

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. 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. 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 is available in two versions: unified or autonomous. Unified access points operate with the Lightweight Access Point Protocol (LWAPP) and work in conjunction with Cisco wireless LAN controllers and the Cisco Wireless Control System (WCS). When configured with LWAPP, the Cisco Aironet 1130AG Series can automatically detect the best-available Cisco wireless LAN controller and download appropriate policies and configuration information with no manual intervention. Autonomous access points are based on Cisco IOS® Software and may optionally operate with the CiscoWorks Wireless LAN Solution Engine (WLSE). Autonomous access points, along with the CiscoWorks WLSE, deliver a core set of features and may be field-upgraded to take advantage of the full benefits of the Cisco Unified Wireless Network as requirements evolve.

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. 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. 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. 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.

Award-Winning Security

The Cisco Aironet 1130AG Series has achieved National Institute of Standards and Technology (NIST) FIPS 140-2 level 2 validation and is in process for Information Assurance validation under the National Information Assurance Partnership (NIAP) Common Criteria program. The Cisco Aironet 1130AG Series supports 802.11i, Wi-Fi Protected Access (WPA), WPA2, 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, Temporal Key Integrity Protocol (TKIP) for WPA encryption, and Advanced Encryption Standard (AES) for WPA2 encryption. These certifications help to ensure interoperability between Wi-Ficertified WLAN devices from different manufacturers.

The Cisco Aironet 1130AG Series hardware-accelerated AES encryption 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 and support for WPA client devices running TKIP, the RC4 encryption algorithm, is also supported by the Cisco Aironet 1130AG Series.

Cisco Aironet 1130AG Series Access Points operating with LWAPP support Cisco Unified Intrusion Detection System/Intrusion Prevention System (IDS/IPS), a software feature that is part of the Cisco Self-Defending Network and is the industry's first integrated wired and wireless security solution. Cisco Unified IDS/IPS takes a comprehensive approach to security—at the wireless edge, wired edge, WAN edge, and through the data center. When an associated client sends malicious traffic through the Cisco Unified Wireless Network, a Cisco wired IDS device detects the attack and sends shun requests to Cisco wireless LAN controllers, which will then disassociate the client device.

Autonomous or unified Cisco Aironet 1130AG Series Access Points support management frame protection for the authentication of 802.11 management frames by the wireless network infrastructure. This allows the network to detect spoofed frames from access points or malicious users impersonating infrastructure access points. If an access point detects a malicious attack, an incident will be generated by the access point and reports will be gathered on the Cisco wireless LAN controller, Cisco WCS, or CiscoWorks WLSE.

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
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.

Feature	Benefit		
Supports 15 Nonoverlapping Channels	Lower potential interference with neighboring access points simplifies deployment Fewer transmission errors deliver greater throughput		
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		
Cisco Unified IDS/IPS	 This integrated software feature is part of the Cisco Self-Defending Network and is the industry's first integrated wired and wireless security solution. When a trusted client acts maliciously, the wired IDS detects the attack and sends shun requests to Cisco WLAN controllers, which will then disassociate the client device. 		
Management Frame Protection	This feature provides for the authentication of 802.11 management frames by the wireless network infrastructure. This allows the network to detect spoofed frames from access points or malicious users impersonating infrastructure access points. If an access point detects a malicious attack, an incident will be generated by the access points and reports will be gathered on the Cisco wireless LAN controller, Cisco WCS, or CiscoWorks WLSE.		
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 		
Cisco Green Bulk Packaging	To reduce product packaging and preserve the environment, the Cisco Aironet 1130 Series may be ordered in a bulk package that includes 10 access points and 10 mounting kits.		

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 for Individual	AIR-AP1131AG-x-K9 (Cisco IOS Software)
Access Points	AIR-LAP1131AG-x-K9 (Cisco Unified Wireless Network Software)
	Note: The Cisco Aironet 1130AG Series may be ordered with Cisco IOS Software to operate as an autonomous AP
	with Cisco Unified Wireless Network Software using 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
	• = 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.
Part Number for Cisco Green Bulk Packaging	• AIR-AP1131-x-K9-10 (Cisco IOS Software)
Green Bulk Fackaging	AIR-LAP1131-xK9-10 (Cisco Unified Wireless Network Software)
	Note: The Cisco Aironet 1130AG Series may be ordered with Cisco IOS Software to operate as an autonomous AP with Cisco Unified Wireless Network Software using LWAPP. When the 1130AG is operating as a lightweight AP a
	WLAN controller is required.
	• Regulatory Domains: (x = Regulatory Domain)
	• A = FCC
	• E = ETSI
	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
Software	Cisco IOS Software Release 12.3(8)JA or later (autonomous).
	Cisco IOS Software Release 12.3(11) JX or later (Lightweight Mode).
	Cisco Unified Wireless Network Software Release 4.0 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
Frequency Band and	Americas (FCC)
Operating Channels	• 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)
	2.412 to 2.484 GHz; 14 channels Complementary Code Keying (CCK)

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Item	Specification							
	• 5.15 to 5.35 GHz, 8 channels							
	Japan-Q • 2 412 to 2 472 GHz: 13 channels Orthogonal Frequency Division Multiplexing (OFDM)							
	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)							
	 2.412 to 2.484 GHz; 14 channels Complementary Code Reyling (CCR) 5.15 to 5.35 GHz, 8 channels 							
	 5.15 to 5.35 GHz, 8 channels 5.470 to 5.725 GHz, 11 channels 							
		Vorea ■ 2.412 to 2.472 GHz; 13 channels						
				9 channels				
	North America	• 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			els				
	Singapore		,					
	• 2.412 to 2.472 GHz	., 13 cha	innels					
	• 5.15 to 5.35 GHz, 8			5.825 GHz, 12 cl	hannels			
	Taiwan			,				
	• 2.412 to 2.462 GHz	., 11 cha	innels					
		• 5.25-5.35 GHz, 5.725 to 5.825, 7 channels						
Nonoverlapping Channels	802.11b/g: 3							
Receive Sensitivity (Typical)	802.11a:			802.11g:				
	6 Mbps: -87 dBm			1 Mbps: -93 dBm				
	9 Mbps: -86 dBm			2 Mbps: -91 dB				
	12 Mbps: -85 dBm			5.5 Mbps: -88 d				
	18 Mbps: -84 dBm			6 Mbps: -86 dBm				
	24 Mbps: -80 dBm			9 Mbps: -85 dBm				
	36 Mbps: -78 dBm			11 Mbps: -85 dBm				
	48 Mbps: -73 dBm			12 Mbps: -84 dBm				
	54 Mbps: -71 dBm			18 Mbps: -83 dBm				
				24 Mbps: -79 dBm				
				36 Mbps: -77 dBm				
				48 Mbps: -72 dBm				
				54 Mbps: -70 dBm				
Available Transmit Power	802.11a:		802.11b:	802.11g:				
Settings (Maximum Power	OFDM:	CCK:	О		=			
Setting Will Vary by	17 dBm (50 mW) 20 dBm (100 m							
Channel and According to Individual Country	15 dBm (30 mW) 17 dBm (50 mV							
Regulations)	14 dBm (25 mW) 14 dBm (25 mW)							
	11 dBm (12 mW)			•	8 dBm (6 mW)			
	8 dBm (6 mW) 8 dBm (6 mW) 5 dBm (3 mW) 5 dBm (2 dBm) 2 dBm (2 mW		8 dBm (6 mW)		5 dBm (3 mW)			
			5 dBm (3 mW)	5 dBm (3 mW)		2 dBm (2 mW)		
			2 dBm (2 mW)) -1 dE		ı (1 mW)		
			-1 dBm (1 mW)					
Range	Indoor (Distance Across		Outdoor:					
	Open Office Environm	ment):						
	802.11a:	802.11	g:	802.11a:		802.11g:		
	80 ft (24 m) @ 54 Mbps	,	30 m) @	100 ft (30 m) @ 54 Mbps	9	120 ft (37 m) @ 54 Mbps		
	150 ft (45 m) @	54 Mbp	53 m) @	300 ft (91 m) @	n	350 ft (107 m) @ 48 Mbps		
	48 Mbps	48 Mbp		48 Mbps		550 ft (168 m) @ 36 Mbps		
	200 ft (60 m) @		76 m) @	425 ft (130 m)	@	650 ft (198 m) @ 24 Mbps		
	36 Mbps	36 Mbps 275 ft (84 m) @ 24 Mbps 325 ft (100 m) @		36 Mbps		750 ft (229 m) @ 18 Mbps		
	225 ft (69 m) @ 24 Mbps			500 ft (152 m) @ 24 Mbps 550 ft (168 m) @ 18 Mbps 600 ft (183 m) @		800 ft (244 m) @ 12 Mbps		
	250 ft (76 m) @					820 ft (250 m) @ 11 Mbps 875 ft (267 m) @ 9 Mbps		
	250 ft (76 m) @ 325 ft (100 m) @ 18 Mbps					875 ft (267 m) @ 9 Mbps 900 ft (274 m) @ 6 Mbps		
	275 ft (84 m) @ 12 Mbps					910 ft (277 m) @ 5.5 Mbps		
				12 Mbps 625 ft (190 m)	@	940 ft (287 m) @ 2 Mbps		
	9 Mbps	300 ft (91 m) @ 360 ft (110 m) @ 9 Mbps 11 Mbps		9 Mbps	\(\overline{\ov	950 ft (290 m) @ 1 Mbps		
	325 ft (100 m) @	375 ft (114 m) @	650 ft (198 m)	@			

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Item	Specification 6 Mbps 6 Mbps					
	6 Mbps	9 Mbps 400 ft (122 m) @ 6 Mbps	6 Mbps			
		420 ft (128 m) @ 5.5 Mbps				
		440 ft (134 m) @ 2 Mbps				
		450 ft (137 m) @ 1 Mbps				
	Ranges and actual throughput vary based upon numerous environmental factors so individual performance may differ.					
Compliance	Standards					
	Safety Safety					
	• UL 60950-1	- 00050.4				
	• CAN/CSA-C22.2 N	0. 60950-1				
	UL 2043IEC 60950-1					
	• EN 60950-1					
	• NIST FIPS 140-2 le	vel 2 validation				
	Radio Approvals	vei 2 validation				
	• FCC Part 15.247, 1	5 407				
	• RSS-210 (Canada)					
	1					
	 EN 300.328, EN 301.893 (Europe) ARIB-STD 33 (Japan) 					
	ARIB-STD 33 (Japan) ARIB-STD 66 (Japan)					
	ARIB-STD 771 (Japan) AS/NZS 4268.2003 (Australia and New Zealand)					
	FMI 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					
Antennas	• 2.4 GHz					
	∘ Gain 3.0 dBi					
	Horizontal Beamwidth 360°					
	• 5 GHz					
	Gain 4.5 dBi Horizontal Beamwidth 360°					
Security	Authentication					
-	Security Standards					
	• WPA					
	• WPA2 (802.11i)					
	Cisco TKIP					
	Cisco message inter	egrity check (MIC)				
	• IEEE 802.11 WEP keys of 40 bits and 128 bits					
	802.1X EAP types: EAP-Flexible Authentication via Secure Tunneling (EAP-FAST) Protected EAP-Generic Token Card (PEAP-GTC) PEAP-Microsoft Challenge Authentication Protocol Version 2 (PEAP-MSCHAP)					
	EAP-Transport Layer Security (EAP-TLS)					

Item	Specification			
	EAP-Tunneled TLS (EAP-TTLS)			
	EAP-Subscriber Identity Module (EAP-SIM)			
	Cisco LEAP			
	Encryption			
	AES-CCMP encryption (WPA2)			
	• TKIP (WPA)			
	Cisco TKIP			
	WPA TKIP			
	IEEE 802.11 WEP keys of 40 bits and 128 bits			
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	Operating			
	Altitude: 0 to 2500m			
	● 32 to 104年 (0 to 40℃)			
	• 10 to 90% humidity (noncondensing)			
	Non Operating			
	• -40 to 158F (-40 to 70C)			
	Up to 95% 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	Wi Fi CERTIFIED			

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.

Service and Support

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For More Information

For more information about the Cisco Aironet 1130AG Series, visit http://www.cisco.com/go/wireless or contact your local account representative.



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