Cisco Aironet 1100 Series Access Point

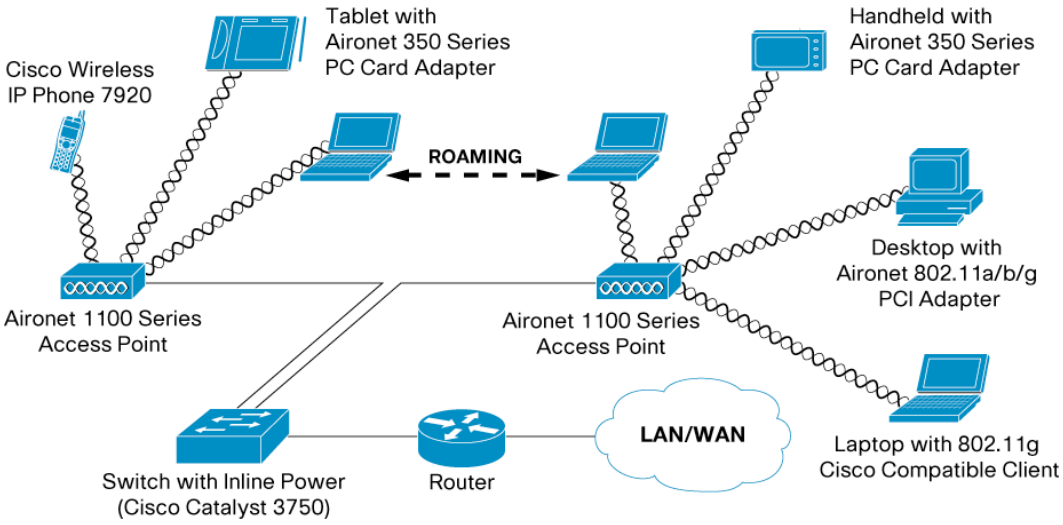
The Cisco® Aironet® 1100 Series Access Point provides a high-speed, secure, affordable, and easy-to-use wireless LAN solution that combines the freedom and flexibility of wireless networking with the features and services required in enterprise networks (Figure 1). The Cisco Aironet 1100 Series uses radio and network management features for simplified deployment, along with integrated diversity dipole antennas that provide robust and predictable WLAN coverage for offices and similar RF environments. The access point offers flexibility and investment protection for wireless networks.

The Cisco Aironet 1100 Series supports a single 802.11g radio. Users can enjoy up to 54 Mbps data rates while maintaining full backward compatibility with legacy 802.11b devices. Administrators can configure the access point to support both 802.11g and legacy 802.11b clients for investment protection, or for higher performance, the access point can be configured to support only 802.11g clients. The Cisco Aironet 1100 Series also features an innovative mounting system for easy installation and reliable coverage in a variety of locations and orientations.

The Cisco Aironet 1100 Series is a component of the Cisco Unified Wireless Network, a comprehensive solution that delivers an integrated, end-to-end wired and wireless network. Using the radio and network management features of the Cisco Unified Wireless Network for simplified deployment, the Cisco Aironet 1100 Series extends the security, scalability, reliability, ease of deployment, and manageability available in wired networks to the wireless LAN.

The Cisco Aironet 1100 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 1100 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.

Figure 1. Multiple access points give mobile users with client adapters the ability to maintain uninterrupted access to all network resources.



Enterprise-Class Security Solution

The Cisco Aironet 1100 Series is part of the award-winning Cisco Wireless Security Suite, which supports 802.11i, Wi-Fi Protected Access 2 (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, Temporal Key Integrity Protocol (TKIP) for WPA encryption, and the Advanced Encryption Standard (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 1100 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.

Simplified Deployment for Rapid Connectivity

The Cisco Aironet 1100 Series defines enterprise office deployment capability. Designed in an attractive, durable plastic enclosure, with integrated diversity dipole antennas, the Cisco Aironet 1100 Series can be quickly deployed with a reliable, omnidirectional coverage pattern. Supported in various mounting orientations and locations, it can be easily moved throughout the work area as

needs change (Figure 2). A standard, surface-mounting bracket supports installation on office walls and ceilings for elevated placement. UL 2043 certification for the plenum rating requirements set by local fire codes supports installation in environmental air spaces such as areas above suspended ceilings. The design protects against tampering and theft using single- or master-keyed padlocks. The Cisco Aironet 1100 Series can also be brought into the cubicle space with a cubicle wall-mounting bracket or device stand. The device stand positions the access point on any horizontal surface, such as a desktop or shelf. Theft is deterred in these installations using the security slot with standard security cables. Support for either local or inline Power over Ethernet further simplifies installation. The Cisco Aironet 1100 Series is Wi-Fi certified to ensure interoperability with other IEEE 802.11g and IEEE 802.11b devices.

Figure 2. The Cisco Aironet 1100 Series Access Point Mounting Brackets Include Ceiling, Wall, Cubicle, and Desktop Options

Key Features and Benefits

The Cisco Aironet 1100 Series merges enterprise features, manageability, security, and availability into a scalable, easy-to-deploy, and cost-effective WLAN solution. Tables 1 and 2 highlight key features and product specifications for the Cisco Aironet 1100 Series.

Table 1. Key Features and Benefits

Feature	Benefit
2.4 GHz 802.11g Radio, Configurable up to 100 mW	2.4 GHz WLAN solution that delivers data rates of up to 54 Mbps with backwards compatibility to legacy 802.11b equipment.
Management Frame Protection	Provides strong cryptographic authentication of WLAN management frames and provides detection capabilities against publicly available Intrusion Detection System (IDS) tools. Management frame protection is effective against known attacks, as well as any future attacks that rely on the unprotected nature of the WLAN management frames.
Hardware-Assisted AES Encryption	Provides high security without performance degradation.
Quality of Service (QoS)	• Prioritizes traffic for different application requirements. • Improves user experience of voice and video.
Wi-Fi Multimedia (WMM)	• Subset of the IEEE 802.11e QoS draft standard, supporting QoS prioritized media access through the Enhanced Distributed Channel Access (EDCA) method. • Improves the user experience for audio, video, and voice applications over a Wi-Fi wireless connection.

Feature	Benefit
Multiple Basic Service Set Identifier (MBSSID)	Supports up to 8 BSSIDS for configuration flexibility when segmenting traffic.
Flexible Mounting Orientations	Supports installation for a wide range of locations, including walls, ceilings, desktops, and cubicle partitions.
Anti-Theft Security Slot and Security Hasp	• Supports standard security cables or padlocks (not included). • Locks can be single- or master-keyed for simplified inventory management.
Integrated Diversity Dipole Antennas	• Has compact antenna profile. • Provides spherical coverage pattern that is optimized for any orientation. • Improves reliability in high-multipath environments such as offices.
Auto-Channel Selection	Determines and selects least congested channel.
Supports Inline Power over Ethernet (see Figures 3, 4, 5)	• Eliminates need for local AC power. • Reduces cable clutter. • Enables deployment in remote locations.

Figure 3 illustrates how the Cisco Aironet 1100 Series can be powered over Ethernet with the optional inline power injector. Figure 4 shows how the these access points can use Cisco Catalyst® switches for Power over Ethernet, while Figure 5 shows how a Cisco Catalyst inline power patch panel can be used (see Table 3 for details).

Figure 3. The Cisco Aironet 1100 Series Powered over Ethernet with the Optional Inline Power Injector

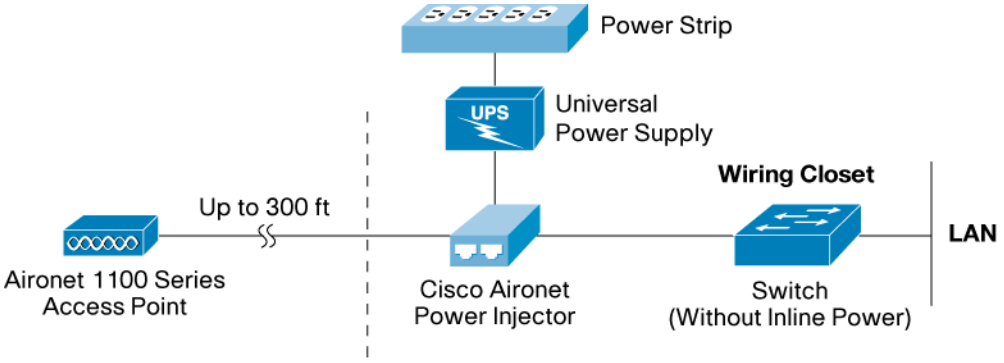


Figure 4. The Cisco Aironet 1100 Series Powered with Cisco Catalyst Switches for Power over Ethernet

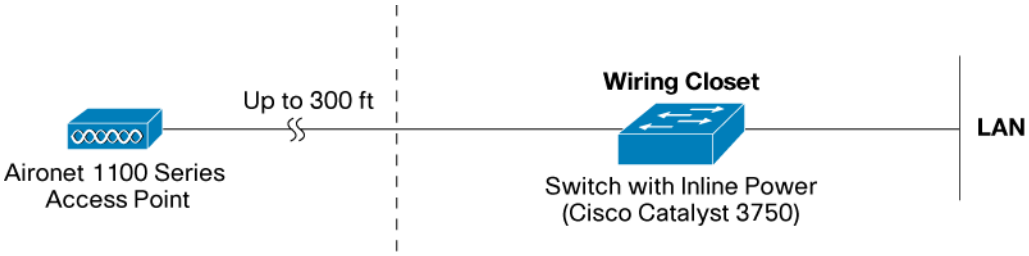


Figure 5. The Cisco Aironet 1100 Series Powered with a Cisco Catalyst Inline Power Patch Panel

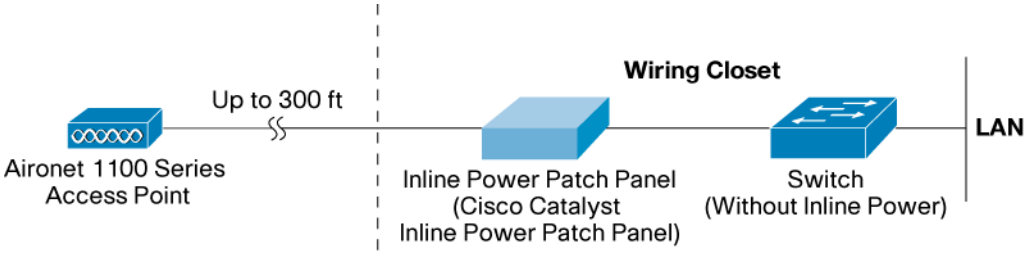


Table 2. Product Specifications

Item	Specification
Part Number	• 802.11g: AIR-AP1121G-x-K9 (Cisco IOS® Software) • 802.11g: AIR-LAP1121G-x-K9 (Cisco Unified Wireless Network Software). **Note:** The Cisco Aironet 1100 Series may be ordered with Cisco IOS Software to operate as an autonomous AP or with Cisco Unified Wireless Network Software using the LWAPP. When operating as a lightweight access point, a WLAN controller is required. Regulatory domains: (X=regulatory domain) • A=FCC • E=ETSI • J=TELEC (Japan) Customers are responsible for verifying approval for use in their country. Please visit http://www.cisco.com/go/aironet/compliance to verify approval and to identify the regulatory domain that corresponds to a particular country. 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 (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	802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps
Network Standard	IEEE 802.11b or IEEE 802.11g
Uplink	Autosensing 802.3 10/100BaseT Ethernet
Frequency Band	802.11g: • 2.412 to 2.462 GHz (FCC) • 2.412 to 2.472 GHz (ETSI) • 2.412 to 2.484 GHz CCK: (TELEC) • 2.412 to 2.472 GHz Orthogonal Frequency Division Multiplexing (OFDM): (TELEC)
Network Architecture Type	Infrastructure, star topology
Wireless Medium	• 802.11g: OFDM • 802.11b and 802.11g: Direct sequence spread spectrum (DSSS)
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Modulation	OFDM: • BPSK @ 6 and 9 Mbps • QPSK @ 12 and 18 Mbps • 16-QAM @ 24 and 36 Mbps • 64-QAM @ 48 and 54 Mbps DSS: • DBPSK @ 1 Mbps • DQPSK @ 2 Mbps • CCK @ 5.5 and 11 Mbps
Operating Channels	802.11g ETSI: 13; Americas: 11; TELEC (Japan): CCK-14, OFDM-13
Nonoverlapping Channels	Three

Item	Specification
Receive Sensitivity	802.11b: • 1 Mbps: -94 dBm • 2 Mbps: -91 dBm • 5.5 Mbps: -89 dBm • 11 Mbps: -85 dBm 802.11g: • 1 Mbps: -95 dBm • 2 Mbps: -91 dBm • 5.5 Mbps: -89 dBm • 6 Mbps: -90 dBm 9 Mbps: -84 dBm • 11 Mbps: -88 dBm • 12 Mbps: -82 dBm • 18 Mbps: -80 dBm • 24 Mbps: -77 dBm • 36 Mbps: -73 dBm • 48 Mbps: -72 dBm • 54 Mbps: -72 dBm
Available Transmit Power Settings	802.11g: • CCK: ◦ 100 mW (20 dBm) ◦ 50 mW (17 dBm) ◦ 30 mW (15 dBm) ◦ 20 mW (13 dBm) ◦ 10 mW (10 dBm) ◦ 5 mW (7 dBm) ◦ 1 mW (0 dBm) • OFDM: ◦ 30 mW (15 dBm) ◦ 20 mW (13 dBm) ◦ 10 mW (10 dBm) ◦ 5 mW (7 dBm) ◦ 1 mW (0 dBm) Maximum power setting will vary according to individual country regulations.

Item	Specification
Range	Indoors: Distance across open office environment • 90 ft (27 m) @ 54 Mbps • 95 ft (29 m) @ 48 Mbps • 100 ft (30 m) @ 36 Mbps • 140 ft (42 m) @ 24 Mbps • 180 ft (54 m) @ 18 Mbps • 210 ft (64 m) @ 12 Mbps • 220 ft (67 m) @ 11 Mbps • 250 ft (76 m) @ 9 Mbps • 300 ft (91 m) @ 6 Mbps • 310 ft (94 m) @ 5.5 Mbps • 350 ft (107 m) @ 2 Mbps • 410 ft (125 m) @ 1 Mbps Outdoors: • 110 ft (34 m) @ 54 Mbps • 200 ft (60 m) @ 48 Mbps • 225 ft (69 m) @ 36 Mbps • 325 ft (100 m) @ 24 Mbps • 400 ft (122 m) @ 18 Mbps • 475 ft (145 m) @ 12 Mbps • 490 ft (150 m) @ 11 Mbps • 550 ft (168 m) @ 9 Mbps • 650 ft (198 m) @ 6 Mbps • 660 ft (201 m) @ 5.5 Mbps • 690 ft (210 m) @ 2 Mbps • 700 ft (213 m) @ 1Mbps Ranges and actual throughput vary based upon numerous environmental factors, so individual performance may differ.
Compliance	Standards • Safety: ◦ UL 1950 ◦ CSA 22.2 No. 950-95 ◦ IEC 60950 ◦ EN 60950 • Radio approvals: ◦ FCC Part 15.247 ◦ RSS-210 (Canada) ◦ EN 300.328 (Europe) ◦ ARIB-STD 33 (Japan) ◦ ARIB-STD 66 (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) ◦ EN 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC • Security ◦ 802.11i, WPA2, WPA ◦ 802.1x ◦ AES, TKIP • Other ◦ IEEE 802.11b and IEEE 802.11g ◦ FCC Bulletin OET-65C ◦ RSS-102
SNMP Compliance	MIB I and MIB II
Antenna	Integrated 2.2 dBi diversity dipole antennas

Item	Specification
Security	**Authentication** Security Standards • WPA • WPA2 (802.11i) • Cisco TKIP • Cisco message integrity check (MIC) • IEEE 802.11 Wired Equivalent Privacy (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) • 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	Three indicators on the top panel report association status, operation, error/warning, firmware upgrade, and configuration, network/modem, and radio status.
Dimensions	4.1 in. (10.4 cm) wide; 8.1 in. (20.5 cm) high; 1.5 in. (3.8 cm) deep
Weight	10.5 oz. (297 g)
Environmental	• 32–104°F (0-40°C) • 10–90% humidity (noncondensing)
System Memory	• 16 MB RAM • 8 MB FLASH
Input Power Requirements	• 100–240 VAC 50-0Hz (power supply) • 33–57 VDC (device)
Power Draw	4.9 watts, RMS
Warranty	One year
Wi-Fi Certification	

Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare the network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, see Cisco Technical Support Services or Cisco Advanced Services.

For More Information

For more information about the Cisco Aironet 1100 Series, visit http://www.cisco.com/go/wireless or contact your local account representative.

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