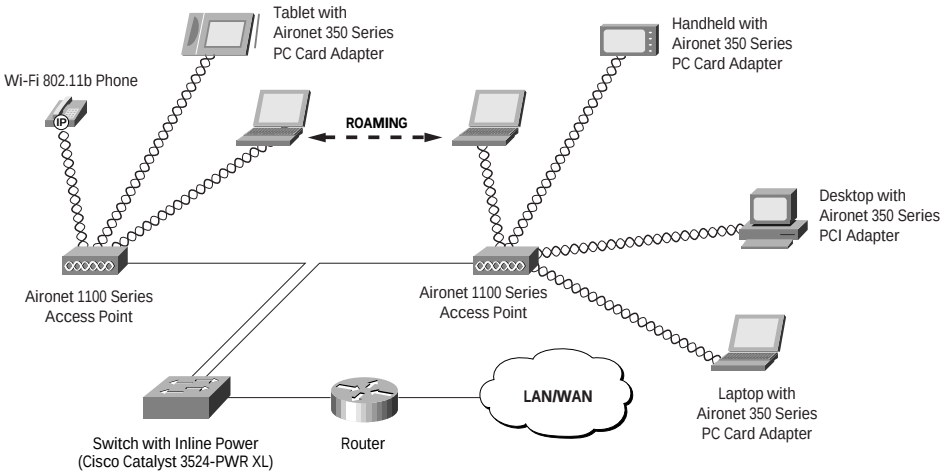
Data Sheet

Cisco Aironet 1100 Series Access Point

The Cisco Aironet® 1100 Series Access Point provides a secure, affordable, and easy-to-use wireless LAN solution that combines mobility and flexibility with the enterprise-class features required by networking professionals (Figure 1).

Taking advantage of the Cisco Wireless Security Suite for the strongest enterprise security available and of Cisco IOS® Software for ease-of–use and familiarity, the Cisco Aironet 1100 Series Access Point delivers manageability, performance, investment protection, and scalability in a cost-effective package with a low total cost of ownership. The Cisco Aironet 1100 Series features a single, upgradable 802.11b radio, integrated diversity dipole antennas, and an innovative mounting system for easy installation in a variety of locations and orientations.

Figure 1 An access point is the center point in an all-wireless network or serves as a connection point between a wired and wireless network. Multiple access points can be placed throughout a facility to give users with WLAN adapters the ability to roam freely throughout an extended area while maintaining uninterrupted access to all network resources.



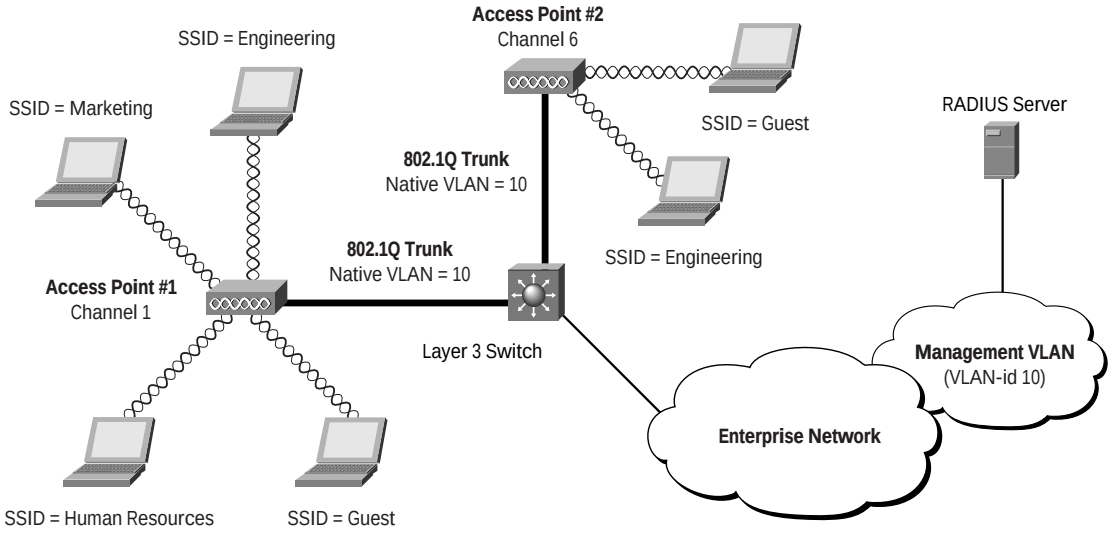
Intelligent Networking Features for a Scalable, Manageable Solution

The first access point based on Cisco IOS Software, the Cisco Aironet 1100 Series extends end-to-end intelligent networking to the wireless access point. Cisco command-line interface (CLI) allows customers to quickly and consistently implement extended capabilities available in Cisco IOS Software. Customers can manage and standardize their networks using tools they have developed internally for their Cisco routers and switches.

Enterprise-class features including virtual LANs (VLANs), quality of service (QoS), and proxy mobile Internet Protocol (IP) make the Cisco Aironet 1100 Series ideal for enterprise installations. The Cisco Aironet 1100 Series also supports standard Cisco Aironet features such as hot-standby and load balancing, allowing enterprises to implement intelligent, reliable network services.

The Cisco Aironet 1100 Series is capable of managing up to 16 VLANs (Figure 2), which allows customers to differentiate LAN policies and services, such as security and QoS, for different users. For example, enterprise customers can use different VLANs to segregate employee traffic from guest traffic, and further segregate those traffic groups from high-priority voice traffic. Traffic to and from wireless clients with varying security capabilities can be segregated into VLANs with varying security policies. For example, it allows educational institutions to secure faculty and administrator traffic from student traffic traveling over the same infrastructure.

Figure 2 Indoor Wireless VLAN Deployment



With support for 802.1p QoS, the Cisco Aironet 1100 Series provides end-to-end traffic prioritization for packets traveling to and from the access point over Ethernet. Delay-sensitive traffic, such as voice and video, can be prioritized over data traffic for improved user experience and optimal network utilization. Software and radio firmware upgrades provide the capability to upgrade to future QoS standards such as 802.11e. Supporting the voice prioritization schemes for 802.11b mobile phones, the Aironet 1100 Series further enables quality voice-over-wireless-LAN solutions.

With proxy mobile IP, users can maintain seamless network connectivity as they roam across subnets. By transporting user IP addresses as they move from one subnet to the next, the Cisco Aironet 1100 Series enables IT professionals to architect the wireless LAN in a manner more consistent with the wired LAN, while still maintaining user mobility. More segmented networks provide greater manageability than traditional flat wireless LANs.

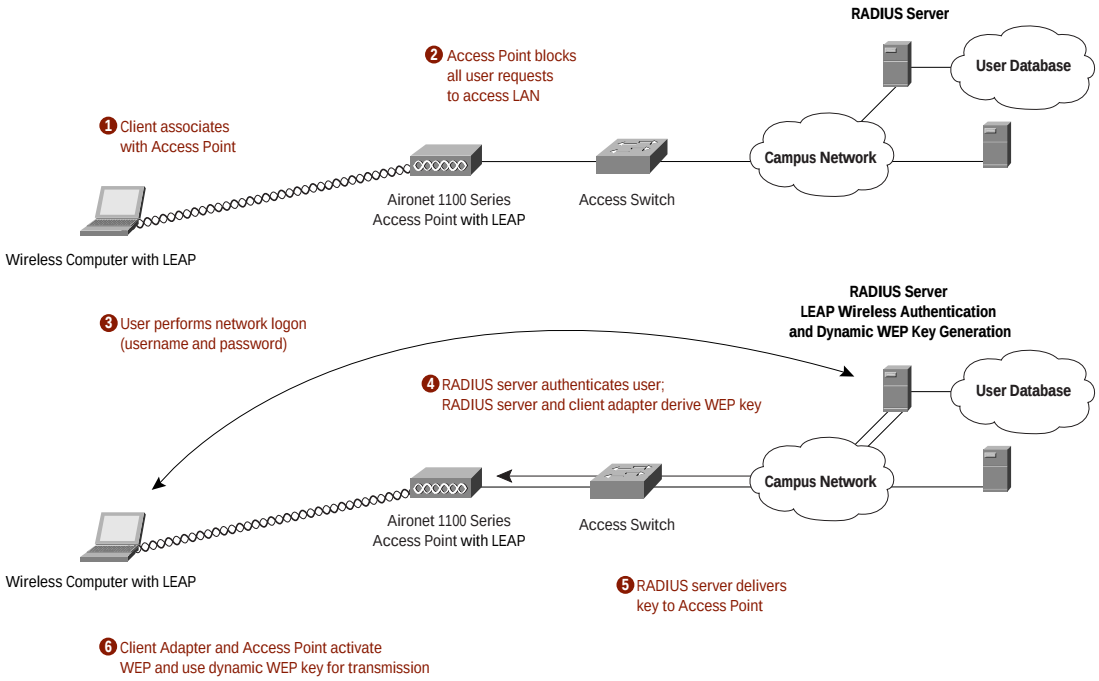
The Cisco Aironet 1100 Series can be easily managed through the CLI or HTTP-based graphical user interface (GUI), using tools such as File Transfer Protocol (FTP), Trivial File Transfer Protocol (TFTP), and Telnet. The Cisco Aironet 1100 Series can be integrated with CiscoWorks solutions by using standard Management Information Base (MIB) I and MIB II and Simple Network Management Protocol (SNMP), to provide feature-rich, even greater enterprise management capabilities through CiscoView, Resource Management Essentials (RME), and Campus Manager.

Enterprise-Class Wireless LAN Security

Wireless LAN security is a primary concern. The Cisco Aironet 1100 Series secures the enterprise network with a scalable and manageable system featuring the award-winning Cisco Wireless Security Suite. Based on the 802.1X standard for port-based network access, the Cisco Wireless Security Suite takes advantage of the Extensible Authentication Protocol (EAP) framework for user-based authentication (Figure 3).

The Cisco Wireless Security Suite interoperates with a range of client devices. It supports all 802.1X authentication types, including EAP Cisco Wireless (LEAP), Protected Extensible Authentication Protocol (PEAP), Extensible Authentication Protocol Transport Layer Security (EAP-TLS) and EAP-Tunneled TLS (EAP-TTLS). A wide selection of Remote Access Dial-In User Service (RADIUS) servers that support these same authentication types can be used for enterprise-scalable centralized user management. Enhanced features such as pre-standard Temporal Key Integrity Protocol (TKIP) per-packet key hashing and message integrity check (MIC) as well as broadcast key rotation are integral to the Cisco Wireless Security Suite.

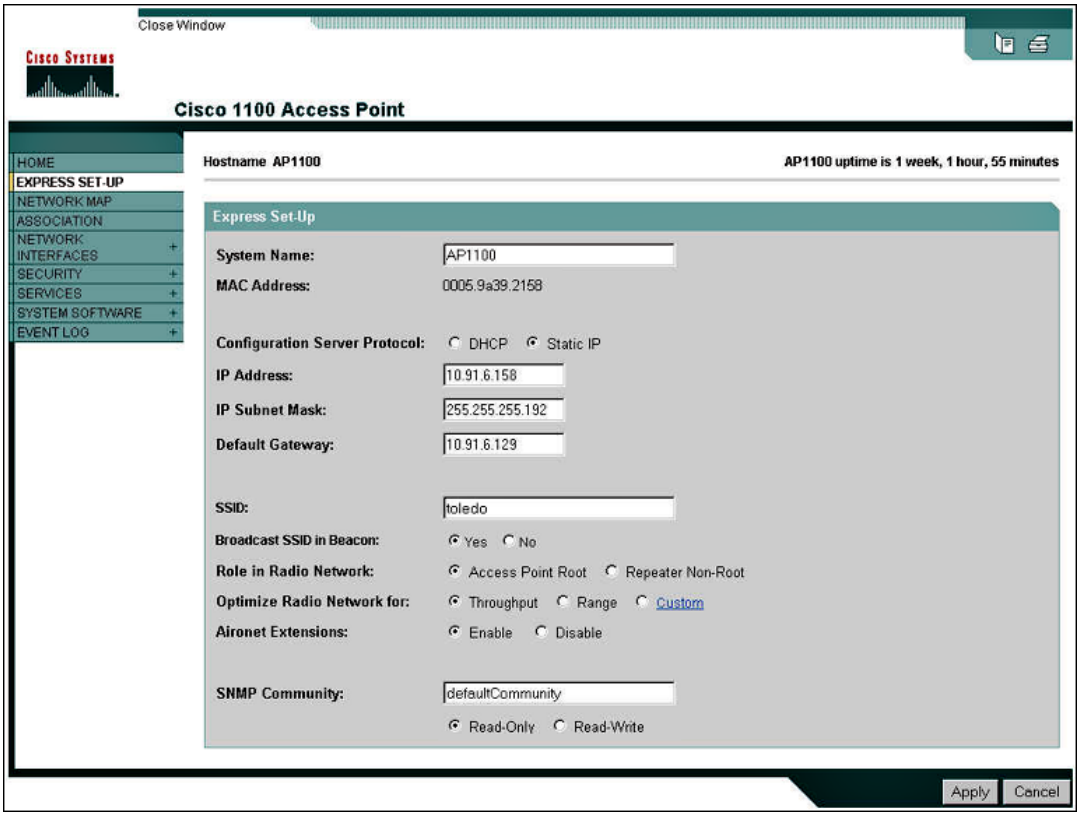
Figure 3 The Cisco Wireless Security Suite Is an Enterprise-Class Security System Based on 802.1X Architecture



Simplified Deployment for Rapid Connectivity

The Cisco Aironet 1100 Series, with its redesigned GUI, introduces the next level of intuitive, browser-based management for an improved user experience (Figure 4). A menu-based organization simplifies navigation and configuration for easy setup and ongoing management with uncompromised security. The Cisco Aironet 1100 Series can also be managed using Cisco IOS Software CLI, which is familiar to IT professionals and makes use of their existing skills.

Figure 4 The redesigned GUI in the Aironet 1100 Series provides intuitive browser-based management for basic configuration of the access point.



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 provides for quick deployment with a reliable, omni-directional coverage pattern. Supported in various mounting orientations and locations, it can be easily moved throughout the work area as needs change (Figure 5). A standard surface-mounting bracket supports installation on office walls and ceilings for elevated placement. The broad operating temperature range and UL 2043 certification for plenum rating requirements set by local fire codes supports installation in environmental air spaces such as areas above suspended ceilings. A forthcoming in-ceiling mounting system allows installation above the ceiling tile, maintaining optimal coverage while concealing the access point. 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 802.11b devices.

Figure 5 The Cisco Aironet 1100 Series Access Point Mounting Brackets Include Ceiling, Wall, Cubicle, and Desktop Options

Cost-Effective Solution for Evolving Requirements

The Cisco Aironet 1100 Series is ideal for new deployments, or as an addition to existing deployments to support increasing capacity requirements. Engineered with extra system capacity, including memory, storage, and processing power, the Cisco Aironet 1100 Series is designed to support not only today's feature set, but future software releases for expanded functionality and capabilities. Companies can also upgrade the Cisco Aironet 1100 Series hardware to future radio technologies, such as those based on higher speed 802.11g specifications, unleashing increased performance and further investment value.

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 1-3 highlight key features, product specifications, and product system requirements for the Cisco Aironet 1100 Series.

Table 1 Key Features and Benefits

Feature	Benefit
Enterprise Performance	
2.4 GHz radio, configurable up to 100 mW	• High quality transmitter and receiver design provides extensive and reliable coverage
Cisco IOS Software	• Provides end-to-end solution support for Intelligent Network Services • Produces predictable and consistent network behavior • Delivers uniform applications and services
VLAN support	• Allows segmentation of up to 16 user groups • Increases system flexibility, accommodating clients with different security requirements and capabilities
QoS	• Prioritizes traffic for different application requirements • Improves voice and video user-experience
Proxy Mobile IP in Cisco IOS Software	• Provides seamless roaming between subnets • Enhances mobility of voice over 802.11 wireless
Manageability	
Support for Cisco Discovery Protocol, SNMP standard MIB I and MIB II	• Interoperable with SNMP-compliant Network Management Systems like HP OpenView and CA Unicenter • Manageable by many CiscoWorks applications in Resource Manager Essentials (Inventory Manager, Software Image Manager, Availability Manager), Campus Manager (Topology Services), and CiscoView.
Cisco CLI supports Telnet, FTP, and TFTP	• Provides interface familiar to large community of network managers • Enables centralized management of remote access points • Facilitates standardization of network configuration
Secure	
40-bit, 128-bit WEP	• Supports standards-based security methods for interoperability
Supports Cisco Wireless Security Suite	• Provides award-winning WLAN security features • Defends against passive and active security attacks • 802.1X and EAP-based authentication leverages user access lists • Supports RADIUS server for user login registry
Scalability	
Range of management and security options	• Autonomous management and security features scale with evolving architecture • Requires minimal initial investment
Configurable transmit power	• Facilitates cell-size management • Coverage can be decreased as deployment density requirements to optimize bandwidth increase

Table 1 Key Features and Benefits (Continued)

Feature	Benefit
Availability	
Hot standby	• Fails over seamlessly to standby access point
Load balancing	• Distributes user connections across available access points • Optimizes aggregate throughput
Auto rate scaling	• Sustains connectivity at outlying distances
Investment Protection	
802.11b-compliant	• Supports installed base of 802.11b clients • Mature technology incorporates generations of enhancements
Radio-upgradeable design	• Provides migration path to future technologies, such as 802.11g and hardware assisted Advanced Encryption Standard (AES) • Existing installation design can be leveraged for progressive upgrades
Storage that is more than twice the size of the initial firmware load	• Provides extra capacity for follow-on feature releases
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
Simplified deployment	
Flexible mounting orientations	• Supports installation for a wide range of locations including walls, ceilings, desktops, and cubicle partitions
Integrated diversity dipole antennas	• Compact antenna profile • Spherical coverage pattern is optimized for any orientation • Diversity antennas improve reliability in high multipath environments such as offices
Auto-channel selection	• Determines and selects least congested channel
Supports In-line power over Ethernet (Figures 6, 7, 8)	• Eliminates need for local AC power • Reduces cable clutter • Enables deployment in remote locations
HTTP server with redesigned Web browser-based GUI	• Navigable graphic-oriented layout common across Cisco products • Express Set Up consolidates key configuration tasks in single view
Dynamic Host Configuration Protocol (DHCP) client	• Automatically obtains an IP address from DHCP server

Figure 6 The Cisco Aironet 1100 Series can be powered over Ethernet with the optional inline power injector.

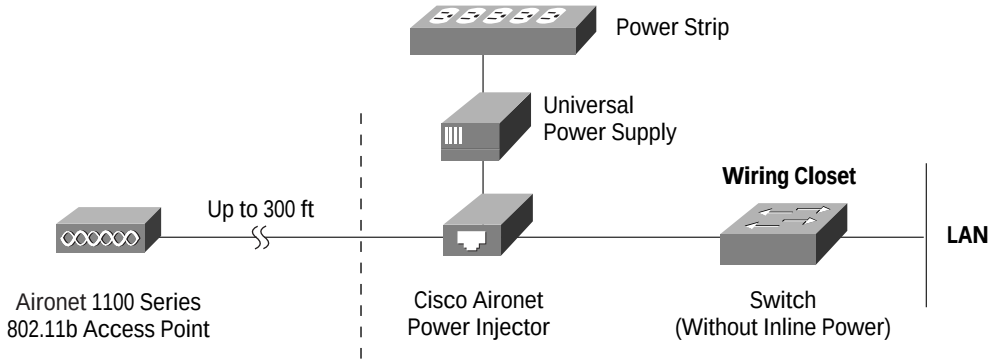


Figure 7 The Cisco Aironet 1100 can use a Cisco Catalyst 3524-PWR XL for power over Ethernet.

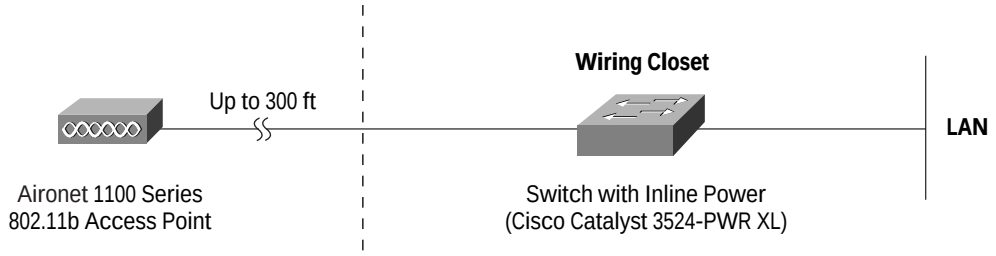


Figure 8 A Cisco Catalyst Inline Power Patch Panel can be used to power the Cisco Aironet 1100 over Ethernet.

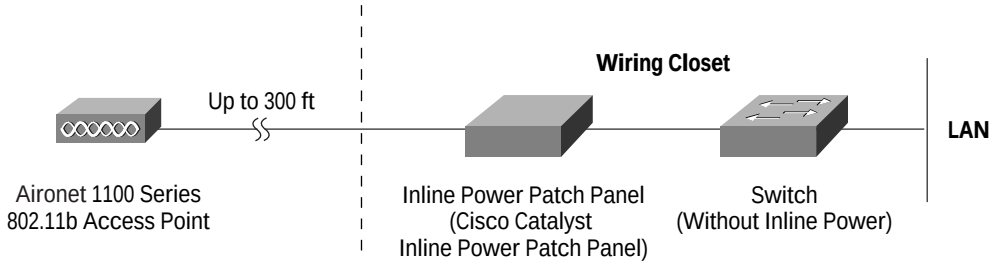


Table 2 Product Specifications

Item	Specification
Part number	• AIR-AP1120B-x-K9 • A=FCC • E=ETSI • I=Israel • J=TELEC (Japan) Customers are responsible for verifying approval for use in their country. Please see 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.
Data rates supported	• 1, 2, 5.5, 11 Mbps
Network standard	• IEEE 802.11b
Uplink	• Autosensing 802.3 10/100BaseT Ethernet
Frequency band	• 2.412 to 2.462 GHz (FCC) • 2.412 to 2.472 GHz (ETSI) • 2.422 to 2.452 GHz (Israel) • 2.412 to 2.484 GHz (TELEC)
Network architecture type	• Infrastructure, star topology
Wireless medium	• Direct Sequence Spread Spectrum (DSSS)
Media access protocol	• Carrier sense multiple access with collision avoidance (CSMA/CA)
Modulation	• DBPSK @ 1 Mbps • DQPSK @ 2 Mbps • CCK @ 5.5 and 11 Mbps
Operating channels	• ETSI: 13; Israel: 7; Americas: 11; TELEC (Japan): 14
Nonoverlapping channels	• Three
Receive sensitivity	• 1 Mbps: -94 dBm • 2 Mbps: -91 dBm • 5.5 Mbps: -89 dBm • 11 Mbps: -85 dBm
Available transmit power settings	• 100 mW (20 dBm) • 50 mW (17 dBm) • 30 mW (15 dBm) • 20 mW (13 dBm) • 5 mW (7 dBm) • 1 mW (0 dBm) Maximum power setting will vary according to individual country regulations

Table 2 Product Specifications (Continued)

Item	Specification
Range (typical @ 100 mW transmit power setting with 2.2 dBi gain diversity dipole antenna)	Indoor: • 150 ft (45 m) @ 11 Mbps • 400 ft (122 m) @ 1 Mbps Outdoor: • 800 ft (244 m) @ 11 Mbps • 2000 ft (610 m) @ 1 Mbps
Compliance	Standards • Safety: – UL 60950 – UL 2043 – CSA 22.2 No. 950-95 – IEC 60950- EN 60950 • Radio Approvals: – FCC Part 15.247 – RSS-139-1, RSS-210 (Canada) – EN 300.328 (Europe) – Telec 33 (Japan) – AS/NZ 3548 (Australia and New Zealand) • EMI and Susceptibility (Class B): – FCC Par 15.107 and 15.109 – ICES-003 (Canada) – VCCI (Japan) – EN 301.489-1 and –17 (Europe) • Other: – IEEE 802.11b – FCC Bulletin OET-65C – RSS-102
SNMP compliance	• MIB I and MIB II
Antenna	• Integrated 2.2 dBi diversity dipole antennas
Security architecture client authentication	Authentication: • 802.1X support including LEAP, PEAP, EAP-TLS and EAP-TTLS, to yield mutual authentication and dynamic, per-user, per-session WEP keys • MAC address and by standard 802.11 authentication mechanisms Encryption: • Support for static and dynamic IEEE 802.11 WEP keys of 40 bits and 128 bits • Pre-standard TKIP WEP enhancements: key hashing (per-packet keying) and MIC • Broadcast key rotation
Status LEDs	• Three indicators on the top panel report association status, operation, error/warning, firmware upgrade, and configuration, network/modem, and radio status
Software and device management and topology	• CiscoWorks CiscoView, Resource Manager Essentials, and Campus Manager

Table 2 Product Specifications (Continued)

Item	Specification
Remote configuration support	• BOOTP, DHCP, Telnet, HTTP, FTP, TFTP, and SNMP
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 to 104 F (0 to 40 C) • 10-90% humidity (noncondensing)
System memory	• 16 MB RAM • 8 MB FLASH
Input power requirements	• 100 to 240 VAC 50 to 60Hz (power supply) • 33 to 57 VDC (device)
Power draw	• 4.9 watts, RMS
Warranty	• One year

Table 3 Product System Requirements

Feature	System requirement
Standard 802.1X-compliant user-level authentication and dynamic encryption keying	One of the following RADIUS servers: • Cisco Secure Access Control Server Version 3.0 or greater • Cisco Access Registrar® Version 1.7 or greater • Funk Software Steel Belted RADIUS Server Version 3.0 or greater • Interlink Networks RAD-Series RADIUS Server Version 5.1 or greater
CiscoWorks RME/Campus Manager	• CiscoWorks LAN Management Solution (LMS) or Routed WAN Solution (RWAN)
Line power over Ethernet support	• Cisco Aironet Power Injector for the 1100 and 1200 Series AIR-PWRINJ2= • Cisco Catalyst® 3524-PWR XL Switch • Cisco Catalyst 4006 and 6500 Series switches with inline power • Cisco WS-PWR-PANEL Midspan Power Patch Panel

Cisco SMARTnet Support and SMARTnet Onsite Support

Operational technical support service for maximizing network availability is offered through Cisco SMARTnet™ support and SMARTnet Onsite support. Cisco SMARTnet support augments the resources of your operations staff; it provides them access to a wealth of expertise, both online and via telephone; the ability to refresh their system software at will; and a range of hardware advance-replacement options. Cisco SMARTnet Onsite support provides all SMARTnet services and complements the hardware advance-replacement feature by adding the services of a field engineer, critical for those locations where staffing is insufficient or unavailable to replace parts.

To learn more about service and support for the Cisco Aironet 1100 Series, visit http://www.cisco.com/warp/public/cc/serv/mkt/supp/smrtnt/index.shtml

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