Data Sheet

Cisco Aironet 1130AG Series IEEE 802.11A/B/G Access Point

Low-profile enterprise-class access point with integrated antennas for easy deployment in offices and similar RF environments.

PRODUCT OVERVIEW

Cisco® Aironet® 1130AG Series IEEE 802.11a/b/g access points provide high-capacity, high-security, enterprise-class features in an unobtrusive, office-class design, delivering WLAN access with the lowest total cost of ownership. With high-performing dual IEEE 802.11a and 802.11g radios, the Cisco Aironet 1130AG Series provides a combined capacity of up to 108 Mbps to meet the needs of growing WLANs. Hardware-assisted Advanced Encryption Standard (AES) or temporal key integrity protocol (TKIP) encryption provides uncompromised support for interoperable IEEE 802.11i, Wi-Fi Protected Access 2 (WPA2) or WPA security. Orderable supporting either Cisco IOS® Software, or the Lightweight Access Point Protocol (LWAPP), the Cisco Aironet 1130AG Series uses radio and network management features for simplified deployment, along with built-in omnidirectional antennas that provide robust and predictable WLAN coverage for offices and similar RF environments. In addition, when running Cisco IOS Software the Cisco Aironet 1130AG Series supports both access point and workgroup bridge functionality. The competitively priced Cisco Aironet 1130AG Series is ready to install and easy to manage, reducing the cost of deployment and ongoing maintenance.

The Cisco Aironet 1130AG Series Access Point incorporates the next generation of Cisco Aironet radio innovation. Two high-performing radios provide simultaneous support for 802.11a and 802.11g standards, delivering 108 Mbps data rates in the 5 and 2.4 GHz bands to distances surpassing that of previous-generation radios. Operating on 15 nonoverlapping channels today, and up to 22 nonoverlapping channels with a future firmware release (channel support will depend on country regulations), the Cisco Aironet 1130AG Series avoids interference in congested airspace, simplifying the deployment of high-capacity networks. For smooth migration, the Cisco Aironet 1130AG Series takes full advantage of the dual-band capabilities of today's WLAN clients, while providing full backward compatibility for legacy 802.11b clients.

The Cisco Aironet 1130AG Series adheres to the most stringent security standards in the industry. The 1130AG Series is on the FIPS 140-2 Pre-Validation List. FIPS 140-2 is administered by the National Institute of Standards and Technology (NIST) which dictates and validates the level of security for Federal agencies that use cryptographic-based security systems to protect sensitive electronic information. In addition it meets the Common Criteria standards.

The Cisco Aironet 1130AG Series is part of the award-winning Cisco Wireless Security Suite, which supports 802.11i, WPA2, WPA and numerous Extensible Authentication Protocol (EAP) types. WPA and WPA2 are the Wi-Fi Alliance certifications for interoperable, standards-based WLAN security. These certifications support IEEE 802.1X for user-based authentication, TKIP for WPA encryption, and AES for WPA2 encryption. These certifications help to ensure interoperability between Wi-Fi-certified WLAN devices from different manufacturers.

The hardware-accelerated AES encryption of Cisco Aironet 1130AG Series access points supports enterprise-class, government-grade secure encryption over the WLAN without compromising performance. IEEE 802.1X authentication helps to ensure that only authorized users are allowed on the network. Backward compatibility for WPA client devices running TKIP, the RC4 encryption algorithm, is also supported by the Cisco Aironet 1130AG access point.

The Cisco Aironet 1130AG Series delivers optimal value for offices and similar environments. Built-in antennas provide omnidirectional coverage specifically designed for today's open workspaces. A multipurpose mounting bracket easily secures Cisco Aironet 1130AG Series access points to ceilings and walls. With an unobtrusive design, Cisco Aironet 1130AG Series access points are aesthetically pleasing and blend into their environments. For maximum concealment, the access point may be placed above ceilings or suspended ceilings. The UL 2043 rating of the Cisco Aironet 1130AG Series allows the access point to be placed above ceilings in plenum areas regulated by municipal fire codes. Centrally manageable by the Cisco Wireless LAN Solution Engine (WLSE)-Cisco Aironet 1130AG Series access points can be systematically and dynamically configured to maximize total network performance. Offered at a competitive price, and optimized for easy installation and operation, the Cisco Aironet 1130AG Series helps organizations attain a lower total cost of ownership.

APPLICATIONS

In offices and similarly open environments, Cisco Aironet 1130AG Series access points may be installed on the ceiling to provide users with continuous coverage as they roam throughout a facility (Figure 1). In school buildings and similar facilities, the access points may be installed on the ceiling of each room and hallway to provide users with full coverage and high network availability (Figure 2). In areas where a ceiling installation may not be practical such as retail hotspots or similar small facilities, the access points can be mounted simply and securely on walls for complete coverage with minimal installation cost (Figure 3).

Figure 1. Cisco Aironet 1130AG Series Access Points Installed In Offices for Seamless Roaming

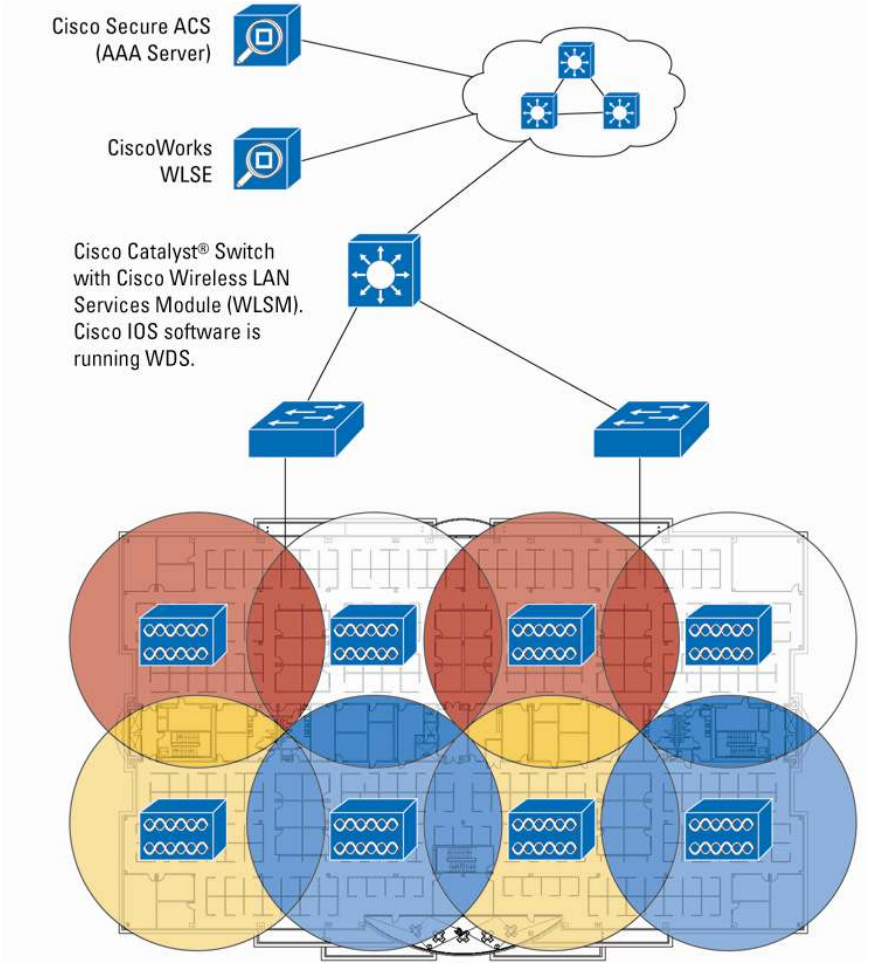


Figure 2. Cisco Aironet 1130AG Series Access Points Installed In Classrooms Above Suspended Ceiling for Maximum Concealment

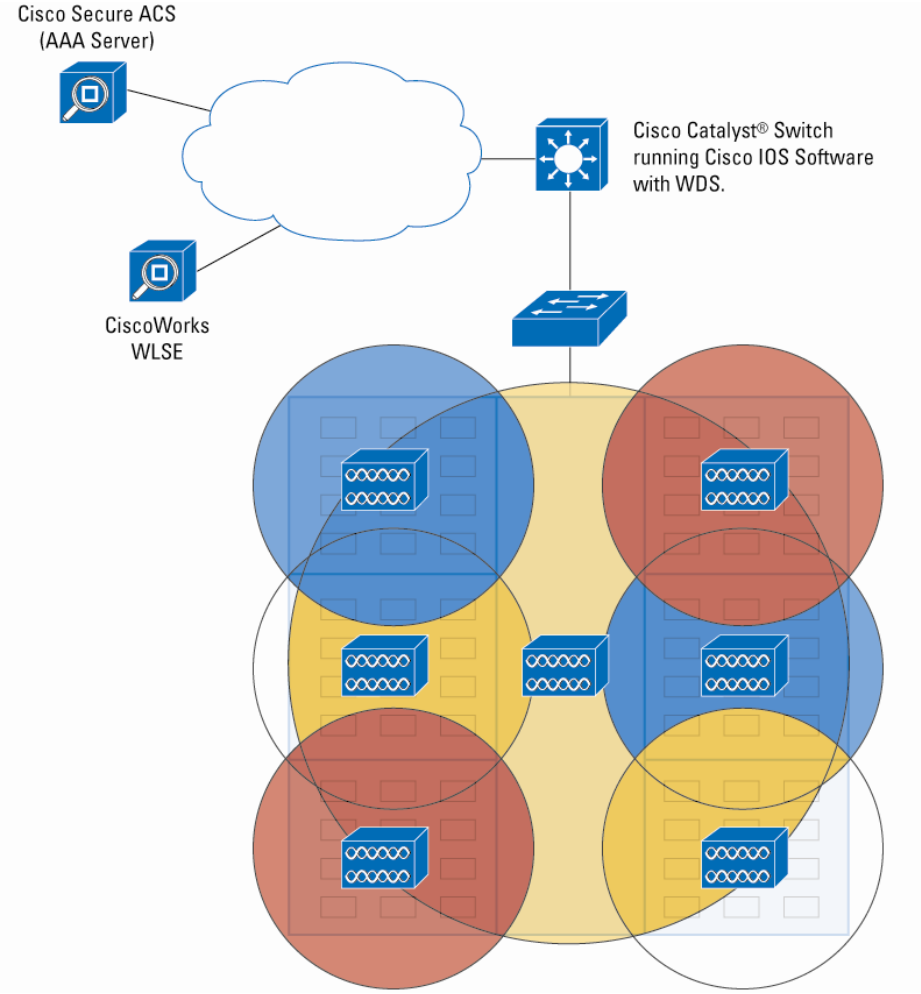
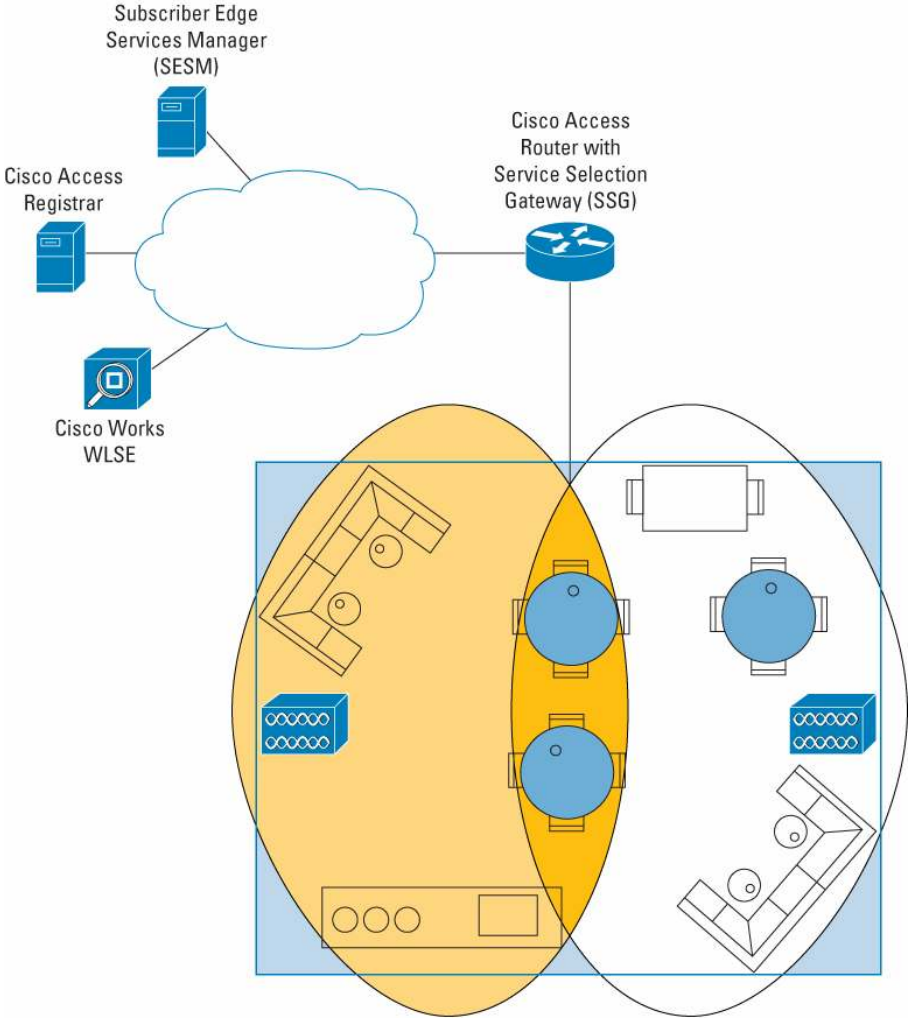


Figure 3. Cisco Aironet 1130AG Series Access Points Deployed On A Wall



FEATURES AND BENEFITS

Table 1 lists features and benefits of Cisco Aironet 1130AG Series access points.

Table 1. Features and Benefits of Cisco Aironet 1130AG Series Access Points

Feature	Benefit
Cisco Unified Wireless Network	• Extends security, scalability, reliability, ease of deployment, and manageability available in wired networks to the wireless infrastructure
Dual 802.11a and 802.11g Radios	• Provides up to 108 Mbps of capacity in a single device for industry-leading capacity and backward compatibility with legacy 802.11b clients.
Supports 15 Nonoverlapping Channels	• Lower potential interference with neighboring access points simplifies deployment • Fewer transmission errors deliver greater throughput
Cisco IOS Software	• Delivers enterprise-class features for connectivity, scalability, and high availability
Lightweight Access Point Protocol (LWAPP)	• Automatically detects the best available Cisco wireless LAN controller to download appropriate policies and configuration information with no hands-on intervention. • The Cisco Aironet 1130AG Series may be ordered with Cisco IOS Software to operate as an autonomous AP or with Lightweight Access Point Protocol (LWAPP). When the 1130AG is operating as a lightweight AP a WLAN controller is required.
Industry-Leading Radio Design	• Provides robust signals to long distances • Mitigates the effects of multipath signal propagation for more consistent coverage
Variable Transmit Power Settings	• Allows access point coverage to be tuned for differing requirements • Low—dBm setting supports closer spacing of access points in high-density deployments
Integrated Antennas	• Complete system is deployable out of the box without external antennas • Specifically designed to provide omnidirectional coverage for offices and similar radio frequency environments
Hardware-Assisted AES Encryption	• Provides high security without performance degradation
IEEE 802.11i-Compliant; WPA2-Certified and WPA-Certified	• Helps to ensure interoperable security with wireless LAN client devices from other manufacturers
Low-Profile Design	• Unobtrusive design blends in to environment • "Quiet" LED does not draw attention to it when operating normally and no action is required
Multipurpose and Lockable Mounting Bracket	• Installs easily to walls, ceilings, and suspended ceiling railways • Accommodates standard padlock to prevent theft
Inline Power Support (IEEE 802.3af and Cisco Inline Power)	• Provides an interoperable alternative to AC power • Simplifies deployment by allowing power to be supplied over the Ethernet cable • Compatible with 802.3af-compliant power sources

SUMMARY/CONCLUSION

The Cisco Aironet 1130AG Series provides the ideal enterprise access point for offices and similar environments. With two high-performance radios, these access points provide simultaneous support for the 802.11a and 802.11g standards, offering 108 Mbps of capacity for your growing WLAN. Incorporating AES encryption in hardware, the Cisco Aironet 1130AG Series complies with the 802.11i security standard and is WPA2-certified, helping to assure that your network employs the strongest security available while maintaining interoperability with products from other manufacturers. Additional design features, including diversity antennas with omnidirectional coverage and an unobtrusive form factor, along with an attractive price, provide low total cost of ownership.

For office environments, the Cisco Aironet 1130AG Series is a cost-compelling solution for a high-capacity, high-security, enterprise-class WLAN.

PRODUCT SPECIFICATIONS

Table 2 lists the product specifications for Cisco Aironet 1130AG access points.

Table 2. Product Specifications for Cisco Aironet 1130AG Access Points

Item	Specification
Part Number	• AIR-AP1131AG-x-K9 (Cisco IOS Software) • AIR-LAP1131AG-x-K9 (LWAPP) **Note:** The Cisco Aironet 1130AG Series may be ordered with Cisco IOS Software to operate as an autonomous AP or with Lightweight Access Point Protocol (LWAPP). When the 1130AG is operating as a lightweight AP a WLAN controller is required. • Regulatory Domains: (x = Regulatory Domain) • A = FCC • C = China • E = ETSI • I = Israel • J = TELEC (Japan) • K = Korea • N = North America (Excluding FCC) • P = Japan2 • S = Singapore • T = Taiwan Customers are responsible for verifying approval for use in their individual countries. To verify approval and to identify the regulatory domain that corresponds to a particular country please visit: http://www.cisco.com/go/aironet/compliance Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.
Software	Cisco IOS Software Release 12.3(8)JA or later; LWAPP 3.1 or later
Data Rates Supported	• 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps • 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps
Network Standard	IEEE 802.11a, 802.11b, and 802.11g
Uplink	Autosensing 802.3 10/100BASE-T Ethernet

Item	Specification	
Frequency Band and Operating Channels	**Americas (FCC)** • 2.412 to 2.462 GHz; 11 channels • 5.15 to 5.35, 5.725 to 5.825 GHz; 12 channels **China** • 2.412 to 2.472 GHz; 13 channels • 5.725 to 5.825 GHz; 4 channels **ETSI** • 2.412 to 2.472 GHz; 13 channels • 5.15 to 5.725 GHz; 19 channels **Israel** • 2.432 to 2.472 GHz; 9 channels • 5.15 to 5.35 GHz, 8 channels **Japan (TELEC)** • 2.412 to 2.472 GHz; 13 channels Orthogonal Frequency Division Multiplexing (OFDM) • 2.412 to 2.484 GHz; 14 channels Complementary Code Keying (CCK) • 5.15 to 5.25 GHz; 4 channels **Japan –P** (TELEC 2 (Japan2) Cnfg) • 2.412 to 2.472 GHz; 13 channels Orthogonal Frequency Division Multiplexing (OFDM) • 5.15 to 5.35 GHz, 8 channels **Korea** • 2.412 to 2.472 GHz; 13 channels • 5.15 to 5.35, 5.46 to 5.72, 5.725 to 5.825, 19 channels **North America** • 2.412 to 2.462 GHz; 11 channels • 5.15 to 5.35, 5.725 to 5.825 GHz; 12 channels **Singapore** • 2.412 to 2.472 GHz, 13 channels • 5.15 to 5.35 GHz, 8 channels and 5.725 to 5.825 GHz, 12 channels **Taiwan** • 2.412 to 2.462 GHz, 11 channels • 5.25-5.35 GHz , 5.725 to 5.825, 7 channels	
Nonoverlapping Channels	• 802.11a: Up to 19	• 802.11b/g: 3

Item	Specification			
Receive Sensitivity (Typical)	**802.11a:** 6 Mbps: -87 dBm 9 Mbps: -86 dBm 12 Mbps: -85 dBm 18 Mbps: -84 dBm 24 Mbps: -80 dBm 36 Mbps: -78 dBm 48 Mbps: -73 dBm 54 Mbps: -71 dBm		**802.11g:** 1 Mbps: -93 dBm 2 Mbps: -91 dBm 5.5 Mbps: -88 dBm 6 Mbps: -86 dBm 9 Mbps: -85 dBm 11 Mbps: -85 dBm 12 Mbps: -84 dBm 18 Mbps: -83 dBm 24 Mbps: -79 dBm 36 Mbps: -77 dBm 48 Mbps: -72 dBm 54 Mbps: -70 dBm	
Available Transmit Power Settings (Maximum Power Setting Will Vary by Channel and According to Individual Country Regulations)	**802.11a:** OFDM: 17 dBm (50 mW) 15 dBm (30 mW) 14 dBm (25 mW) 11 dBm (12 mW) 8 dBm (6 mW) 5 dBm (3 mW) 2 mW (2 dBm) -1 dBm (1 mW)	**802.11b:** CCK: 20 dBm (100 mW) 17 dBm (50 mW) 14 dBm (25 mW) 11 dBm (12 mW) 8 dBm (6 mW) 5 dBm (3 mW) 2 dBm (2 mW) -1 dBm (1 mW)	**802.11g:** OFDM: 17 dBm (50 mW) 14 dBm (25 mW) 11 dBm (12 mW) 8 dBm (6 mW) 5 dBm (3 mW) 2 dBm (2 mW) -1 dBm (1 mW)	
Range	**Indoor (Distance Across Open Office Environment):**		**Outdoor:**	
	802.11a: 80 ft (24 m) @ 54 Mbps 150 ft (45 m) @ 48 Mbps 200 ft (60 m) @ 36 Mbps 225 ft (69 m) @ 24 Mbps 250 ft (76 m) @ 18 Mbps 275 ft (84 m) @ 12 Mbps 300 ft (91 m) @ 9 Mbps 325 ft (100 m) @ 6 Mbps	**802.11g:** 100 ft (30 m) @ 54 Mbps 175 ft (53 m) @ 48 Mbps 250 ft (76 m) @ 36 Mbps 275 ft (84 m) @ 24 Mbps 325 ft (100 m) @ 18 Mbps 350 ft (107 m) @ 12 Mbps 360 ft (110 m) @ 11 Mbps 375 ft (114 m) @ 9 Mbps 400 ft (122 m) @ 6 Mbps	**802.11a:** 100 ft (30 m) @ 54 Mbps 300 ft (91 m) @ 48 Mbps 425 ft (130 m) @ 36 Mbps 500 ft (152 m) @ 24 Mbps 550 ft (168 m) @ 18 Mbps 600 ft (183 m) @ 12 Mbps 625 ft (190 m) @ 9 Mbps 650 ft (198 m) @ 6 Mbps	**802.11g:** 120 ft (37 m) @ 54 Mbps 350 ft (107 m) @ 48 Mbps 550 ft (168 m) @ 36 Mbps 650 ft (198 m) @ 24 Mbps 750 ft (229 m) @ 18 Mbps 800 ft (244 m) @ 12 Mbps 820 ft (250 m) @ 11 Mbps 875 ft (267 m) @ 9 Mbps 900 ft (274 m) @ 6 Mbps

Item	Specification			
		420 ft (128 m) @ 5.5 Mbps 440 ft (134 m) @ 2 Mbps 450 ft (137 m) @ 1 Mbps		910 ft (277 m) @ 5.5 Mbps 940 ft (287 m) @ 2 Mbps 950 ft (290 m) @ 1 Mbps
	Ranges and actual throughput vary based upon numerous environmental factors so individual performance may differ.			
Compliance	**Standards** Safety • UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • UL 2043 • IEC 60950-1 • EN 60950-1 • FIPS 140-2 Pre-Validation List • Common Criteria Radio Approvals • FCC Part 15.247, 15.407 • RSS-210 (Canada) • EN 300.328, EN 301.893 (Europe) • ARIB-STD 33 (Japan) • ARIB-STD 66 (Japan) • ARIB-STD T71 (Japan) • AS/NZS 4268.2003 (Australia and New Zealand) EMI and Susceptibility (Class B) • FCC Part 15.107 and 15.109 • ICES-003 (Canada) • VCCI (Japan) • EN 301.489-1 and -17 (Europe) Security • 802.11i, WPA2, WPA • 802.1X • AES, TKIP • FIPS 140-2 Pre-Validation List • Common Criteria (when running Cisco IOS software) Other • IEEE 802.11g and IEEE 802.11a • FCC Bulletin OET-65C • RSS-102			

Item	Specification
Antennas	• 2.4 GHz – Gain 3.0 dBi – Horizontal Beamwidth 360° • 5 GHz – Gain 4.5 dBi – Horizontal Beamwidth 360°
Security Architecture Client Authentication and Encryption	Cisco Wireless Security Suite supporting WPA and WPA2, including: **Authentication** • 802.1X support, including Cisco LEAP, EAP-Flexible Authentication via Secure Tunneling (EAP-FAST), Protected EAP- Generic Token Card (PEAP-GTC), PEAP-Microsoft Challenge Authentication Protocol Version 2 (PEAP-MSCHAPv2), EAP-Transport Layer Security (EAP-TLS), EAP-Tunneled TLS (EAP-TTLS), and EAP-Subscriber Identity Module (EAP-SIM) to yield mutual authentication and dynamic, per-user, per-session encryption keys (WPA and WPA2) • MAC address and standard 802.11 authentication mechanisms **Encryption** • AES-CCMP encryption (WPA2) • TKIP encryption enhancements: key hashing (per-packet keying), message integrity check (MIC) and broadcast key rotation via Cisco TKIP or WPA TKIP • Support for static and dynamic IEEE 802.11 WEP keys of 40 bits and 128 bits
Network Management	BootP, Secure Shell (SSH) Protocol, Secure HTTP (HTTPS), Trivial File Transfer Protocol (TFTP), FTP, Telnet, console port, Simple Network Management Protocol (SNMP) MIB I and MIB II, CiscoWorks Resource Manager Essentials (RME), CiscoWorks Software Image Manager (SWIM), CiscoWorks Campus Manager, CiscoWorks CiscoView, and CiscoWorks WLSE
Status LEDs	**External:** • Status LED indicates operating state, association status, error/warning condition, boot sequence, and maintenance status **Internal:** • Ethernet LED indicates activity over the Ethernet, status • Radio LED indicates activity over the radios, status
Dimensions (H x W x D)	7.5 in. x 7.5 in. x 1.3 in. (19.1 x 19.1 x 3.3 cm)
Weight	1.5 lb (0.67 kg)
Environmental	• 32-104°F (0-40°C) • 10-90 percent humidity (noncondensing)
System Memory	• 32 MB RAM • 16 MB FLASH
Input Power Requirements	• 100-240 VAC; 50-60Hz (power supply) • 36-57 VDC (device)
Power Draw	12.2W maximum
Warranty	One year
Wi-Fi Certification	

SYSTEM REQUIREMENTS

Table 3 lists the system requirements for Cisco Aironet 1130AG access points.

Table 3. System Requirements for Cisco Aironet 1130AG Access Points

Access Utilizing	Description
Browser	Using the Web browser management GUI, requires a computer running Internet Explorer Version 6.0 or newer, or Netscape Navigator Version 7.0 or newer.
Power over Ethernet (PoE)	Power sourcing equipment (PSE) compliant with Cisco Inline Power or IEEE 802.3af, and providing at least 12.2W at 48 VDC.

ORDERING INFORMATION

To place an order, visit the Cisco Ordering Home Page at: http://www.cisco.com/en/US/ordering/index.shtml

Table 4 lists the product part numbers for Cisco Aironet 1130AG access points.

Table 4. Product Part Numbers for Cisco Aironet 1130AG Access Points

Part Number	Product Description
AIR-AP1131AG-A-K9	802.11a/g Non-modular IOS AP; Intetrated Antennas; FCC Cnfg
AIR-AP1131AG-C-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; China Cnfg
AIR-AP1131AG-E-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; ETSI Cnfg
AIR-AP1131AG-I-K9	802.11a/g Non-modular IOS AP; Integrated Antennas, Israel Cnfg
AIR-AP1131AG-J-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Japan Cnfg
AIR-AP1131AG-K-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Korea Cnfg
AIR-AP1131AG-N-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; North America Cnfg (not FCC)
AIR-AP1131AG-P-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Japan2 Cnfg
AIR-AP1131AG-S-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Singapore Cnfg
AIR-AP1131AG-T-K9	802.11a/g Non-modular IOS AP; Integrated Antennas; Taiwan Cnfg
AIR-LAP1131AG-A-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; FCC Cnfg
AIR-LAP1131AG-C-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; China Cnfg
AIR-LAP1131AG-E-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; ETSI Cnfg
AIR-LAP1131AG-I-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Israel Cnfg
AIR-LAP1131AG-K-K9	802.11a/g Non-modular LWAPP AP: Integrated Antennas; Korea Cnfg
AIR-LAP1131AG-N-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; N. America Cnfg (not FCC)
AIR-LAP1131AG-P-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Japan2 Cnfg
AIR-LAP1131AG-S-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Singapore Cnfg
AIR-LAP1131AG-T-K9	802.11a/g Non-modular LWAPP AP; Integrated Antennas; Taiwan Cnfg

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FOR MORE INFORMATION

For more information about the Cisco Aironet 1130AG Series, visit: http://www.cisco.com/go/wireless

For more information about Cisco IOS Software, visit: http://www.cisco.com/go/ios

For more information about the Cisco Unified Wireless Network, visit: http://www.cisco.com/go/unifiedwireless

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