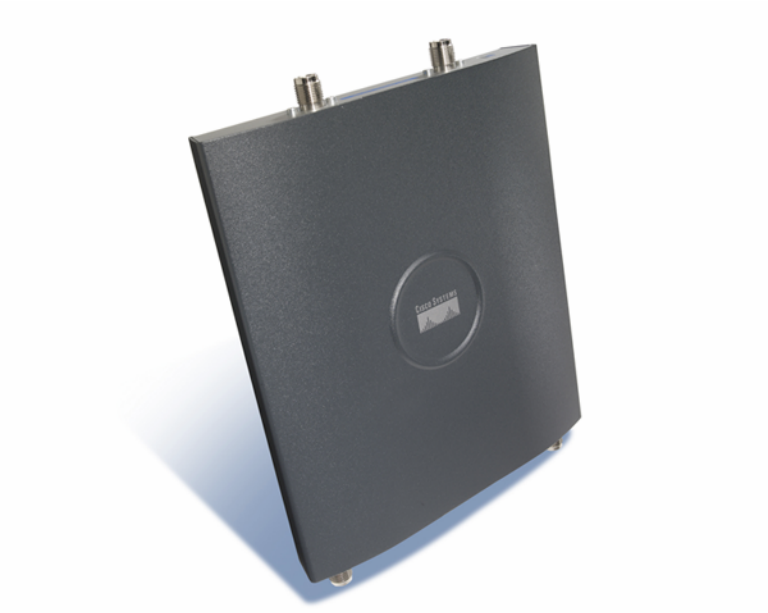
Data Sheet

Cisco Aironet 1240AG Series 802.11A/B/G Access Point



PRODUCT OVERVIEW

Cisco® Aironet® 1240AG Series IEEE 802.11a/b/g access points deliver the versatility, high capacity, security, and enterprise-class features demanded by WLAN customers. It is designed specifically for challenging RF environments like factories, warehouses, and large retail establishments that require the antenna versatility associated with connectorized antennas, a rugged metal enclosure, and a broad operating temperature range. The Cisco Aironet 1240AG Series provides local as well as inline power, including support for IEEE 802.3af Power over Ethernet (PoE).

The Cisco Aironet 1240AG 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 1240AG Series extends the security, scalability, reliability, ease of deployment, and manageability available in wired networks to the wireless LAN.

The Cisco Aironet 1240AG Series offers link role flexibility providing both access point and bridge function on the same platform. Link role flexibility allows the radios to be individually configured as an access point, repeater, root bridge, non-root bridge, or workgroup bridge, enabling a broad array of applications.

The Cisco Aironet 1240AG Series is available as an autonomous access point or available supporting the Lightweight Access Point Protocol (LWAPP). When configured with LWAPP, the Cisco Aironet 1240AG Series can automatically detect the best-available Cisco wireless LAN controller and download appropriate policies and configuration information with no hands-on intervention.

With simultaneous support of 802.11a and 802.11g standards, the Cisco Aironet 1240AG Series delivers up to a 108-Mbps data rate in the 5-GHz and 2.4-GHz bands. The series currently supports 12 non-overlapping channels (FCC; other regulatory domains support different numbers of 802.11a channels) with potentially up to 23 channels via a future firmware release depending on FCC rules. Other regulatory domains may support a different number of channels, simplifying deployments for high-capacity wireless networks. For investment protection, the Cisco Aironet 1240AG Series fully supports the capabilities of today's dual-band WLAN clients while providing backward compatibility with legacy 802.11b clients.

The Cisco Aironet 1240AG Series adheres to the most stringent security standards in the industry. The 1240AG 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 1240AG 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 Advanced Encryption Standard (AES) for WPA2 encryption. These certifications help to ensure interoperability between Wi-Fi-certified WLAN devices from different manufacturers.

The Cisco Aironet 1240AG 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 1240AG Series.

LINK ROLE FLEXIBILITY

Link role flexibility provides both access point and bridge functions through configuration of each radio as an access point, repeater, root bridge, non-root bridge, or workgroup bridge. This array of configuration flexibility enables the Cisco Aironet 1240 Series to address a wide range of applications including basic wireless LAN coverage, wireless LAN coverage with wireless backhaul, and more traditional bridging applications (Table 1).

Table 1. Wireless LAN Link Role Flexibility Applications

Radio 1 (802.11g or 802.11a)	Radio 2 (802.11g or 802.11a)	RJ-45 State
Root Bridge (RB)	Root bridge, non-root bridge, access point, or workgroup bridge	Uplink
Non-Root Bridge (NRB)	Root bridge, non-root bridge, access point, or workgroup bridge	Uplink
Workgroup Bridge (WGB)	Root bridge, non-root bridge, or access point	Uplink
Access Point (AP)	Root bridge, non-root bridge, access point, or workgroup bridge	Uplink
Repeater	Root bridge, non-root bridge, or access point	Downlink

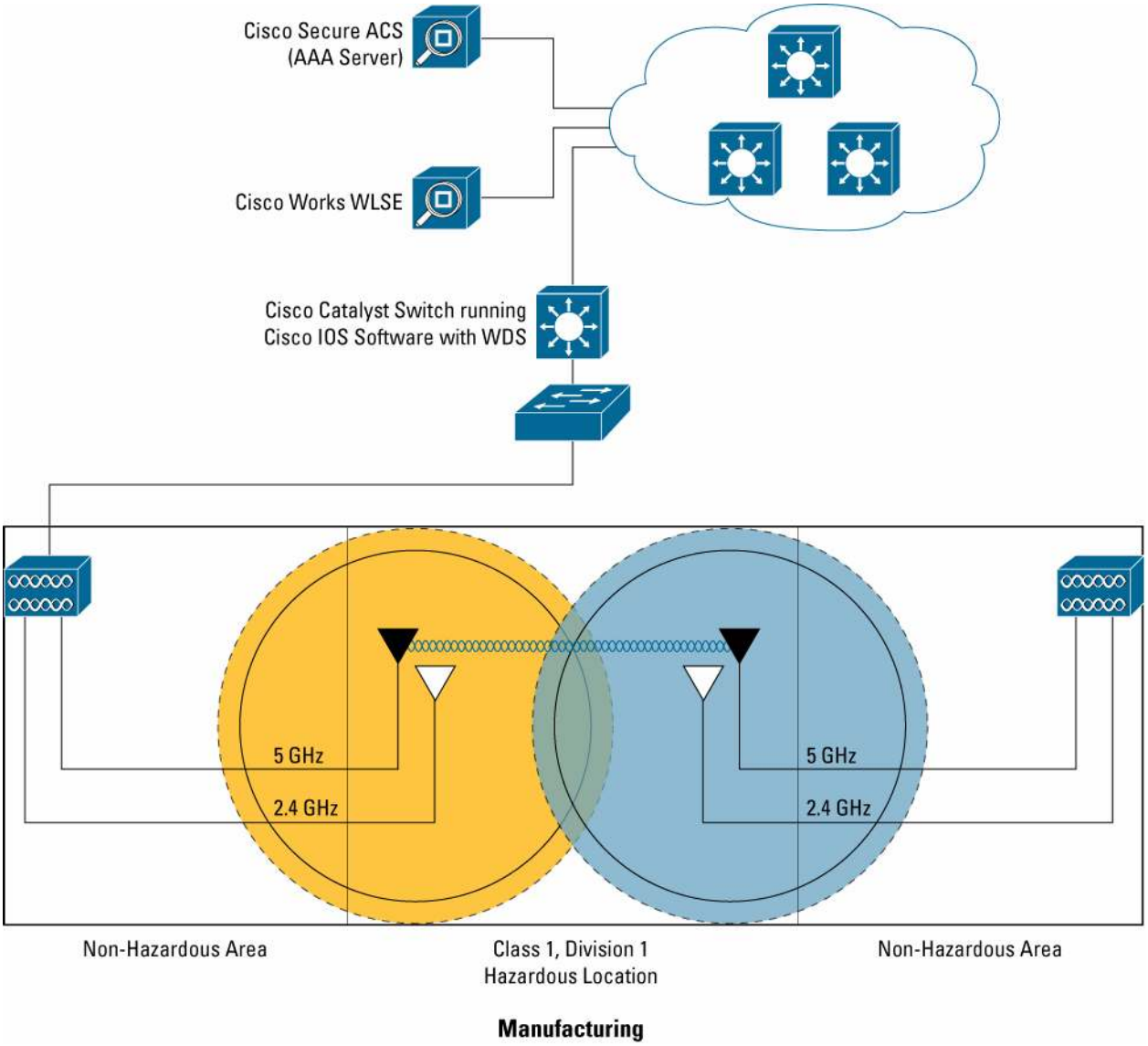
Note: Only one 802.11g radio and one 802.11a radio are supported in the Cisco Aironet 1240AG Series

APPLICATIONS

Designed for rugged environments and installations that require antenna versatility, the Cisco Aironet 1240AG Series features antenna connectors for extended range or coverage versatility and more flexible installation options. Manufacturing applications, for example, can place WLANs in hazardous locations and remotely place antennas in the hazardous locations while securing the Cisco Aironet 1240AG Series access points

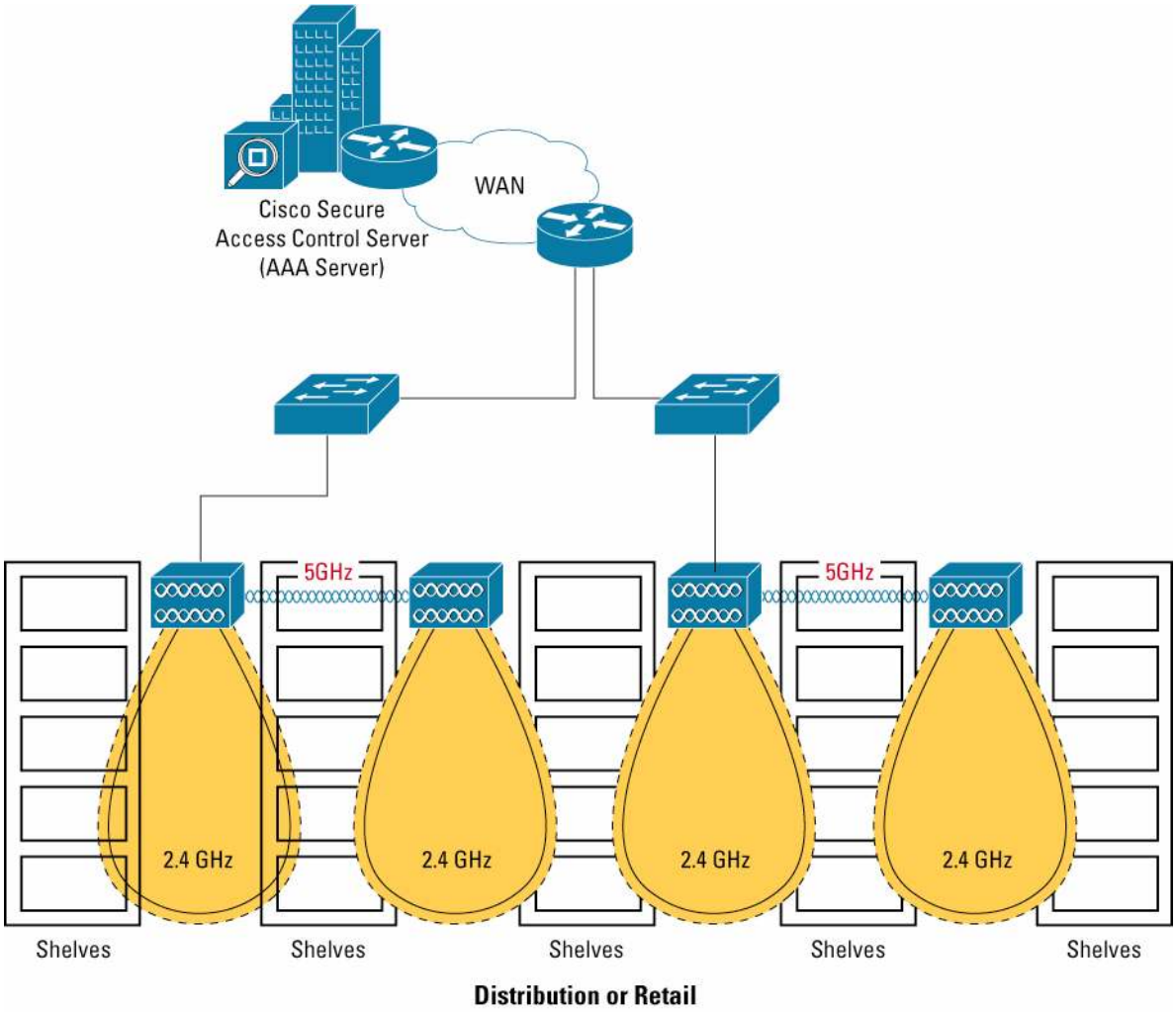
(Figure 1). The access point without wired connection will use the 5-GHz radio to wirelessly connect to the other access point for backhaul to the network.

Figure 1. Cisco Aironet 1240AG Series Access Points in Manufacturing Environments



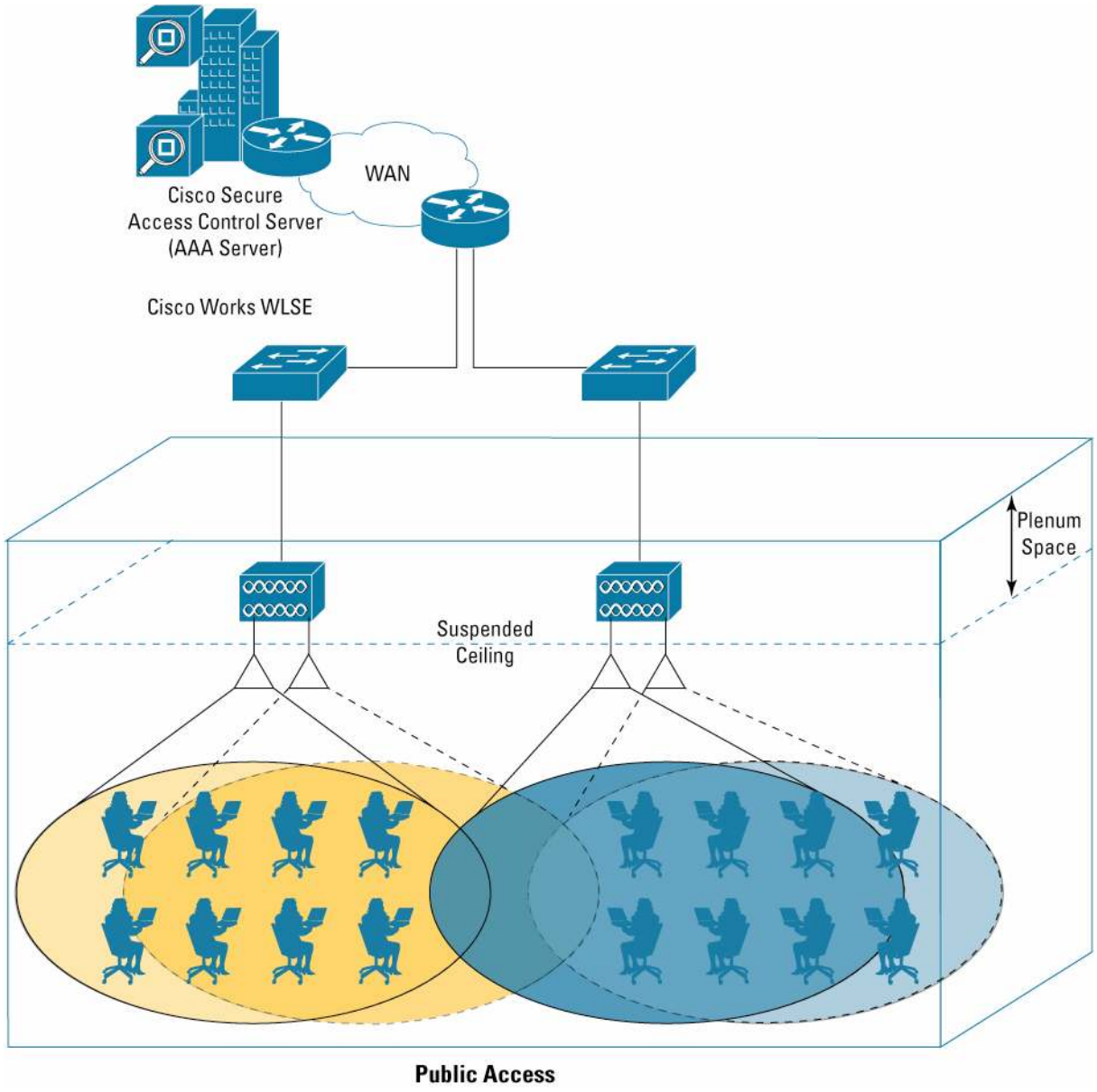
The metal housing and industrial-grade components of the Cisco Aironet 1240AG Series provide the ruggedness and extended operating temperature range required in factories, warehouses, “big box” retail environments, and similar facilities (Figure 2). High transmit power, receive sensitivity, and delay spread for both 2.4-GHz and 5-GHz radios provide the long range and large coverage area consistent with these applications. 5-GHz radios are used as wireless bridges between access points for backhaul to the network.

Figure 2. Cisco Aironet 1240AG Series Access Points in Retail Environments



Access points may be placed above ceilings or suspended ceilings, allowing antennas to be discreetly placed below drop ceilings. The UL 2043 rating of the Cisco Aironet 1240AG Series allows the access points to be placed above ceilings in plenum areas regulated by municipal fire codes. Public access applications such as large hotel buildings may also present a challenging RF environment; the antenna versatility of the Cisco Aironet 1240AG Series, together with industry-leading range and coverage, provides reliable performance for the most demanding environments (Figure 3).

Figure 3. Cisco Aironet 1240AG Series Access Points in Public Access Areas



FEATURES AND BENEFITS

Table 2 lists the features and benefits of Cisco Aironet 1240AG Series access points.

Table 2. Features and Benefits of Cisco Aironet 1240AG Series Access Points

Feature	Benefit
Cisco Unified Wireless Network	Extends the 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.
Dual RP-TNC Antenna Connectors for Both 2.4-GHz and 5-GHz Radios	Antenna connectors support a variety of Cisco 2.4-GHz and 5-GHz antennas, providing range and coverage versatility.
Link Role Flexibility	Can function as access point or bridge, whether set up as a single-band or dual-band platform, allowing each radio to be individually configured as an access point repeater, root bridge, non-root bridge, or workgroup bridge, enabling a broad array of applications.
Security Architecture Client Authentication and Encryption	Cisco Wireless Security Suite supporting WPA and WPA2, including: **Authentication** Provides 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-MSCHAP), 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). Provides MAC address and standard 802.11 authentication mechanisms. **Encryption** AES-CCMP encryption (WPA2) TKIP encryption enhancement: 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 and 128 bits.
Currently Supports 12 Non-Overlapping Channels, with Potentially up to 23 Channels	Lower potential interference with neighboring access points simplifies deployment. Fewer transmission errors deliver greater throughput.
Rugged Metal Housing	Metal case and rugged features support deployment in factories, warehouses, the outdoors (NEMA enclosure required), and other industrial environments.
UL 2043 Plenum Rating and Extended Operating Temperature	Supports installation in environmental airspaces such as areas above suspended ceilings.
Multipurpose and Lockable Mounting Bracket	Provides greater flexibility in installation options for site survey options, as well as theft deterrence.
Both Local and Inline Power Supported, including IEEE 802.1af PoE	Power can be supplied using the Ethernet cable, eliminating the need for costly electrical power line runs to remotely installed access points. The access points can be powered by IEEE 802.3af PoE, Cisco inline power switches, single port power injectors, or local power.

SUMMARY

Cisco Aironet 1240AG Series access points feature antenna connectors for greater range or coverage versatility using a broad selection of available Cisco antennas, as well as a rugged metal housing for operation over extended temperature ranges typical of industrial environments. Dual 802.11a and 802.11g radios deliver a combined capacity of 108 Mbps, meeting the performance requirements of the most demanding applications, while hardware-assisted AES encryption provides uncompromised support for interoperable IEEE 802.11i and WPA2 security. A key component of a unified wired and wireless network, the Cisco Aironet 1240AG Series supports Cisco IOS Software and can operate as an autonomous access point or a lightweight access point.

PRODUCT SPECIFICATIONS

Table 3 lists the product specifications for Cisco Aironet 1240AG Series access points.

Table 3. Product Specifications for Cisco Aironet 1240AG Series Access Points

Item	Specification
Part Number	AIR-AP1242AG-x-K9 AIR-LAP1242AG-x-K9 Regulatory domains: (x = regulatory domain) • A = FCC • C = China • E = ETSI • I = Israel • J = 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 5.35 GHz; 8 channels 5470 to 5725 MHz, 11 channels **Israel** 2.432 to 2.472 GHz, 9 channels 5.15 to 5.35 GHz; 8 channels **Japan** 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 **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 (not FCC)** 2.412 to 2.462 GHz; 11 channels 5.15 to 5.35, 5.725 to 5.825 GHz; 12 channels **Japan2** 2.412 to 2.472 GHz; 13 channels OFDM 2.412 to 2.484 GHz; 14 channels CCK 5.15 to 5.35 GHz; 8 channels **Singapore** 2.412 to 2.472 GHz; 13 channels 5.15 to 5.35, 5.725 to 5.825 GHz; 12 channels **Taiwan** 2.412 to 2.462 GHz; 11 channels 5.25 to 5.35, 5.725 to 5.825 GHz; 7 channels	
Non-Overlapping Channels	802.11a: 12 channels (FCC; other regulatory domains support different numbers of 802.11a channels) FCC currently supports 12 non-overlapping channels, with potentially up to 23 channels via a future firmware release depending on FCC rules.	802.11b/g: 3 channels

Item	Specification			
Receive Sensitivity **(Typical)**	**802.11a** 6 Mbps: –88 dBm 9 Mbps: –87 dBm 12 Mbps: –86 dBm 18 Mbps: –85 dBm 24 Mbps: –82 dBm 36 Mbps: –79 dBm 48 Mbps: –74 dBm 54 Mbps: –73 dBm		**802.11g** 1 Mbps: –96 dBm 2 Mbps: –93 dBm 5.5 Mbps: –91 dBm 6 Mbps: –91 dBm 9 Mbps: –85 dBm 11 Mbps: –88 dBm 12 Mbps: –83 dBm 18 Mbps: –81 dBm 24 Mbps: –78 dBm 36 Mbps: –74 dBm 48 Mbps: –73 dBm 54 Mbps: –73 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)	**802.11g** 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)	**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 **(Typical)**	**Indoor (Distance Across Open Office Environment):**		**Outdoor:**	
	802.11a: 85 ft (26 m) @ 54 Mbps 150 ft (46 m) @ 48 Mbps 210 ft (64 m) @ 36 Mbps 230 ft (70 m) @ 24 Mbps 260 ft (79 m) @ 18 Mbps 280 ft (85 m) @ 12 Mbps 310 ft (94 m) @ 9 Mbps 330 ft (100 m) @ 6 Mbps	**802.11g:** 105 ft (32 m) @ 54 Mbps 180 ft (55 m) @ 48 Mbps 260 ft (79 m) @ 36 Mbps 285 ft (87 m) @ 24 Mbps 330 ft (100 m) @ 18 Mbps 355 ft (108 m) @ 12 Mbps 365 ft (111 m) @ 11 Mbps 380 ft (116 m) @ 9 Mbps 410 ft (125 m) @ 6 Mbps 425 ft (130 m) @ 5.5 Mbps 445 ft (136 m) @ 2 Mbps 460 ft (140 m) @ 1 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 910 ft (277 m) @ 5.5 Mbps 940 ft (287 m) @ 2 Mbps 950 ft (290 m) @ 1 Mbps
	Measured with 2.2-dBi dipole antenna for 2.4 GHz, and 3.5-dBi omnidirectional antenna for 5 GHz.			

Item	Specification
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 • Other – IEEE 802.11g and IEEE 802.11a – FCC Bulletin OET-65C – RSS-102
Antenna Connectors	2.4 GHz • Dual RP-TNC connectors 5 GHz • Dual RP-TNC connectors
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 Wireless LAN Solution Engine (WLSE)
Status LEDs	• Status LED indicates operating state, association status, error/warning condition, boot sequence, and maintenance status • Ethernet LED indicates activity over the Ethernet, status

Item	Specification
	• Radio LED indicates activity over the radio, status
Dimensions (WxLxH)	6.6x8.5x1.1 in. (16.76x21.59x2.79 cm)
Weight	2.0 lbs
Environmental	• Nonoperating (storage) temperature: –40 to 185°F (–40 to 85°C) • Operating temperature: –4 to +131°F (–20 to +55°C) • Operating/noncondensing humidity 10 to 90 percent
System Memory	• 32 MB RAM • 16 MB flash
Input Power Requirements	• 100 to 240 VAC; 50 to 60Hz (power supply) • 36 to 57 VDC (device)
Powering Options	• Local power • 802.3 AF switches • Cisco higher-power switches capable of supporting 13W or greater • Cisco Aironet power Injectors (PWRINJ3 and PWRINJ-FIB) • Third-party PoE devices (must meet input power and power draw requirements)
Power Draw	12.95W maximum Note: 12.95W is the maximum power required at the powered device. If the access point is being used in a PoE configuration, the power drawn from the power sourcing equipment will be higher by some amount dependent on the length of the interconnecting cable. This additional power may be as high as 2.45W, bringing the total system power draw (access point + cabling) to 15.4W.
Warranty	One year
Wi-Fi Certification	

SYSTEM REQUIREMENTS

Table 4 lists the system requirements for Cisco Aironet 1242AG access points.

Table 4. System Requirements for Cisco Aironet 1242AG Access Points

Access Method	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.
PoE	Power sourcing equipment compliant with Cisco inline power or IEEE 802.3af, and providing at least 12.94W at 48 VDC

ORDERING INFORMATION

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

Table 5 lists the product part numbers for Cisco Aironet 1242AG access points.

Table 5. Product Part Numbers for Cisco Aironet 1242AG Access Points

Part Number	Description
AIR-AP1242AG-A-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; FCC configuration
AIR-AP1242AG-C-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; China configuration
AIR-AP1242AG-E-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; ETSI configuration
AIR-AP1242AG-I-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Israel configuration
AIR-AP1242AG-J-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Japan configuration
AIR-AP1242AG-K-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Korea configuration
AIR-AP1242AG-N-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; North America configuration (not FCC)
AIR-AP1242AG-P-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Japan2 configuration
AIR-AP1242AG-S-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Singapore configuration
AIR-AP1242AG-T-K9	802.11a/g Non-modular Cisco IOS access point; RP-TNC; Taiwan configuration
AIR-LAP1242AG-A-K9	802.11ag Non-modular LWAPP access point; RP-TNC; FCC configuration
AIR-LAP1242AG-C-K9	802.11ag Non-modular LWAPP access point; RP-TNC; China configuration
AIR-LAP1242AG-E-K9	802.11ag Non-modular LWAPP access point; RP-TNC; ETSI configuration
AIR-LAP1242AG-I-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Israel configuration
AIR-LAP1242AG-K-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Korea configuration
AIR-LAP1242AG-N-K9	802.11ag Non-modular LWAPP access point; RP-TNC; North America configuration (not FCC)
AIR-LAP1242AG-P-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Japan2 configuration
AIR-LAP1242AG-S-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Singapore configuration
AIR-LAP1242AG-T-K9	802.11ag Non-modular LWAPP access point; RP-TNC; Taiwan configuration

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FOR MORE INFORMATION

For more information about the Cisco Aironet 1240AG Series, visit http://www.cisco.com/go/securewireless or contact your local account representative.

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

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