

# cnPilot™ e410, e600 Indoor Wi-Fi Access Points

802.11ac Wave 2

## QUICK LOOK:

Designed to scale from small enterprises to K12 schools, the e410 and e600 feature an easy-to-install integrated bracket and is enterprise grade 802.11ac Wave 2.

e410 and e600 share a common industrial design for repeatable and predictable installation in any enterprise or business. Both access points (AP) can be managed by cnMaestro cloud, on-premises cnMaestro, a private datacenter or as a standalone AP.



	e410	e600
<b>802.11 a/b/g/n/ac Wave 2</b>	✓	✓
<b>5 GHz / 2.4 GHz streams</b>	<b>2x2 / 2x2</b>	<b>4x4 / 2x2</b>
<b>Gigabit Ethernet</b>	<b>1</b>	<b>2</b>



### CLOUD-MANAGED ACCESS

cnMaestro™ provides end-to-end cloud Dashboard for Wi-Fi, Ethernet, and fixed wireless broadband:

- Zero-touch onboarding
- Inventory tracking & monitoring
- Mass configuration & upgrade
- Dashboard views with alarms
- Troubleshooting
- Hierarchical device organization

cnMaestro Essential cloud management is included at no additional cost. No setup fee, no license, and no recurring cost.

### CONTROLLER-LESS ROAMING, POWERFUL SIMPLICITY

cnPilot e410 and e600 include controller-less distributed intelligence for seamless roaming and enhanced roaming for up to 1,000 devices. cnMaestro management provides end-to-end visibility and zero-touch provisioning across thousands of sites.

### MONETIZE: VOUCHERS. SOCIAL LOGIN

A hotspot portal can be designed in the cloud and distributed to each site's access point with a single touch. Wi-Fi hotspot capabilities support splash page hosting, social login, temporary access vouchers, and multiple credit card payment gateways. Control time, rate and data volume traffic profiles.

### HIGH CAPACITY AND RELIABILITY

Airtime fairness, standardized beamsteering, and MU-MIMO increase network capacity while automatic RF management monitors performance and optimizes the network to avoid interference. Detailed network statistics, utilization graphs, and integrated troubleshooting ensure service is always on.

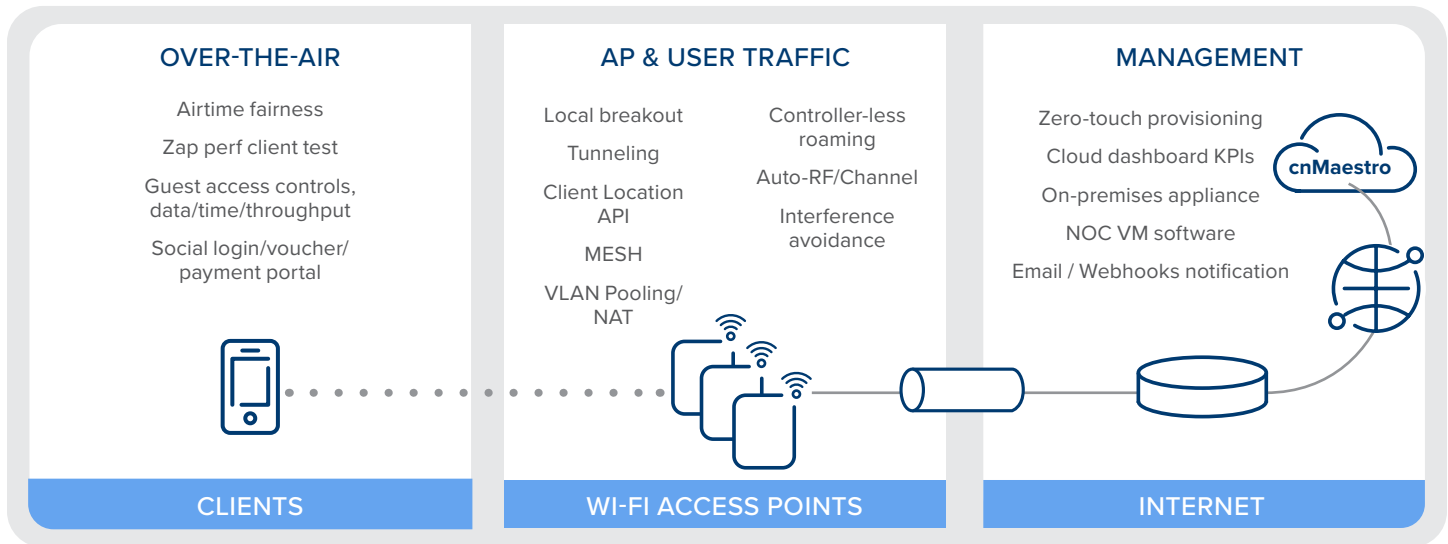
## cnPilot™ e410 and e600 Indoor Wi-Fi Access Points

Access Point Specifications				
	e410 (Hardware specs subject to change)		e600	
<b>US-FCC</b>	CH 1–11, 36–64, 100–144, 149–165		CH 1–11, 36–64, 100–144, 149–165	
<b>ISED Canada</b>	CH 1–11, 36–64, 100–116, 149–165		CH 1–11, 36–64, 100–116, 149–165	
<b>EU-ETSI</b>	CH 1–13, 36–64, 100–140		CH 1–13, 36–64, 100–140	
<b>ROW</b>	CH 1–13, 36–64, 100–144, 149–165 2400-2483.5 MHz, 5150-5850 MHz <i>Individual country limitations apply</i>		CH 1–13, 36–64, 100–144, 149–165 2400-2483.5 MHz, 5150-5850 MHz <i>Individual country limitations apply</i>	
<b>DFS</b>	Channels to be released later			
<b>Radios</b>	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		1 x 5 GHz radio (802.11 a/n/ac Wave 2), 4x4 1 x 2.4 GHz (802.11 b/g/n), 2x2 SU-MIMO / MU-MIMO: 4 streams	
<b>Wi-Fi</b>	802.11 a/b/g/n/ac		802.11 a/b/g/n/ac	
<b>SSID Security</b>	WPA2 (802.11i), WPA2 Enterprise (802.1x/EAP), WPA PSK, Open			
<b>Max PHY Rate</b>	<b>2.4 GHz:</b> 400 Mbps	<b>5 GHz:</b> 867 Mbps	<b>2.4 GHz:</b> 400 Mbps	<b>5 GHz:</b> 1733 Mbps
<b>Ethernet</b>	One IEEE Gigabit Ethernet auto sensing		Two IEEE Gigabit Ethernet auto sensing	
<b>USB Ports</b>	–		1 USB 2.0 port	
<b>Antenna</b>	Internal omni-directional <b>2.4 GHz:</b> 5.24 dBi <b>5 GHz:</b> 5.47 dBi		Internal omni-directional <b>2.4 GHz:</b> 5.28 dBi <b>5 GHz:</b> 6.11 dBi	
<b>Max EIRP</b>	<b>2.4 GHz:</b> 29.50 dBm <b>5 GHz:</b> 30 dBm (EIRP limited by country regulations)		<b>2.4 GHz:</b> 29.28 dBm <b>5 GHz:</b> 34.11 dBm (EIRP limited by country regulations)	
<b>WLAN</b>	256 clients, 32 SSIDs (16 per radio) WPA-TKIP, WPA2 AES, 802.1x, 802.11w PMF		512 clients, 32 SSIDs (16 per radio) WPA-TKIP, WPA2 AES, 802.1x, 802.11w PMF	
<b>Power</b>	802.3af powered device Typical load: 9 W, Max: 11.5 W		802.3af or 802.3at powered device Typical load: 12 W, Max: 22 W 2.1 mm 12 VDC barrel connector	
<b>Mounting</b>	Desktop, Wall, ceiling tile mount - included T-bar mount 14 mm x 24 mm x 38 mm (0.55 in x 0.94 in x 1.5 in) Ceiling Tile mount included Kensington lock slot		Desktop, Wall, ceiling tile mount - included T-bar mount 14 mm x 24 mm x 38 mm (0.55 in x 0.94 in x 1.5 in) Ceiling Tile mount included Kensington lock slot	
<b>Dimensions</b>	180 mm x 180 mm x 42mm (7.09 in x 7.09 in x 1.65 in)		180 mm x 180 mm x 42mm (7.09 in x 7.09 in x 1.65 in)	
<b>Weight</b>	384 g (0.85 lb)		400 g (0.88 lb)	
<b>LEDs</b>	Single Tri-color LED (amber, blue, green)		Single Tri-color LED (amber, blue, green)	
<b>Ambient Operation Temperature</b>	0°C to 50°C (32°F to 122°F)		0°C to 50°C (32°F to 122°F)	
<b>Storage Temperature</b>	-40°C to 70°C (-40°C to 158°F)		-40°C to 70°C (-40°C to 158°F)	
<b>Humidity</b>	95% RH non-condensing		95% RH non-condensing	
<b>MTBF</b>	1.5m hours		1m hours	
<b>Certifications</b>	Wi-Fi Alliance 802.11 a/b/g/n/ac, Passpoint 2.0 FCC, ETSI, CE, EN 60601-1-2, IEC62368 UL2043		Wi-Fi Alliance 802.11 a/b/g/n/ac, Passpoint 2.0 FCC, ETSI, CE, EN 60601-1-2, IEC62368 UL2043	

## cnPilot™ e410 and e600 Indoor Wi-Fi Access Points

### Management

#### Adaptive cnPilot Network



Cambium cnMaestro uses a distributed intelligence architecture with a cloud-first cnMaestro management and edge-intelligent access points that self-optimize for the RF environment. cnMaestro and cnPilot access points 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 broadband fixed wireless, cnMatrix Ethernet switches, enterprise-grade Wi-Fi access points and service provider residential routers.

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

**Deployment** cnMaestro Cloud, cnMaestro on-premises,  
Standalone AP

**Services** Monetized guest portal with design tools

**Captive Portal**

**Portal features hosted on cnMaestro:**

Design templates, customization tools  
supports 3rd party external portal  
RADIUS/LDAP/Click Through authentication  
Active Directory, Google, Facebook, Office 365,  
OAuth 2.0  
Data Rate/Throughput limits, Time duration

**Portal features hosted on the AP:**

supports 3rd party external portal  
RADIUS/LDAP/Click Through authentication  
Data Rate/Throughput limits, Time duration

**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 SSID  
shutdown

## cnPilot™ e410 and e600 Indoor Wi-Fi Access Points

### WLAN And Network Specifications

<b>Authentication Encryption</b>	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
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<b>Scheduled WLAN</b>	On/off by day, week, time of day
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<b>QoS</b>	802.11e/WMM QoS. DSCP/ToS mapping
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<b>VLAN</b>	802.11Q, max 4096
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<b>Fast Roaming</b>	802.11r, OKC, cnMaestro assisted roam
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<b>Sticky Client</b>	Enhanced roaming with thresholds
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<b>Mesh</b>	Multi-hop (2), either band
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<b>Channel Selection</b>	Auto RF: manual or automatic
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<b>APIs</b>	RESTful management and statistics API Presence location API Splunk WebSocket integration, WebSocket DNS, NAT, TCP connection log
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<b>Network</b>	NAT, NAT logging firewall, DOS protection, L2/L3/DNS ACL, DHCP server, DHCP Relay option 82 LLDP, IGMP v1, v2 VLAN Pooling, RADIUS attribute VID VLAN per SSID, per user Wireless Intrusion Detection
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<b>Band Steer Load Balance</b>	Yes
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<b>Tunnel</b>	L2TPv2, L2GRE, PPPoE
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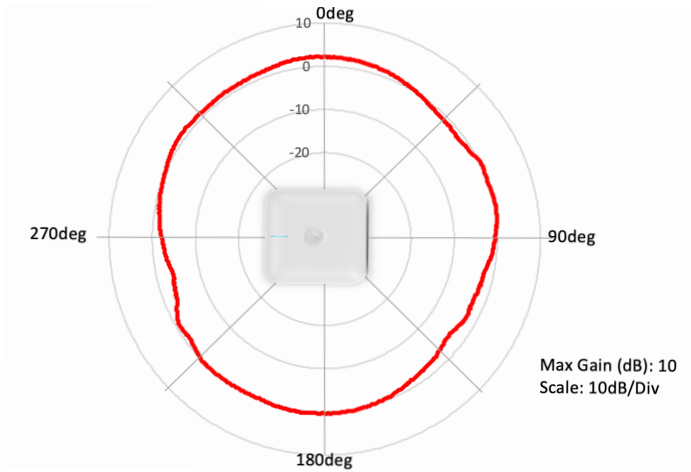
<b>Network and RF Management Tools</b>	Out-of-band RF spectrum analysis, RF monitor with channel/noise/interference, wired and wireless remote packet capture, ZapD performance tool, rogue AP detection
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### Standards

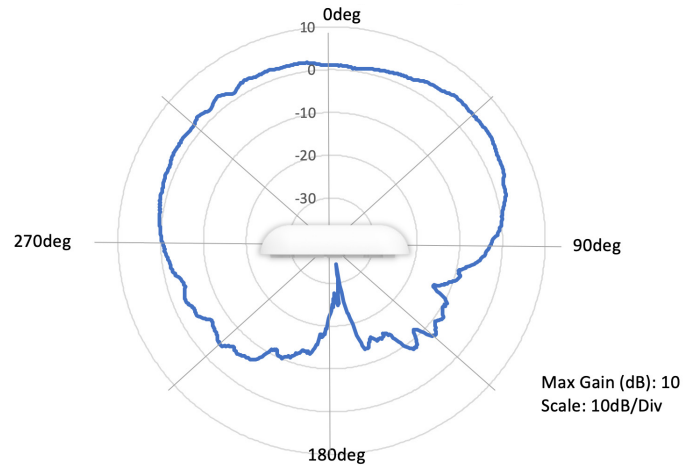
<b>Wi-Fi Protocols</b>	VHT MCS rates, 16-QAM, 64-QAM, 256-QAM, HT20/40/80 MHz
	Transmit beamsteering, Airtime Fairness, Packet Aggregation (AMSDU, AMPDU) RIFS, STBC, LDPC, 802.11k, 802.11v
	MIMO Power Save, MRC, BPSK, QPSK, CCK, DSSS, OFDM. IEEE 802.11d/e/h/i/k/r/u/v

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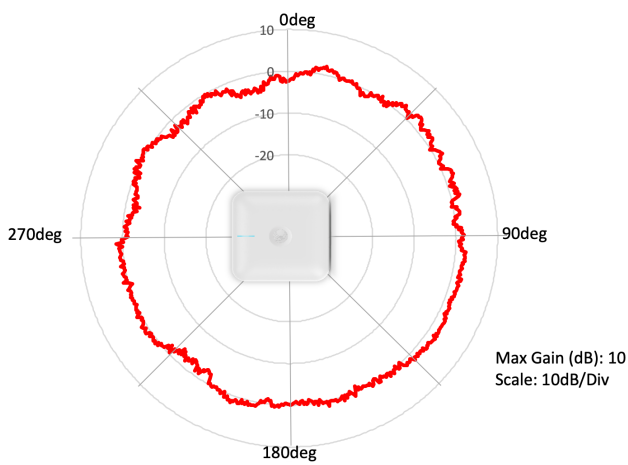
### Antenna Patterns - e410



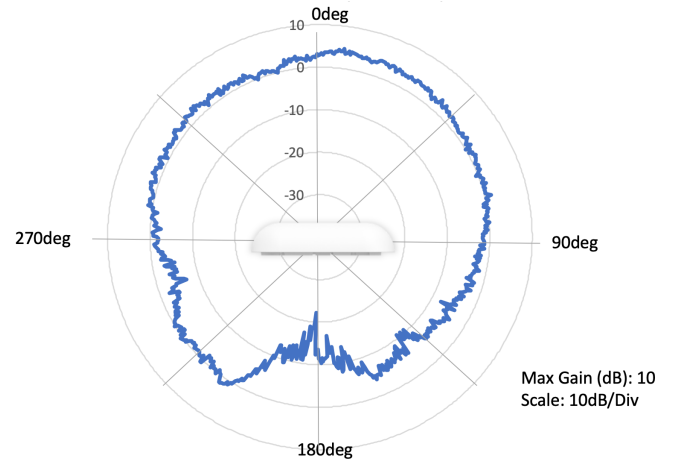
2.4 GHz Azimuth



2.4 GHz Elevation



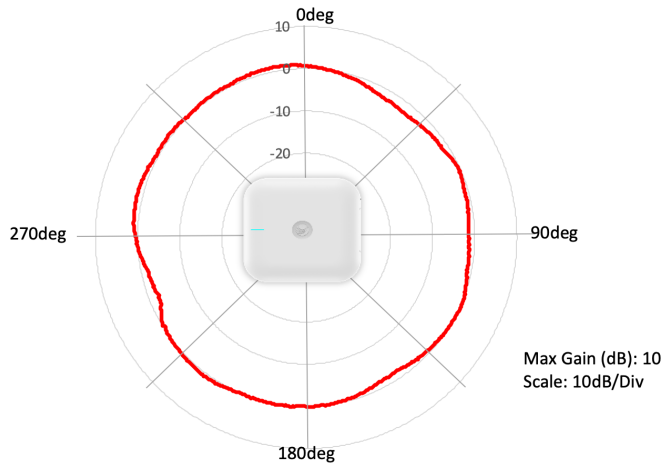
5 GHz Azimuth



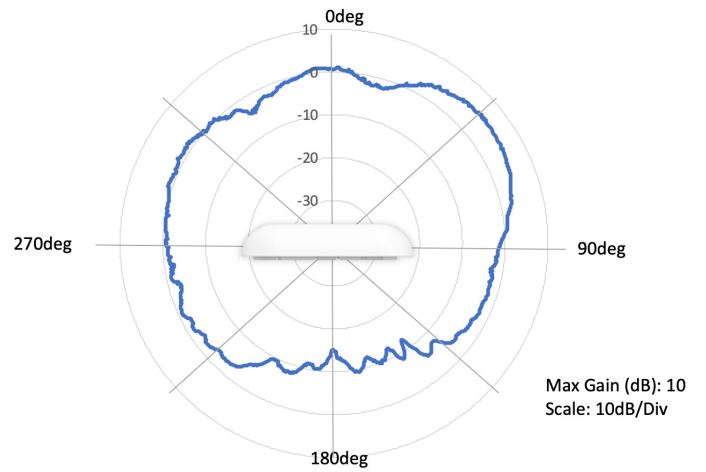
5 GHz Elevation

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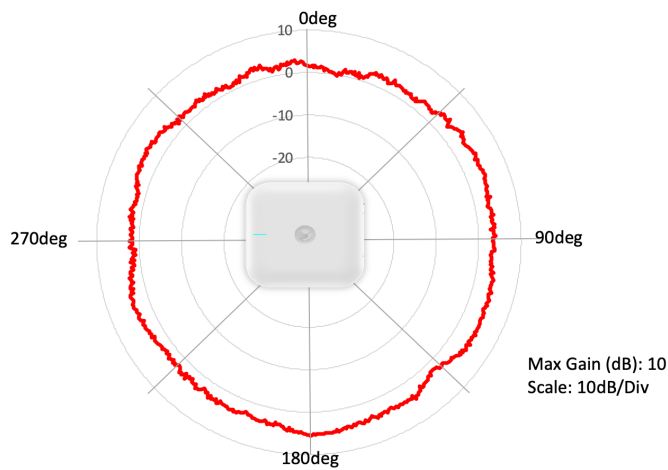
### Antenna Patterns - e600



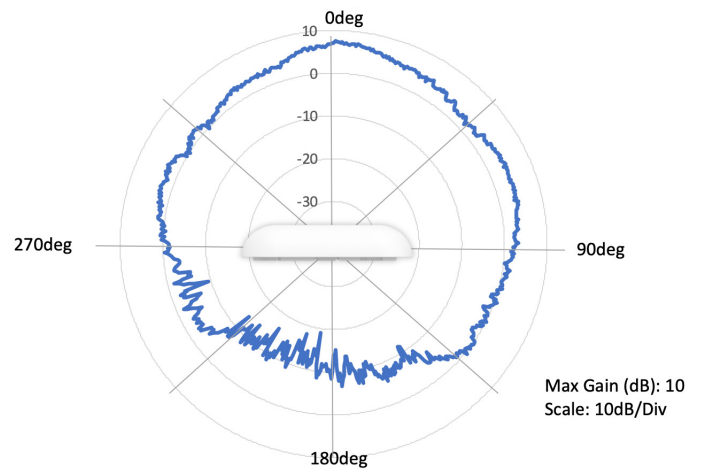
2.4 GHz Azimuth



2.4 GHz Elevation



5 GHz Azimuth



5 GHz Elevation

## cnPilot™ e410 and e600 Indoor Wi-Fi Access Points



### e410 Ordering Information

<b>PL-E410X00B-US</b>	e410 Indoor (FCC) 802.11ac Wave 2, 2x2, AP
<b>PL-E410X00B-EU</b>	e410 Indoor (EU) 802.11ac Wave 2, 2x2, AP
<b>PL-E410X00B-RW</b>	e410 Indoor (ROW) 802.11ac Wave 2, 2x2, AP
<b>PL-E410X00B-CA</b>	e410 Indoor (IC) 802.11ac Wave 2, 2x2, AP

### e600 Ordering Information

<b>PL-E600X00A-US</b>	e600 Indoor (FCC) 802.11ac Wave 2, 4x4, AP
<b>PL-E600X00A-EU</b>	e600 Indoor (EU) 802.11ac Wave 2, 4x4, AP
<b>PL-E600X00A-RW</b>	e600 Indoor (ROW) 802.11ac Wave 2, 4x4, AP
<b>N000000L034A</b>	Power supply, 30 W, 56 W, RJ45 – Gbps support. C5 AC port. AC line cord sold separately

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

### LIMITED WARRANTY

Cambium Networks cnPilot e410 and e600 are covered by a limited lifetime hardware warranty for a period of 5 years after point of sale.

### 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.