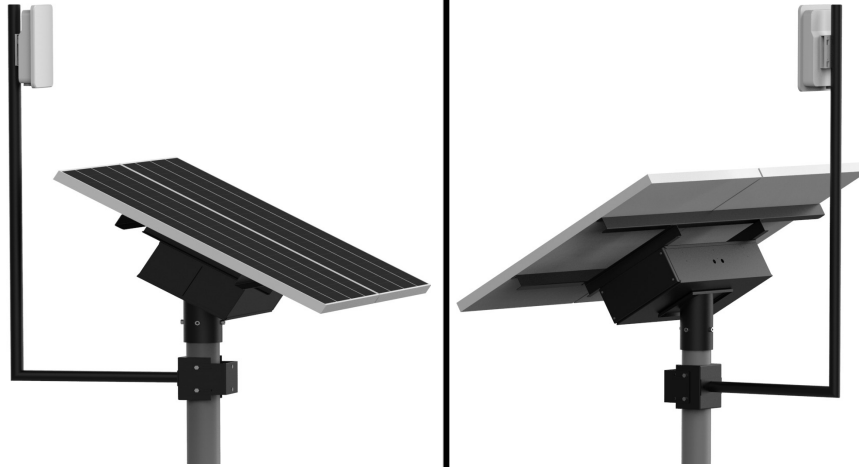


GNSMARTPOLE-WIFI



The gridNet Smart WiFi pole is slimline, compact and an aesthetically pleasing Wifi enabled Solar pole which incorporates all components together in a modern and robust design.

Designed to operate for 24/7 and ensuring a stable WIFI connectivity solar powered solution.

Designed for easy maintenance without having to remove the system from the pole or solar panels.

Lithium Ferro Phosphate battery technology enabling this design to be powered for between 6 to 10 years with reliable battery technology.

Our poles design calculations are in accordance with SANS0225

Galvanized is done as per SANS 121

Steel is structural steel with grade S355

Steel is manufactured to SANS657-1

Length will vary and be Dependant on a clients specific requirements and supplied as with a buried or plinth and bolt cage as optional



GNSMARTPOLE-WIFI



cnPilot™ e505, e510, e700 outdoor Wi-Fi Access Points

802.11ac Wave 2 Internal Antenna Outdoor Wi-Fi Access Points

Ideal for outdoor communities, public Wi-Fi or enterprise Wi-Fi, these omni-directional access points are tailored to low-, medium- and high- density applications. Each is designed with an integrated mounting bracket & internal antennas to make installation a snap and repeatable from one site to the next.



QUICK LOOK:

e505	e510	e700
802.11 a/b/g/n/ac Wave 2		
Omni-directional antenna coverage		
IP67 rated housing, UV protection		
5 GHz (2x2), 2.4 GHz (2x2)		5 GHz (4x4), 2.4 GHz (2x2)
-30°C to 60°C	-40°C to 65°C	-30°C to 60°C
Small size hides easily	Shock & Vibration rail certified	15 W power out on GE2



CLOUD-MANAGED ACCESS

All cnPilot access points are managed by cnMaestro from the cloud, an on-premises VM or a private datacenter. cnMaestro provides a single-pane-of-glass dashboard for Wi-Fi, Ethernet, fixed wireless broadband and service provider home routers.

- Zero-touch onboarding
- Inventory reports, mass configuration and upgrade
- Dashboard views with alarms and key performance metrics
- Remote troubleshooting tools
- Hierarchical device organization
- Cloud-managed guest portal with social login, vouchers, rate, time and throughput limits

cnMaestro Essential cloud management is included at no additional cost. There are no setup fees, license, or recurring costs. cnMaestro includes

detailed network statistics, channel utilization graphs, and integrated remote troubleshooting tools to ensure service is always on.

FLEXIBLE DESIGN FOR OUTDOOR ENTERPRISE WI-FI

The e505 is designed for fast, discrete deployment of outdoor Wi-Fi, ideal for an aesthetically sensitive area like a hotel pool, or unobtrusive public and community Wi-Fi. The e505 has an omni coverage internal antenna with an integrated mounting bracket.

The e510 is rail shock and vibration certified, and includes extended surge and ESD protection. Additionally, an integrated LTE filter reduces impact from nearby LTE frequencies. Operating temperature spans -40°C to 65°C for a wide range of applications.

The e700 provides edge intelligent services and the 4x4 MU-MIMO antenna array to deliver those services. The dual-gigabit Ethernet ports support link aggregation (LAG) for higher throughput needs, or GE2 can be enabled to deliver 15 W of operating power for a Cambium subscriber module or any Ethernet- and PoE-powered device.

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

Access Point Specifications

	e505	e510	e700
FCC	Ch 1-11, 36-48, 149-169	*Ch 1-11, 36-48, 149-165	*Ch 1-11, 36-48, 149-165
ISED Canada	Ch 1-11, 36-48, 149-169	Ch 1-11, 36-48, 149-165	Ch 1-11, 36-48, 149-165
ETSI	Ch 1-13, 32-48, 159-169	Ch 1-13, 32-48, 149-165	Ch 1-13, 32-48, 149-165
ROW	Ch 1-13, 32-48, 159-169	Ch 1-13, 32-48, 159-169	Ch 1-13, 32-48, 159-169
Radios	1 x 5 GHz radio (802.11 a/n/ac Wave 2), 2x2 1 x 2.4 GHz (802.11 b/g/n), 2x2 SU-MIMO / MU-MIMO: 2 streams		
Wi-Fi	802.11 a/b/g/n/ac	802.11 a/b/g/n/ac	802.11 a/b/g/n/ac
SSID Security	WPA2 (802.11i), WPA2 Enterprise (802.1x/EAP), WPA PSK, Open		
Max PHY Rate	2.4 GHz radio: 300 Mbps 5 GHz radio: 867 Mbps	2.4 GHz radio: 400 Mbps 5 GHz radio: 867 Mbps	2.4 GHz radio: 400 Mbps 5 GHz radio: 1733 Mbps
Ethernet	One IEEE gigabit Ethernet auto sensing	One IEEE gigabit Ethernet auto sensing	One IEEE gigabit Ethernet auto sensing
Antenna	Internal omni-directional 2.4 GHz: 5 dBi 5 GHz: 5 dBi	Internal omni-directional 2.4 GHz: 8 dBi (2.4 GHz) 5 GHz: 9 dB	Internal omni-directional 2.4 GHz: 8 dBi 5 GHz: 8 dBi
Max EIRP	2.4 GHz: 26 dBm 5 GHz: 26 dBm	2.4 GHz: 32 dBm 5 GHz: 34.5 dBm	2.4 GHz: 33 dBm 5 GHz: 36 dBm
	(EIRP limited by country regulations)		
WLAN	100 clients, 16 SSIDs WPA-TKIP, WPA2 AES, 802.1x, 802.11w PMF	256 clients, 16 SSIDs WPA-TKIP, WPA2 AES, 802.1x, 802.11w PMF	512 clients, 16 SSIDs WPA-TKIP, WPA2 AES, 802.1x, 802.11w PMF
Power	802.3af or 802.3at powered device Typical load: 8 W, Max: 12 W	802.3af or 802.3at powered device Typical load: 10 W, Max: 12.95 W	802.3at powered device Or 60 W Injector for max load with power-out Typical load: 18 W, Max: 25 W 40 W when connected to full 802.3af load on GE 2 Canopy power out or 802.3af
Mounting	Integrated pole, wall mount	Integrated pole, wall mount	Integrated pole 38 mm and 76 mm (1.5 in and 2.99 in) , wall mount

* DFS Channels not supported at first release. Country regulations apply.

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

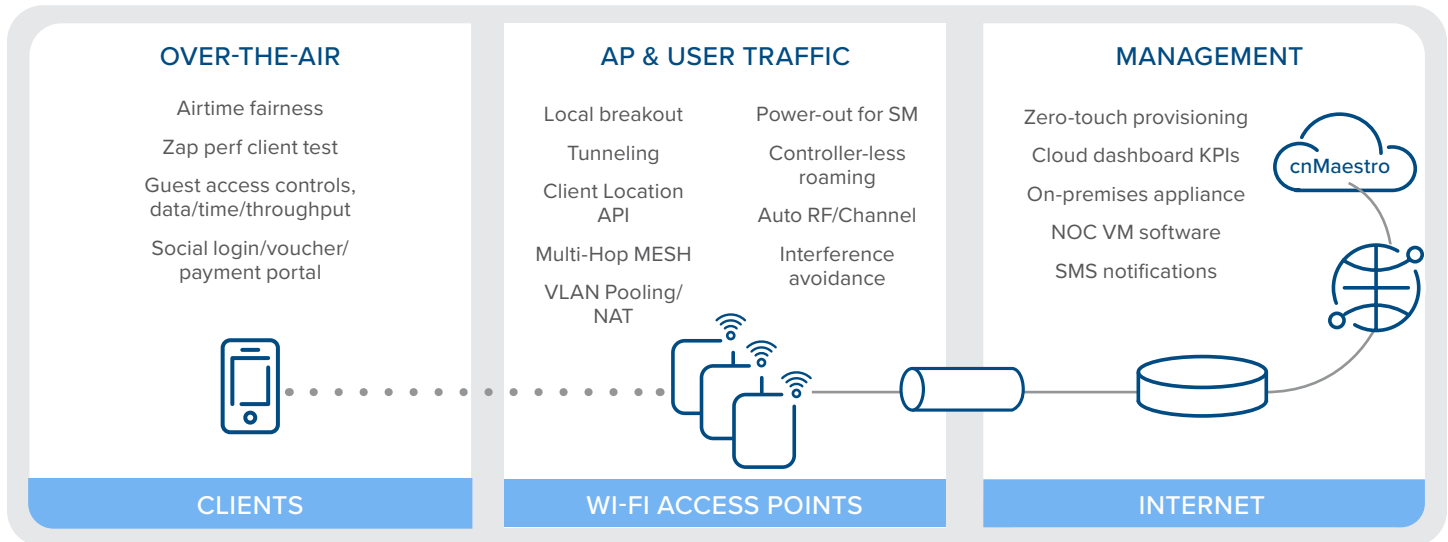
Access Point Specifications cont'd

	e505	e510	e700
Dimensions	227 mm x 130 mm x 70 mm (8.94 in x 5.12 in x 2.76 in)	320 mm x 215 mm x 65 mm (12.4 in x 8.46 in x 2.56 in)	315 mm x 215 mm x 66 mm (12.4 in x 8.46 in x 2.6 in)
Weight	800 g (1.76 lbs)	1,100 g (2.43 lbs)	1,700g (3.75 lbs)
LED	Single Tri-color LED (amber, blue, green)	Single Tri-color LED (amber, blue, green)	Two single color status LED
Physical Lock	Kensington slot	Kensington slot	Kensington Key Slot
Ambient op temp	-30°C to 60°C	-40°C to 65°C	-40°C to 65°C
Storage temperature	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C
Humidity	95% RH non-condensing	95% RH non-condensing	95% RH non-condensing
Wind Resistance	–	224 kph (139 mph)	–
LTE Band filter	–	38, 40	38, 40
MTBF	–	–	2.3 m hours
Overvoltage Protection	–	–	Category 1
Certifications	Wi-Fi Alliance 80211a/b/g/n/ac, Passpoint 2.0 FCC, ETSI, CE, EN 60601-1-2, IEC60950 UI2043	Wi-Fi Alliance 80211a/b/g/n/ac, Passpoint 2.0 FCC, ETSI, CE, EN 60601-1-2, IEC60950 UI2043	Wi-Fi Alliance 802.11a/b/g/n/ac, Passpoint 2.0 FCC, ETSI, CE, EN 60601-1-2, IEC60950 UI2043

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

Management

Adaptive cnPilot Network



Cambium Networks cnMaestro uses a distributed intelligence architecture with a cloud-first cnMaestro management and edge-intelligent AP's that self-optimize for the RF environment. cnMaestro and cnPilot AP's provide automatic RF management and seamless roaming, with a cloud-first, multi-site management for up to 10,000 devices and hundreds of thousands of connected clients. cnMaestro delivers single-pane-of-glass management for Cambium Networks broadband fixed wireless, cnMatrix Ethernet switches, enterprise-grade Wi-Fi AP's and service provider residential routers.

Interfaces HTTP / HTTPS web interface, SSL, Telnet
SNMP V1, V2, V3
Syslog, SNMP traps, NTP

Deployment cnMaestro Cloud, cnMaestro on-premises,
Standalone AP

Services Monetized, cloud managed guest portal
with design tools

APIs RESTful management and statistics API
Presence location API
Splunk WebSocket integration, WebSocket
DNS, NAT, TCP connection log

Captive Portal Hosted on cnMaestro Controller
On-AP hosted guest portal
Redirect to HTTP/RADIUS external portal/
authentication
Active Directory integration, Google,
Facebook, Office 365 integration
Data rate, time duration, data throughput limit
Server DNS logging

Hotspot 2.0 Hotspot 2.0 / Passpoint 2.0

Accounting RADIUS accounting, load balancing AAA
servers, Dynamic Authorization COA, DM

Service Availability Critical network resource monitor with
automatic shutdown maintains device
connectivity

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

Network Specifications

Authentication Encryption 802.1x EAP-SIM/AKA/AKA'/FAST, EAP-PEAP, EAP-TTLS, EAP-TLS/MSCHAPv2, PEAPv0/PEAPv1
 MAC authentication to local database (on AP, on Controller) or external RADIUS.
 MAC auth fallback to guest portal

Scheduled WLAN On/off by day, week, time of day

QoS 802.11e/WMM QoS. DSCP/ToS mapping

VLAN 802.11Q, max 4096

Fast Roaming 802.11r, OKC, Enhanced roaming

Mesh Multi-hop (3), either band

Channel Selection Auto RF: Manual, or automatic

Auto TX Power Auto RF: automatically adjust max transmit power

Network NAT, NAT logging firewall, DOS protection, L2/L3/DNS ACL, DHCP server, DHCP Relay option 82
 LLDP, IGMP v1, v2, v3
 VLAN Pooling, RADIUS attribute VID
 VLAN per SSID, per user
 Integrated WIDS (wireless intrusion detection)

Band Steer Load Balance Yes

Tunnel L2TP, L2oGRE, PPPoE

Network and RF Management Tools Out-of-band RF spectrum analysis, radio self test network assurance, RF monitor with chn/noise/interference, wired and wireless remote packet capture, auto logging, ZapD performance tool, rogue AP detection, ultralow power mode, honeypot control

Standards

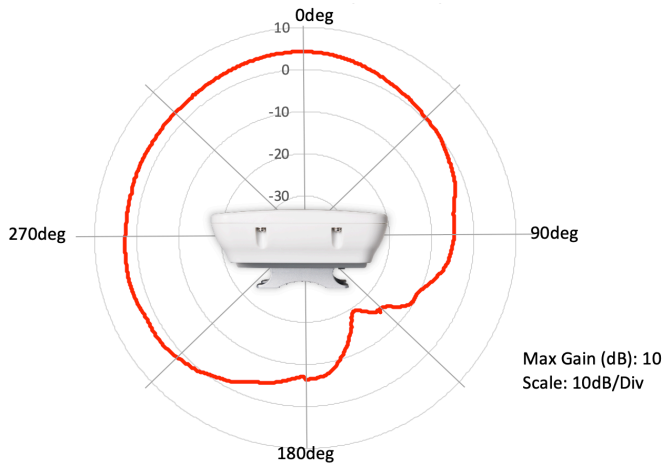
Wi-Fi Protocols VHT MCS rates, 256-QAM, HT20/40/80 MHz

Transmit beamsteering, Airtime Fairness, Packet Aggregation (AMSDU, AMPDU) RIFS, STBC, LDPC

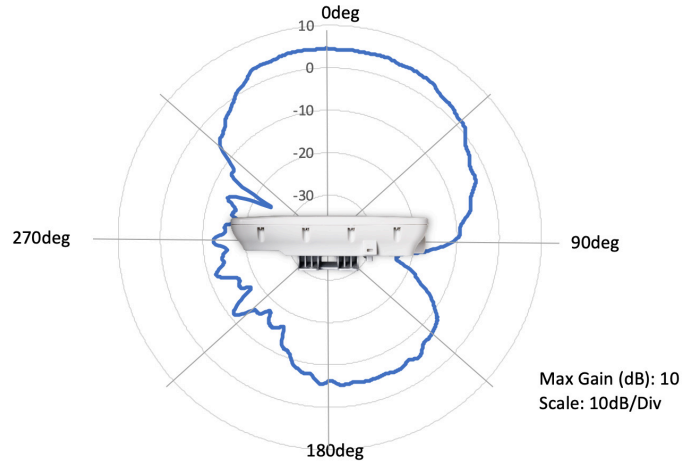
MIMO Power Save, MRC

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

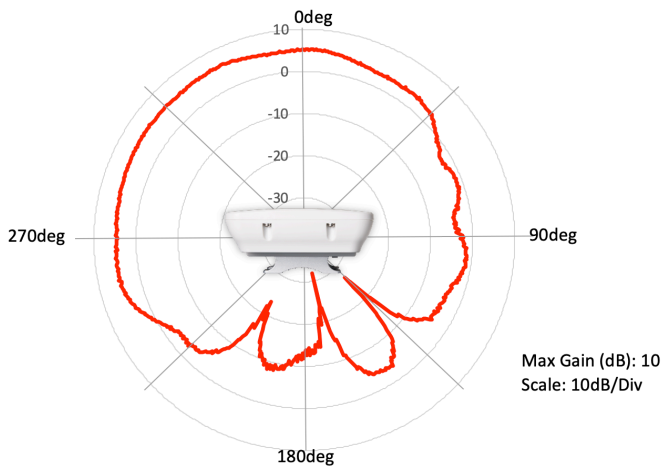
Antenna Patterns - e505



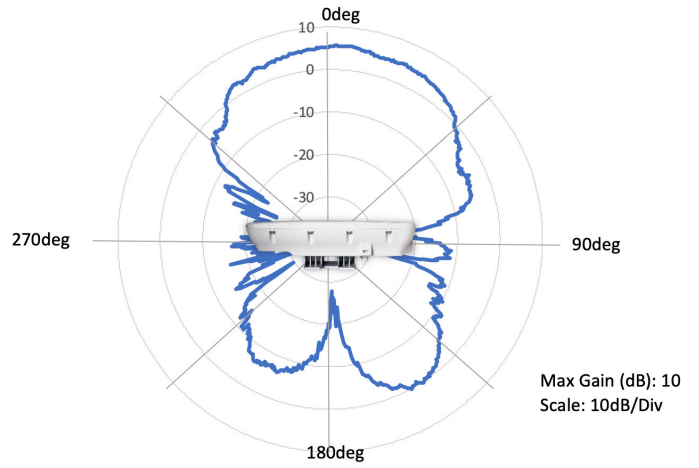
2.4 GHz Azimuth



2.4 GHz Elevation



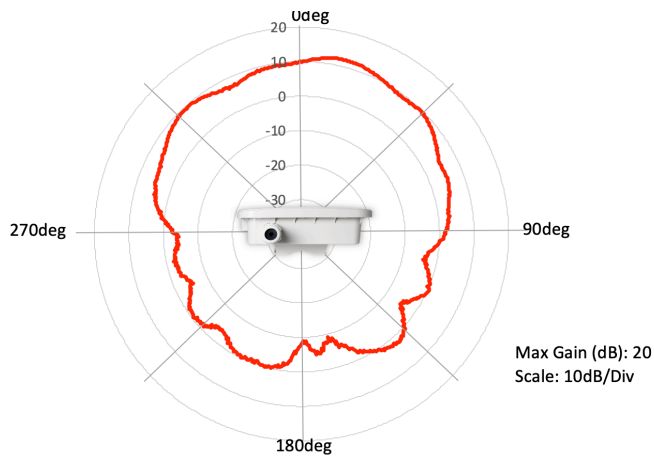
5 GHz Azimuth



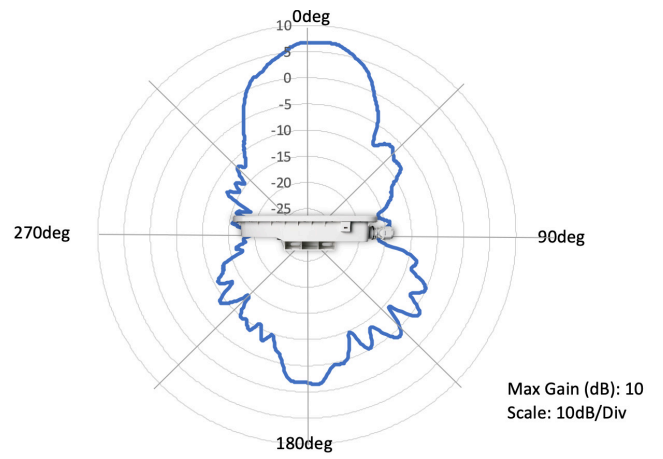
5 GHz Elevation

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

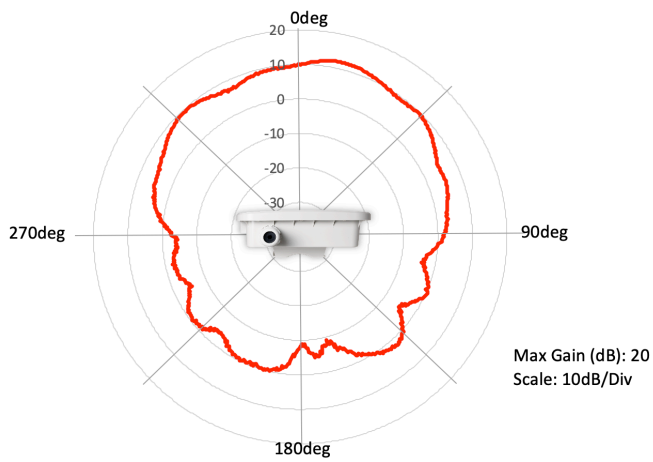
Antenna Patterns - e510



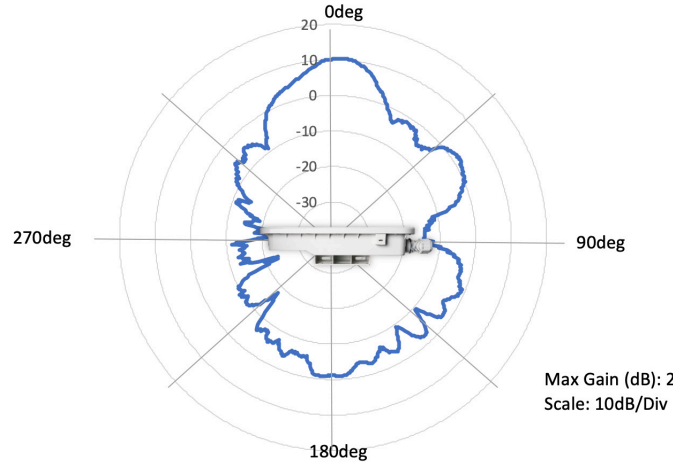
2.4 GHz Azimuth



2.4 GHz Elevation



5 GHz Azimuth



5 GHz Elevation

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

e505



Front



Back



Side

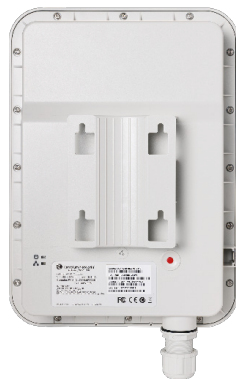


Bottom

e510



Front



Back



Side



Bottom

e700



Front



Back



Bottom

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

e505 Ordering Information

PL-E505X00A-US	cnPilot e505 Outdoor (FCC) 802.11ac Wave 2, 2x2, 5 dBi Omni AP, IP55
PL-E505X00A-EU	cnPilot e505 Outdoor (EU) 802.11ac Wave 2, 2x2, 5 dBi Omni AP, IP55
PL-E505X00A-RW	cnPilot e505 Outdoor (ROW) 802.11ac Wave 2, 2x2, 5 dBi Omni AP, IP55
PL-E505PUSA-US	cnPilot e505 Outdoor (FCC) 802.11ac Wave 2, 2x2, 5 dBi Omni AP, IP55, PoE Injector, Type B line cord
PL-E505PEUA-EU	cnPilot e505 Outdoor (EU) 802.11ac Wave 2, 2x2, 5 dBi Omni AP, IP55, PoE Injector, Type C line cord
PL-E505PILA-IL	cnPilot e505 Outdoor (Israel) 802.11ac Wave 2, 2x2, 5 dBi Omni AP, IP55, PoE Injector, Type H cord
PL-E505PUSA-CA	cnPilot e505 Outdoor (Canada) 802.11ac Wave 2, 2x2, 5 dBi Omni AP, IP55. PoE Injector, Type B cord
PL-E505PZAA-RW	cnPilot e505 Outdoor (South Africa) 802.11ac Wave 2, 2x2, PoE Injector, Type M line cord
PL-E505PBRA-RW	cnPilot e505 Outdoor (Brazil) 802.11ac Wave 2, 2x2, PoE Injector, Type N line cord
PL-E505PEUA-RW	cnPilot e505 Outdoor (ROW) 802.11ac Wave 2, 2x2, PoE Injector, Type C line cord
PL-E505PARA-RW	cnPilot e505 Outdoor (Argentina) 802.11ac Wave 2, 2x2, PoE Injector, Type I line cord
PL-E505PEUA-EG	cnPilot e505 Outdoor (Egypt) 802.11ac Wave 2, 2x2, PoE Injector, Type C line cord
PL-E410PANA-RW	cnPilot e410 (ROW with AUS/NZ cord) 802.11ac Wave 2, 2x2, with PoE Injector
PL-E410PBRA-RW	cnPilot e410 (ROW with Brazil cord) 802.11ac Wave 2, 2x2, with PoE Injector
PL-E410PARA-RW	cnPilot e410 (ROW with Argentina cord) Wave 2, 2x2, 802.11ac with PoE Injector
N000000L034A	Power supply, 30 W, 56 W, RJ45 – Gbps support. C5 AC port. AC line cord sold separately

NOTE: Not all SKUs are available at first release. Consult your Cambium Networks distributor for country availability.

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

e510 Ordering Information

PL-E510X00A-US	cnPilot e510 Outdoor (FCC) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP
PL-E510X00A-EU	cnPilot e510 Outdoor (EU) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP
PL-E510X00A-RW	cnPilot e510 Outdoor (ROW) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP
PL-E510PUSA-US	cnPilot e510 Outdoor (FCC, US cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PEUA-EU	cnPilot e510 Outdoor (EU, EU cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PXXA-RW	cnPilot e510 Outdoor (ROW, No cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PEUA-RW	cnPilot e510 Outdoor (ROW, EU cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PUKA-EU	cnPilot e510 Outdoor (EU, UK cord) 802.11ac Wave 2, 2x2, AP, 8 dBi, WLAN AP, PoE Injector
PL-E510PUKA-RW	cnPilot e510 Outdoor (ROW, UK cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PUSA-RW	cnPilot e510 Outdoor (ROW, US cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PINA-RW	cnPilot e510 Outdoor (ROW, India cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PCNA-RW	cnPilot e510 Outdoor (ROW, China cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PANA-RW	cnPilot e510 Outdoor (ROW, AUS/NZ cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PBRA-RW	cnPilot e510 Outdoor (ROW, Brazil cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PARA-RW	cnPilot e510 Outdoor (ROW, Argentina cord) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
PL-E510PZAA-RW	cnPilot e510 Outdoor (ROW, South Africa M type) 802.11ac Wave 2, 2x2, 8 dBi, WLAN AP, PoE Injector
AX-E510RBKT-WW	Shock Mount for e510

cnPilot™ e505, e510, e700 Outdoor Wi-Fi Access Points

e700 Ordering Information

PL-E700X00A-US	cnPilot e700 Outdoor (FCC) 802.11ac Wave 2, 2x2/4x4, AP
PL-E700X00A-EU	cnPilot e700 Outdoor (EU) 802.11ac Wave 2, 2x2/4x4, AP
PL-E700X00A-RW	cnPilot e700 Outdoor (ROW) 802.11ac Wave 2, 2x2/4x4, AP
PL-E700PUSA-US	cnPilot e700 Outdoor (FCC, US cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PEUA-EU	cnPilot e700 Outdoor (EU, EU cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PXXA-RW	cnPilot e700 Outdoor (ROW, No cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PEUA-RW	cnPilot e700 Outdoor (ROW, EU cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PUKA-EU	cnPilot e700 Outdoor (EU, UK cord) 802.11ac Wave 2, 2x2, AP, 8 dBi, WLAN AP, PoE Injector
PL-E700PUKA-RW	cnPilot e700 Outdoor (ROW, UK cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PUSA-RW	cnPilot e700 Outdoor (ROW, US cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PINA-RW	cnPilot e700 Outdoor (ROW, India cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PCNA-RW	cnPilot e700 Outdoor (ROW, China cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PANA-RW	cnPilot e700 Outdoor (ROW, AUS/NZ cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PBRA-RW	cnPilot e700 Outdoor (ROW, Brazil cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PARA-RW	cnPilot e700 Outdoor (ROW, Argentina cord) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector
PL-E700PZAA-RW	cnPilot e700 Outdoor (ROW, South Africa M type) 802.11ac Wave 2, 2x2/4x4, AP, PoE Injector

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.