

## Cisco Aironet 1520 Series Lightweight Outdoor Access Points



### Flexible, Secure Mesh Platform for Demanding Environments

- Self-configuring and self-healing mesh in response to interference or outages
- Multiple-radio support (802.11a, 802.11b/g, licensed for 4.9-GHz public safety applications)
- Improved 802.11b/g radio sensitivity and range performance with maximal ratio combining (MRC)
- Multiple uplink options (Gigabit Ethernet-10/100/1000BaseT, Fiber SFP interface, cable interface in some models)
- Internal battery backup power
- 802.3af-compliant Power over Ethernet interface to connect IP devices
- NEMA Type 4X certified enclosure
- FIPS 140-2 certifiable

### Cisco Aironet 1522 Lightweight Outdoor Mesh Access Point

- Dual-radio support (backhaul with 802.11a, access with 802.11b/g)
- Hazardous Location Certified (Class 1, Zone 2 / Div 2)
- Cable modem interface

### Cisco Aironet 1524 Lightweight Outdoor Mesh Access Point

- 2 different models available (1524SB, 1524PS)
- 1524SB: Dual-backhaul: each radio dedicated to transmitting data either upstream or downstream for greater throughput
- 1524PS: Designed for public safety applications with 4.9-GHz radio

### Outdoor Access Points

Wireless networks enable people, devices, and applications to stay continually connected with applications and information. The Cisco® wireless mesh network extends wireless access over large, metro-scale areas, extending into areas where wiring is impractical or cost-prohibitive. The wireless mesh can be easily deployed and maintained with zero-touch configuration deployment and self-healing capacity. The Cisco Outdoor Wireless Mesh Solution is a component of the [Cisco Unified Wireless Network](#), delivering a robust wireless network with maximum capacity and uptime.

### Flexible, Secure Mesh Platform for Demanding Environments

The Cisco Aironet® 1520 Series Lightweight Outdoor Access Points are a flexible, secure, and scalable mesh platform that is designed for deployments across large metropolitan-sized areas. As part of the Cisco Unified Network architecture, the wireless mesh can be seamlessly deployed as an extension of wired and wireless networks, with central management through controllers and the Cisco Wireless Control System. The unified architecture centralizes critical functions of the wireless LAN to provide scalable management, advanced security, seamless mobility, and proven reliability. With maximum ratio combining (MRC) technology, the access points provide greater access range for consumer-grade client devices throughout the wireless mesh network. Rugged enclosures allow deployment in extreme weather and hazardous environments, and can be painted to adapt to local aesthetics. The Cisco Aironet 1520 Series includes the Cisco Aironet 1522AG, 1522HZ, 1522CV and Cisco Aironet 1524SB, 1524PS, and 1523CV Lightweight Outdoor Mesh Access Points.

## Central Network Management

Cisco Wireless Control System (WCS) is the industry-leading platform for wireless LAN planning, configuration, and management. Cisco WCS provides a powerful foundation that allows IT managers to design, control, and monitor wireless networks from a centralized location, simplifying operations and reducing the total cost of ownership. The Cisco WCS works in conjunction with Cisco Aironet Lightweight Access Points, Cisco Wireless LAN Controllers, and the Cisco Wireless Location Appliance. With Cisco WCS, network administrators have a single solution for RF prediction, policy provisioning, network optimization, troubleshooting, security monitoring, and wireless LAN systems management. Robust graphical interfaces make wireless LAN deployment and operations simple and cost-effective.

## Robust Unified Security

The Cisco mesh solution addresses wireless network security as part of a unified wired and wireless solution. Cisco [Wireless Network Security](#) offers the highest level of network security, which helps ensure that data remains private and secure and that the network is protected from unauthorized access. The Cisco intrusion prevention system (IPS) protects your entire network by identifying, classifying, and preventing known and unknown threats to your network.

## Flexible, High-Performance Mesh Solution

All of the Cisco Aironet 1520 Series Lightweight Outdoor Access Points provide high-performance device access through improved 802.11b/g radio sensitivity and range performance with maximal ratio combining (MRC) technology. Flexible deployability and multiple uplink options and power options are available. The 802.3af-compliant, Power-over-Ethernet (PoE) interface makes it easy to connect IP devices, such as IP video cameras. NEMA Type 4X enclosures help ensure a robust system that can withstand rough weather conditions. The Cisco Aironet 1520 Series Access Points are Federal Information Processing Standards (FIPS 140-2) certifiable for applications that require this standard. To help ensure uptime for crucial applications even in the event that electrical power becomes unavailable, the 1520 Series offers an internal battery for backup power.

## Cisco Aironet 1522 Lightweight Access Point

The Cisco Aironet 1522 Lightweight Outdoor Mesh Access Point is a dual-radio system with dual-band radios that are compliant with IEEE 802.11a (5-GHz) and 802.11b/g standards (2.4-GHz). Where service providers have already invested in a broadband cable network, the Cisco mesh can seamlessly extend network connectivity with the Cisco Aironet 1522CV access point, by connecting to its integrated cable modem backhaul (DOCSIS 2.0). Designed for the most demanding environments, the Cisco Aironet 1522HZ has been classified for hazardous locations (Class 1, Zone 2/ Div 2) such as petroleum refineries and utility gas plants.

## Cisco Aironet 1524SB Lightweight Access Point

The Cisco Aironet 1524SB Lightweight Outdoor Access Point is a multiple-radio system with dual-backhaul IEEE 802.11a (5-GHz) radios, where each radio is dedicated to transmitting data either upstream or downstream, provide greater throughput for bandwidth-intensive applications such as video surveillance. The third radio is dedicated to client access. With uncompromised throughput and latency, the Cisco 1524SB enables a reliable and high-performance mesh network.

## Cisco Aironet 1524PS Lightweight Access Point

The Cisco Aironet 1524PS Lightweight Outdoor Mesh Access Point has been specifically designed for public safety applications, providing a flexible and secure outdoor wireless LAN that scales to meet demands for public safety and mobility services. The Cisco Aironet 1524PS Access Point is a multiple-radio mesh access point, preconfigured with three radios that comply with IEEE 802.11a, 802.11b/g, and 4.9-GHz public safety standards. By dedicating multiple separate radios to access, it creates a robust and secure mesh infrastructure capable of supporting public and private applications simultaneously.

## Cisco Aironet 1523CV Lightweight Access Point

Designed for Service Providers, this outdoor mesh access point features one 2.4GHz radio and two 5GHz radios for access, and a cable modem backhaul (DOCSIS 2.0).

### Product Specifications

Table 1 lists specifications for the Cisco Aironet 1520 Series.

**Table 1.** Cisco Aironet 1520 Series Product Specifications

Item	Specification
<b>Part numbers</b>	<p><b>Cisco Aironet 1522 Lightweight Access Point</b></p> <ul style="list-style-type: none"> <li>• AIR-LAP1522AG-A-K9-FCC configuration</li> <li>• AIR-LAP1522AG-C-K9-China configuration</li> <li>• AIR-LAP1522AG-E-K9-ETSI configuration</li> <li>• AIR-LAP1522AG-K-K9-Korea configuration</li> <li>• AIR-LAP1522AG-N-K9-Non-FCC configuration</li> <li>• AIR-LAP1522AG-P-K9-Japan configuration</li> <li>• AIR-LAP1522AG-S-K9-Singapore configuration</li> <li>• AIR-LAP1522AG-T-K9-Taiwan configuration</li> <li>• AIR-LAP1522CV-A-K9-FCC configuration, Power over cable</li> <li>• AIR-LAP1522HZ-A-K9-FCC configuration (Class 1, Div 2)</li> <li>• AIR-LAP1522HZ-E-K9-ETSI configuration (Class 1, Div 2)</li> <li>• AIR-LAP1522HZ-N-K9-Non-FCC configuration (Class 1, Div 2)</li> <li>• AIR-LAP1522HZ-S-K9-Singapore configuration (Class 1, Div 2)</li> </ul> <p><b>Cisco Aironet 1524SB Lightweight Access Point</b></p> <ul style="list-style-type: none"> <li>• AIR-LAP1524SB-A-K9-FCC configuration</li> <li>• AIR-LAP1524SB-C-K9-China configuration</li> <li>• AIR-LAP1524SB-E-K9—ETSI configuration</li> <li>• AIR-LAP1524SB-M-K9—Middle East configuration</li> <li>• AIR-LAP1524SB-N-K9-Non-FCC configuration</li> <li>• AIR-LAP1524SB-K-K9—Korea configuration</li> <li>• AIR-LAP1524SB-S-K9—Singapore configuration</li> <li>• AIR-LAP1524SB-T-K9—Taiwan configuration</li> </ul> <p><b>Cisco Aironet 1524PS Lightweight Access Point</b></p> <ul style="list-style-type: none"> <li>• AIR-LAP1524PS-A-K9-Public Safety (4.9 GHz, 5.8 GHz, 2.4 GHz), FCC configuration</li> </ul> <p><b>Cisco Aironet 1523CV Lightweight Access Point</b></p> <ul style="list-style-type: none"> <li>• AIR-LAP1523CV-A-K9</li> </ul>
<b>Wireless standards</b>	<ul style="list-style-type: none"> <li>• 802.11a</li> <li>• 802.11b/g</li> <li>• Public safety 4.9 GHz (5, 10, 20 MHz channels)</li> </ul>
<b>Data rates and modulation</b>	<ul style="list-style-type: none"> <li>• 802.11a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps, Orthogonal Frequency Division Multiplexing (OFDM)</li> <li>• 802.11b: 11, 5.5, 2, 1 Mbps, Direct Sequence Spread Spectrum (DSSS)</li> <li>• 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps, OFDM</li> </ul> <p><b>4.9 GHz:</b></p> <ul style="list-style-type: none"> <li>• 5 MHz: 13.5, 12, 9, 6, 4.5, 3, 2.25, 1.5 Mbps</li> <li>• 10 MHz: 27, 24, 18, 12, 9, 6, 4.5, 3 Mbps</li> <li>• 20 MHz: 54, 48, 36, 24, 18, 12, 9, 6 Mbps</li> </ul>

Item	Specification			
<b>Frequency Band and Operating Channels</b>	<b>Cisco 1522</b> -A (Americas (FCC)): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 11 channels</li> <li>• 4.940 to 4.990 GHz;</li> <li>• 5MHz-10 channels</li> <li>• 10MHz-5 channels</li> <li>• 20MHz-2 channels</li> <li>• 5.250 to 5.850 GHz; 16 channels (excludes channel 120, 124, 128)</li> </ul> -C (China): <ul style="list-style-type: none"> <li>• 2.401 to 2.483 GHz; 13 channels</li> <li>• 5.725 to 5.850 GHz; 5 channels</li> </ul> -E (ETSI): <ul style="list-style-type: none"> <li>• 2.401 to 2.483 GHz; 13 channels</li> <li>• 5.470 to 5.725 GHz; 8 channels</li> </ul> -K (Korea): <ul style="list-style-type: none"> <li>• 2.401 to 2.483 GHz; 13 channels</li> <li>• 5.250 to 5.560 GHz; 10 channels</li> </ul> -N (Non-FCC): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 11 channels</li> <li>• 5.725 to 5.850 GHz; 5 channels</li> </ul> -P (Japan2): <ul style="list-style-type: none"> <li>• 2.401 to 2.495 GHz; 14 channels</li> <li>• 4.910 to 5.090 GHz; 6 channels</li> </ul> -S (Singapore): <ul style="list-style-type: none"> <li>• 2.401 to 2.483 GHz; 13 channels</li> <li>• 5.725 to 5.850 GHz; 5 channels</li> </ul> -T (Taiwan): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 11 channels</li> <li>• 5.470 to 5.850 GHz; 16 channels</li> </ul>		<b>Cisco 1524SB</b> -A (Americas (FCC)): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 11 channels</li> <li>• 5.250 to 5.850 GHz; 16 channels (excludes channel 120, 124, 128)</li> </ul> -C (China): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 13 channels</li> <li>• 5.725 to 5.850 GHz; 5 channels</li> </ul> -E (ETSI): <ul style="list-style-type: none"> <li>• 2.401 to 2.483 GHz; 13 channels</li> <li>• 5.470 to 5.725 GHz; 8 channels</li> </ul> -K (Korea): <ul style="list-style-type: none"> <li>• 2.401 to 2.483 GHz; 13 channels</li> <li>• 5.250 to 5.560 GHz; 10 channels</li> </ul> -N (Non-FCC): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 11 channels</li> <li>• 5.725 to 5.850 GHz; 5 channels</li> </ul> -S (Singapore): <ul style="list-style-type: none"> <li>• 2.401 to 2.483 GHz; 13 channels</li> <li>• 5.725 to 5.850 GHz; 5 channels</li> </ul> -T (Taiwan): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 11 channels</li> <li>• 5.470 to 5.850 GHz; 16 channels</li> </ul> <b>Cisco 1524PS</b> -A (Americas (FCC)): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 11 channels</li> <li>• 4.940 to 4.990 GHz;</li> <li>• 5MHz-10 channels</li> <li>• 10MHz-5 channels</li> <li>• 20MHz-2 channels</li> <li>• 5.725 to 5.850 GHz; 5 channels</li> </ul> <b>Cisco 1523CV</b> -A (Americas (FCC)): <ul style="list-style-type: none"> <li>• 2.401 to 2.473 GHz; 11 channels</li> <li>• 5.250 to 5.850 GHz; 16 channels (excludes channel 120, 124, 128)</li> </ul>	
<b>Receive Sensitivity (typical)</b>	<b>802.11a 5.0 GHz</b> <ul style="list-style-type: none"> <li>• 6 Mbps: -91 dBm</li> <li>• 9 Mbps: -90 dBm</li> <li>• 12 Mbps: -89 dBm</li> <li>• 18 Mbps: -86 dBm</li> <li>• 24 Mbps: -84 dBm</li> <li>• 36 Mbps: -80 dBm</li> <li>• 48 Mbps: -76 dBm</li> <li>• 54 Mbps: -73 dBm</li> </ul>	<b>802.11b</b> <ul style="list-style-type: none"> <li>• 1 Mbps: -96 dBm</li> <li>• 2 Mbps: -96 dBm</li> <li>• 5.5 Mbps: -95dBm</li> <li>• 11 Mbps: -92 dBm</li> </ul>	<b>802.11g with MRC</b> <ul style="list-style-type: none"> <li>• 1 Mbps: -96 dBm</li> <li>• 2 Mbps: -96 dBm</li> <li>• 5.5 Mbps: -95 dBm</li> <li>• 6 Mbps: -91 dBm</li> <li>• 9 Mbps: -91 dBm</li> <li>• 11 Mbps: -92 dBm</li> <li>• 12 Mbps: -91 dBm</li> <li>• 18 Mbps: -90 dBm</li> <li>• 24 Mbps: -89 dBm</li> <li>• 36 Mbps: -86 dBm</li> <li>• 48 Mbps: -80 dBm</li> <li>• 54 Mbps: -80 dBm</li> </ul>	<b>4.9 GHz, 5MHz</b> <ul style="list-style-type: none"> <li>• 1.5 Mbps: -93 dBm</li> <li>• 2.25 Mbps: -93 dBm</li> <li>• 3 Mbps: -93 dBm</li> <li>• 4.5 Mbps: -92 dBm</li> <li>• 6 Mbps: -88 dBm</li> <li>• 9 Mbps: -85 dBm</li> <li>• 12 Mbps: -80 dBm</li> <li>• 13.5 Mbps: -79 dBm</li> </ul> <b>4.9 GHz, 10 MHz</b> <ul style="list-style-type: none"> <li>• 3 Mbps: -92 dBm</li> <li>• 4.5 Mbps: -92 dBm</li> <li>• 6 Mbps: -91 dBm</li> <li>• 9 Mbps: -89 dBm</li> <li>• 12 Mbps: -86 dBm</li> <li>• 18 Mbps: -82 dBm</li> <li>• 24 Mbps: -78 dBm</li> <li>• 27 Mbps: -77 dBm</li> </ul> <b>4.9 GHz, 20 MHz</b> <ul style="list-style-type: none"> <li>• 6 Mbps: -89 dBm</li> <li>• 9 Mbps: -89 dBm</li> <li>• 12 Mbps: -88 dBm</li> <li>• 18 Mbps: -86 dBm</li> </ul>

Item	Specification		
			<ul style="list-style-type: none"> <li>• 24 Mbps: -83 dBm</li> <li>• 36 Mbps: -80 dBm</li> <li>• 48 Mbps: -75 dBm</li> <li>• 54 Mbps: -74 dBm</li> </ul>
<b>Maximum Transmit Power</b> (Varies by channel and data rate)	<b>2.4 GHz</b>	<b>5 GHz</b>	<b>4.9 GHz</b>
	Cisco 1522AG		
	-A 28 dBm -C 14 dBm -E 14 dBm -K 14 dBm -M 14 dBm -N 28 dBm -P 16 dBm -S 14 dBm -T 28 dBm	-A 28 dBm -C 22 dBm -E 22 dBm -K 19 dBm -M 22 dBm -N 28 dBm -P 20 dBm -S 22 dBm -T 28 dBm	-A 20 dBm
	Cisco 1524SB		
	-A 28 dBm -C 14 dBm -N 28 dBm -E 14 dBm -M 14 dBm -K 14 dBm -S 14 dBm -T 28 dBm	-A 28 dBm -C 22 dBm -N 28 dBm -E 22 dBm -M 22 dBm -K 19 dBm -S 22 dBm -T 28 dBm	
	Cisco 1524PS		
	-A 28 dBm	-A 28 dBm	-A 26 dBm
<b>Network Interface</b>	<ul style="list-style-type: none"> <li>• 10/100/1000BASE-T Ethernet, autosensing (RJ-45)</li> <li>• Fiber SFP</li> <li>• Cable modem backhaul/ interface (only available on 1522CV and 1523CV models)</li> </ul>		
<b>Dimensions (W x L x H)</b>	12.0 in. x 7.8 in. x 6.4 in. (30.48 cm x 19.81 cm x 16.26 cm) (including antenna mount)		
<b>Weight</b>	1522AG: 17 lbs (7.9 kg) 1522CV: 17 lbs (7.9 kg) 1522HZ: 18 lbs (8.0 kg) 1524SB: 18 lbs (8.4 kg) 1524PS: 18 lbs (8.4 kg) 1523CV: 18 lbs (8.4 kg) Battery backup: 2 lbs (0.7kg) Mounting bracket: 6 lbs (2.8 Kg)		
<b>Environmental</b>	Operating temperature: -40 to 55°C (-40 to 131°F) plus Solar Loading Storage temperature: -50 to 85°C (-58 to 185°F) Wind resistance: <ul style="list-style-type: none"> <li>• Up to 100 MPH sustained winds</li> <li>• Up to 165 MPH wind gusts</li> </ul>		
<b>Environmental ratings</b>	<ul style="list-style-type: none"> <li>• IP67</li> <li>• NEMA Type 4X</li> </ul>		
<b>Powering Options</b>	<ul style="list-style-type: none"> <li>• 90-480 VAC, 47-63 Hz</li> <li>• Power over Ethernet: 48 VDC, +/-10 percent</li> <li>• 12 VDC</li> </ul>		
<b>Warranty</b>	90 days		
<b>Compliance</b>	<b>Safety</b> <ul style="list-style-type: none"> <li>• UL 60950</li> <li>• CAN/CSA-C22.2 No. 60950</li> <li>• IEC 60950</li> <li>• EN 60950</li> </ul>		

Item	Specification
	<p><b>Immunity</b></p> <ul style="list-style-type: none"> <li>• &lt;= 5 mJ for 6kV/3kA @ 8/20 ms waveform</li> <li>• ANSI/IEEE C62.41</li> <li>• EN61000-4-5 Level 4 AC Surge Immunity</li> <li>• EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity</li> <li>• EN61000-4-3 Level 4 EMC Field Immunity</li> <li>• EN61000-4-2 Level 4 ESD Immunity</li> <li>• EN60950 Overvoltage Category IV</li> </ul> <p><b>Radio approvals</b></p> <ul style="list-style-type: none"> <li>• FCC Part 15.247, 90.210</li> <li>• FCC Bulletin OET-65C</li> <li>• RSS-210</li> <li>• RSS-102</li> <li>• AS/NZS 4268.2003</li> <li>• EN 300.328</li> <li>• EN 301.893</li> </ul> <p><b>EMI and susceptibility</b></p> <ul style="list-style-type: none"> <li>• FCC part 15.107, 15.109</li> <li>• ICES-003</li> </ul> <p><b>Security</b></p> <ul style="list-style-type: none"> <li>• Wireless bridging/mesh <ul style="list-style-type: none"> <li>◦ X.509 digital certificates</li> <li>◦ MAC address authentication</li> <li>◦ Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TLIP)</li> </ul> </li> <li>• Wireless access <ul style="list-style-type: none"> <li>◦ 802.11i, Wi-Fi Protected Access (WPA2), WPA</li> <li>◦ 802.1X authentication, including Extensible Authentication Protocol and Protected EAP (EAP-PEAP), EAP-Transport Layer Security (EAP-TLS), EAP-Tunneled TLS (EAP-TTLS), and Cisco LEAP</li> <li>◦ Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TLIP)</li> <li>◦ VPN pass-through</li> <li>◦ IP Security (IPsec), Layer 2 Tunneling Protocol (L2TP)</li> </ul> </li> <li>• MAC address filtering</li> </ul> <p><b>Other</b></p> <ul style="list-style-type: none"> <li>• CSA and ATEX (AIR-LAP1522HZ-X-K9 only)</li> </ul>

## Service and Support

Cisco and our specialized partners offer a broad portfolio of end-to-end services to help you improve your organization's productivity and collaboration by assisting with the readiness, deployment, and optimization of your wireless and mesh network and mobility services. Our services help you successfully deploy the Cisco Aironet 1520 Series Lightweight Access Points and integrate mobility solutions effectively to lower the total cost of ownership and secure your wireless network.

To learn more about Cisco Wireless LAN Service offers, visit: <http://www.cisco.com/go/wirelesslanservices>

## For More Information

For more information about Cisco wireless mesh, contact your local account representative or visit:

<http://www.cisco.com/go/outdoorwireless>

For more information about the Cisco Unified Wireless Network framework, visit:

<http://www.cisco.com/go/unifiedwireless>



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