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Cisco Aironet 1250 Series Access Point

The Cisco® Aironet® 1250 Series is the first enterprise-class access point to support the IEEE 802.11n draft 2.0 standard. 802.11n offers combined data rates of up to 600 Mbps to provide users with mobile access to high-bandwidth data, voice, and video applications regardless of their location. Through the use of multiple-input multiple-output (MIMO) technology, 802.11n also provides reliable and predictable WLAN coverage to improve the end-user experience for both existing 802.11a/b/g clients and new 802.11n clients.

The robust Cisco Aironet® 1250 Series Access Point (Figure 1) is a modular platform designed to be easily field-upgradeable to support a variety of wireless capabilities. This modularity allows businesses to deploy existing wireless technologies today with the confidence that their network investment will extend to support emerging and future wireless technologies.

The platform was specifically engineered to support the power, throughput, and mechanical requirements of higher-speed WLAN technologies, including 802.11n. Currently, the platform provides both 2.4-GHz and 5-GHz modules compliant with the IEEE 802.11n draft 2.0 standard. As technology evolves, the platform is flexible to support future radio modules designed to deliver intelligent RF services, further enhancing the performance and reliability of the wireless network. The Cisco Aironet 1250 Series is a rugged indoor access point designed for both office and challenging RF environments such as factories, warehouses, hospitals and large retail establishments that require the antenna versatility associated with connectorized antennas, a rugged metal enclosure, and a broad operating temperature range. With a Gigabit Ethernet (10/100/1000) interface, the Cisco Aironet 1250 Series delivers line-rate throughput for higher-speed WLAN technologies such as 802.11n. The access point offers the flexibility of inline as well as local power options.

Figure 1. The Cisco Aironet 1250 Series Access Point



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The Cisco Aironet 1250 Series is part of the Cisco Unified Wireless Network. The Cisco Unified Wireless Network is a comprehensive solution that unifies the wired and wireless network to deliver a common set of services and applications, providing users a single experience for any mode of network connectivity, and offering IT simplified operational management. The Cisco Aironet 1250 Series integrates seamlessly with the Cisco Unified Wireless Network. It extends the same industry-leading RF and network management capabilities as currently available across the breadth of Cisco wireless solutions.

The Cisco Aironet 1250 Series has two deployment options: controller-based (unified) or standalone (autonomous). Access points using the Lightweight Access Point Protocol (LWAPP) work in conjunction with Cisco wireless LAN controllers and optionally with the Cisco Wireless Control System (WCS). When configured with LWAPP, the Cisco Aironet 1250 Series simplifies operations by automatically detecting the best-available Cisco Wireless LAN Controller and downloading appropriate policies and configuration information with no manual intervention. When deployed as a standalone access point, the Cisco Aironet 1250 Series delivers a baseline set of features and can later be software-upgraded to take advantage of the full benefits of the Cisco Unified Wireless Network.

Investment Protection

The Cisco Aironet 1250 Series is a modular platform that is compliant with the 802.11n draft 2.0 standard and is the first Wi-Fi CERTIFIED 802.11n draft 2.0 access point. Furthermore, the platform has been tested extensively to ensure simple, secure interoperability with IEEE 802.11n draft 2.0 standard devices. The Cisco Aironet 1250 Series provides additional investment protection with its modular, field-upgradeable design and easy-to-install radio modules. Cisco is committed to standards, and the Cisco Aironet 1250 Series provides a path for compliance to the final IEEE 802.11n standard, once ratified. Businesses with an immediate need to enhance the performance of their WLANs can deploy the IEEE 802.11n draft 2.0 standard radio modules now with the confidence that their investments are protected. These modules can be easily field-upgraded should this be required by a shift in standards evolution.

Award-Winning Security

The Cisco Aironet 1250 Series supports industry-standard wireless security protocols, including 802.11i, Wi-Fi Protected Access (WPA), WPA2, and 802.1X, along with numerous Extensible Authentication Protocol (EAP) types. The access point delivers hardware-accelerated Advanced Encryption Standard (AES) encryption designed to meet the most stringent enterprise and government encryption requirements without compromising performance. As part of the Cisco Secure Wireless Solution, Cisco Aironet 1250 Series Access Points operating with LWAPP enable comprehensive wired and wireless intrusion prevention and detection. Each access point can scan the RF environment and report on suspicious or unauthorized wireless activity, effectively allowing businesses to create a comprehensive threat defense across 802.11a/b/g and now 802.11n. Additionally, the Cisco Aironet 1250 Series Access Point supports management frame protection for the encryption of 802.11 management frames by the wireless network infrastructure. This allows the network to completely remove the threat from man-in-the-middle and spoofing attacks. If an access point detects a malicious attack, an alarm will be generated and reported to the network administrator.

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RF Management

Cisco incorporates unique capabilities within its wireless solution that address the operational challenges of deploying business wireless networks. At the heart of these capabilities are intelligent Radio Resource Management (RRM) algorithms designed to consistently fine-tune WLAN parameters to best meet ongoing performance requirements. RRM allows the Cisco Unified Wireless Network to continuously analyze the existing RF environment and automatically adjust access point power and channel settings to help mitigate such things as co-channel interference and signal coverage problems. Unlike conventional 802.11a/b/g products, the Cisco Aironet 1250 Series uses multiple-input multiple-output (MIMO) technology to take advantage of the effects of RF multipath propagation in order to improve the reliability and predictability of the wireless signal. The Cisco Aironet 1250 Series supports the latest U.S. and European requirements for Dynamic Frequency Selection (DFS), ensuring the access point accurately detects radar events and makes full use of the available 5-GHz spectrum. In addition, the Cisco Aironet 1250 Series supports a Software Defined Radio (SDR) enabling it to be upgraded in the field to support new frequencies and power levels as they are approved for use. These RF management capabilities increase system capacity, perform automated self-healing to compensate for RF dead zones and access point failures, and provide a comprehensive way to manage one of your most precious assets, your corporate spectrum.

Deployment Scenarios

The Cisco Aironet 1250 Series with support for the 802.11n draft 2.0 standard is ideal for a variety of deployment scenarios across many industries. The improved throughput, reliability, and predictability of an 802.11n network meet the requirements that many companies have for moving towards a truly mobile enterprise. Cisco's next-generation wireless technology is especially beneficial for environments with the following characteristics:

- Challenging RF environments (for example, manufacturing plants, warehouses, clinical environments)
- Bandwidth-intensive applications (for example, digital imaging, file transfers, network backup)
- Real-time, latency-sensitive applications including voice and video
- Environments that need to support existing 802.11a/b/g and new 802.11n wireless clients

Designed for critical business environments and installations that require antenna versatility, the Cisco Aironet 1250 Series features antenna connectors for improved coverage and aesthetically pleasing installation options. The UL2043 rating of the Cisco Aironet 1250 Series allows the access points to be placed above the ceiling tile in plenum areas regulated by municipal fire codes or suspended from drop ceilings.

Features and Benefits

Table 1 lists the features and benefits of Cisco Aironet 1250 Series Access Points.

Table 1. Features and Benefits of Cisco Aironet 1250 Series Access Points

Feature	Benefit
Data Rates of up to 300 Mbps per Radio, 600 Mbps per Access Point	The 802.11n draft 2.0 standard provides capabilities such as 40-MHz channels, packet aggregation, and block acknowledgement which significantly increase the amount of bandwidth available for user applications. With support for physical layer (PHY) data rates up to 300 Mbps per radio, this represents a greater than five-fold increase over the performance of 802.11a/g networks.

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Feature	Benefit
Enhanced Reliability and Predictability	MIMO technology, with its multiple antennas and advanced signal processing, improves coverage, reduces dead spots, and augments overall client throughput. MIMO also enables higher data rates by transmitting multiple spatial streams across the unique paths formed between devices. Enhanced reliability and throughput provides a better overall end-user experience for users relying on the wireless network for business functions.
Powerful Platform	Engineered to support the power, thermal dissipation, memory, CPU, and Gigabit Ethernet transmission requirements of 802.11n and future wireless technologies.
Modular Field-Upgradeable Design with Easy-to-Install Modules	Investment protection through field-upgradeable radios. As technology evolves, radio modules can be replaced in the field with new radio modules, preserving the investment in the access point chassis and avoiding the expense of installing a new access point.
2.4-GHz and 5-GHz Radio Modules	Dual radios allow simultaneous operation of 2.4-GHz and 5-GHz wireless networks, offering the greatest number of available channels and therefore the greatest system capacity and scalability.
Both Inline and Local Powering Options	To realize optimal performance, the access point supports both inline power delivered over a single Ethernet cable and local power options.
Extensive Interoperability	The Aironet 1250 Series Access Point has undergone extensive interoperability testing to ensure simple, secure interoperability with other 802.11 devices. It is the first Wi-Fi CERTIFIED 802.11n draft 2.0 access point, has earned the Intel Connect with Centrino certification, and has undergone extensive testing in 802.11n plug fests.
Backward Compatibility with Existing 802.11a/b/g Clients	Protects existing 802.11a/b/g investments and provides an easy migration to 802.11n.
Integrated RF Management Capabilities	Integrated RF management capabilities address the operational challenges of deploying business wireless networks. These capabilities include Radio Resource Management, MIMO, superior DFS support, SDR certification, and spectrum intelligence integration into WCS. Integrated RF management capabilities increase system capacity, improve system performance, perform automated self-healing to compensate for RF dead zones and access point failures, and provide a comprehensive way to manage one of your most precious assets, your corporate spectrum.
Supports up to 24 non-Overlapping Channels[1]	Provides lower potential interference with neighboring access points, which simplifies deployment and reduces co-channel interference for fewer transmission errors and greater throughput. More channels also means that more of the high- throughput, 40-MHz channels introduced in the 802.11n draft 2.0 standard are supported.
External 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.
Cisco Unified IDS/IPS	An integral part of the Cisco Secure Wireless Solution, the industry's first integrated wired and wireless security solution, the access point can monitor the RF environment to detect and locate unauthorized wireless activity, including rogue access points and RF denial of service attacks.
Management Frame Protection	Management frame protection encrypts the management header of the 802.11 packet and enables the access point to detect spoofed frames from malicious users impersonating infrastructure access points. If an access point detects a malicious attack, an alert will be generated and reported back to the network administrator.
Rugged Metal Housing	The access point is built with a metal case and sturdy features for deployment in rugged environments such as factories, warehouses, and other industrial environments.
UL 2043 Plenum Rating and Extended Operating Temperature	Supports installation in environmental air spaces, such as areas above suspended ceilings.
Multipurpose and Lockable Mounting Bracket	Provides flexibility during site survey and traditional installation as well as helping to deter theft.

[1] Supports 3 2.4-GHz and 21 5-GHz channels in the FCC regulatory domain; channel support varies by country. See Table 2 for frequency band and operating channel support in your particular regulatory domain.

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Summary

The Cisco Aironet 1250 Series Access Point is the first enterprise-class access point to support the IEEE 802.11n draft 2.0 standard. With its modular design, the Cisco Aironet 1250 Series Access Point supports current and future wireless technologies, ensuring investment protection. With both 2.4-GHz and 5-GHz 802.11n draft 2.0 standard radio modules, the access point delivers total data rates of up to 600 Mbps, meeting the performance requirements of the most demanding applications. Integrated MIMO technology provides more reliable coverage and greater throughput for both existing 802.11a/b/g clients and new 802.11n clients in even the most challenging wireless environments. Users can now rely on wireless networks to give them a similar experience to wired networks, providing them with mobile access to high-bandwidth data, voice, and video applications regardless of their location.

Product Specifications

Table 2 lists the product specifications for Cisco Aironet 1250 Series Access Points.

Table 2. Product Specifications for Cisco Aironet 1250 Series Access Points

Item	Specification
Part Number	• AIR-AP1252AG-x-K9 802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC • AIR-AP1252G-x-K9 802.11g/n-draft 2.0 2.4-GHz Modular Autonomous AP; 3 RP-TNC • AIR-LAP1252AG-x-K9 802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC • AIR-LAP1252G-x-K9 802.11g/n-draft 2.0 2.4-GHz Modular Unified AP; 3 RP-TNC **Regulatory domains:** (x = regulatory domain) • A = FCC • C = China • E = ETSI • I = Israel • K = Korea • N =Non-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 12.4(10b)JA or later (Autonomous Mode). • Cisco IOS Software Release 12.4(10b)JX or later (Unified Mode). • Cisco Unified Wireless Network Software Release 4.2 or later.
Draft 802.11n Version 2.0 (and Related) Capabilities	• 2x3 MIMO with two spatial streams • Maximal Ratio Combining (MRC) • Legacy beamforming (hardware supports this capability; not yet enabled in software) • 20-and 40-MHz channels • PHY data rates up to 300 Mbps • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) • 802.11 DFS (Bin 5) • Cyclic Shift Diversity (CSD) support
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

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<table>
<tr><th>Item</th><th>Specification</th></tr>
<tr><td></td><td>
802.11n data rates:
<table>
<tr><th rowspan="2">MCS Index[2]</th><th colspan="2">GI[3] = 800ns</th><th colspan="2">GI = 400ns</th></tr>
<tr><th>20-MHz Rate (Mbps)</th><th>40-MHz Rate (Mbps)</th><th>20-MHz Rate (Mbps)</th><th>40-MHz Rate (Mbps)</th></tr>
<tr><td>0</td><td>6.5</td><td>13.5</td><td>7.2</td><td>15</td></tr>
<tr><td>1</td><td>13</td><td>27</td><td>14.4</td><td>30</td></tr>
<tr><td>2</td><td>19.5</td><td>40.5</td><td>21.7</td><td>45</td></tr>
<tr><td>3</td><td>26</td><td>54</td><td>28.9</td><td>60</td></tr>
<tr><td>4</td><td>39</td><td>81</td><td>43.3</td><td>90</td></tr>
<tr><td>5</td><td>52</td><td>108</td><td>57.8</td><td>120</td></tr>
<tr><td>6</td><td>58.5</td><td>121.5</td><td>65</td><td>135</td></tr>
<tr><td>7</td><td>65</td><td>135</td><td>72.2</td><td>157.5</td></tr>
<tr><td>8</td><td>13</td><td>27</td><td>14.4</td><td>30</td></tr>
<tr><td>9</td><td>26</td><td>54</td><td>28.9</td><td>60</td></tr>
<tr><td>10</td><td>39</td><td>81</td><td>43.3</td><td>90</td></tr>
<tr><td>11</td><td>52</td><td>108</td><td>57.8</td><td>120</td></tr>
<tr><td>12</td><td>78</td><td>162</td><td>86.7</td><td>180</td></tr>
<tr><td>13</td><td>104</td><td>216</td><td>115.6</td><td>240</td></tr>
<tr><td>14</td><td>117</td><td>243</td><td>130</td><td>270</td></tr>
<tr><td>15</td><td>130</td><td>270</td><td>144.4</td><td>300</td></tr>
</table>
</td></tr>
<tr><td>Frequency Band and 20-MHz Operating Channels</td><td>
-A (Americas (FCC)):

2.412 to 2.462 GHz; 11 channels
5.180 to 5.320 GHz; 8 channels
5.500 to 5.700 GHz, 8 channels (excludes 5.600 to 5.640 GHz)
5.745 to 5.825 GHz; 5 channels

-C (China):

2.412 to 2.472 GHz; 13 channels
5.745 to 5.825 GHz; 5 channels

-E (ETSI):

2.412 to 2.472 GHz; 13 channels
5.180 to 5.320 GHz; 8 channels
5.500 to 5.700 GHz, 11 channels

-I (Israel):

2.412 to 2.472 GHz, 13 channels
5.180 to 5.320 GHz; 8 channels

-K (Korea):

2.412 to 2.472 GHz; 13 channels
5.180 to 5.320 GHz; 8 channels
5.500 to 5.620 GHz, 7 channels
5.745 to 5.805 GHz, 4 channels

</td><td>
-N (Non-FCC):

2.412 to 2.462 GHz; 11 channels
5.180 to 5.320 GHz; 8 channels
5.745 to 5.825 GHz; 5 channels

-P (Japan2):

2.412 to 2.472 GHz; 13 channels
5.180 to 5.320 GHz; 8 channels

-S (Singapore):

2.412 to 2.472 GHz; 13 channels
5.180 to 5.320 GHz; 8 channels
5.745 to 5.825 GHz; 5 channels

-T (Taiwan):

2.412 to 2.462 GHz; 11 channels
5.280 to 5.320 GHz; 3 channels
5.500 to 5.700 GHz, 11 channels
5.745 to 5.825 GHz; 5 channels

</td></tr>
<tr><td colspan="2">Note: This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.</td></tr>
<tr><td>Maximum Number of Non-Overlapping Channels</td><td>
5 GHz

802.11a:

20 MHz: 21

802.11n:

20 MHz: 21
40 MHz: 9

</td><td>
2.4 GHz

802.11b/g:

20 MHz: 3

802.11n:

20 MHz: 3
40 MHz: 1

</td></tr>
<tr><td colspan="2">Note: This varies by regulatory domain—refer to the product documentation for specific details for each regulatory domain.</td></tr>
</table>

[2] MCS Index: The **M**odulation and **C**oding **S**cheme (MCS) index determines the number of spatial streams, the modulation, the coding rate**,** and data rate values.
[3] GI: A **G**uard **I**nterval **(GI)** between symbols helps receivers overcome the effects of multipath delays.

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<table>
<tr><th>Item</th><th colspan="4">Specification</th></tr>
<tr><td>Receive Sensitivity</td><td colspan="2">802.11a
–86 dBm @ 6 Mb/s
–85 dBm @ 9 Mb/s
–82 dBm @ 12 Mb/s
–81 dBm @ 18 Mb/s
–80 dBm @ 24 Mb/s
–79 dBm @ 36 Mb/s
–74 dBm @ 48 Mb/s
–73 dBm @ 54 Mb/s</td><td>802.11b
–90 dBm @ 1 Mb/s
–89 dBm @ 2 Mb/s
–87 dBm @ 5.5 Mb/s
–85 dBm @ 11 Mb/s</td><td>802.11g
–87 dBm @ 6 Mb/s
–86 dBm @ 9 Mb/s
–83 dBm @ 12 Mb/s
–82 dBm @ 18 Mb/s
–81 dBm @ 24 Mb/s
–80 dBm @ 36 Mb/s
–75 dBm @ 48 Mb/s
–74 dBm @ 54 Mb/s</td></tr>
<tr><td></td><td>5-GHz
802.11n (HT20)
–85 dBm @ MC0
–84 dBm @ MC1
–83 dBm @ MC2
–82 dBm @ MC3
–79 dBm @ MC4
–74 dBm @ MC5
–73 dBm @ MC6
–72 dBm @ MC7
–85 dBm @ MC8
–84 dBm @ MC9
–83 dBm @ MC10
–82 dBm @ MC11
–79 dBm @ MC12
–74 dBm @ MC13
–73 dBm @ MC14
–72 dBm @ MC15</td><td>5-GHz
802.11n (HT40)
–85 dBm @ MC0
–84 dBm @ MC1
–83 dBm @ MC2
–79 dBm @ MC3
–76 dBm @ MC4
–71 dBm @ MC5
–70 dBm @ MC6
–69 dBm @ MC7
–85 dBm @ MC8
–84 dBm @ MC9
–83 dBm @ MC10
–79 dBm @ MC11
–76 dBm @ MC12
–71 dBm @ MC13
–70 dBm @ MC14
–69 dBm @ MC15</td><td>2.4-GHz
802.11n (HT20)
–86 dBm @ MC0
–85 dBm @ MC1
–84 dBm @ MC2
–83 dBm @ MC3
–80 dBm @ MC4
–75 dBm @ MC5
–74 dBm @ MC6
–73 dBm @ MC7
–86 dBm @ MC8
–85 dBm @ MC9
–84 dBm @ MC10
–83 dBm @ MC11
–80 dBm @ MC12
–75 dBm @ MC13
–74 dBm @ MC14
–73 dBm @ MC15</td><td>2.4-GHz
802.11n (HT40)
–86 dBm @ MC0
–85 dBm @ MC1
–84 dBm @ MC2
–80 dBm @ MC3
–77 dBm @ MC4
–72 dBm @ MC5
–71 dBm @ MC6
–70 dBm @ MC7
–86 dBm @ MC8
–85 dBm @ MC9
–84 dBm @ MC10
–80 dBm @ MC11
–77 dBm @ MC12
–72 dBm @ MC13
–71 dBm @ MC14
–70 dBm @ MC15</td></tr>
<tr><td>Maximum Transmit Power</td><td colspan="2">2.4GHz
802.11b
23 dBm with 1 antenna
802.11g
20 dBm with 1 antenna
802.11n (HT20)
17 dBm with 1 antenna
20 dBm with 2 antennas
802.11n (HT40)
17 dBm with 1 antenna
20 dBm with 2 antennas</td><td colspan="2">5GHz
802.11a
17 dBm with 1 antenna
802.11n non-HT duplicate (802.11a duplicate) mode
17 dBm with 1 antenna
802.11n (HT20)
17 dBm with 1 antenna
20 dBm with 2 antennas
802.11n (HT40)
17 dBm with 1 antenna
20 dBm with 2 antennas</td></tr>
<tr><td colspan="5">Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.</td></tr>
<tr><td>Available Transmit Power Settings</td><td colspan="2">2.4GHz
23 dBm (200 mW)
20 dBm (100 mW)
17 dBm (50 mW)
14 dBm (25 mW)
11 dBm (12.5 mW)
8 dBm (6.25 mW)
5 dBm (3.13 mW)
2 dBm (1.56 mW)
–1 dBm (0.78 mW)</td><td colspan="2">5GHz
20 dBm (100 mW)
17 dBm (50 mW)
14 dBm (25 mW)
11 dBm (12.5 mW)
8 dBm (6.25 mW)
5 dBm (3.13 mW)
2 dBm (1.56 mW)
–1 dBm (0.78 mW)</td></tr>
<tr><td colspan="5">Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.</td></tr>
<tr><td>Antenna Connectors</td><td colspan="4">2.4-GHz: 3 RP-TNC connectors
5-GHz: 3 RP-TNC connectors</td></tr>
<tr><td>Interfaces</td><td colspan="4">10/100/1000BASE-T autosensing (RJ-45)
Management console port (RJ45)</td></tr>
</table>

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Item	Specification
Indicators	• Status LED indicates operating state, association status, error/warning condition, boot sequence, and maintenance status. • Ethernet LED indicates activity over the Ethernet, status. • Radio LED indicates activity over the radio, status.
Dimensions (W x L x H)	• AP (without mounting bracket): 8.12 x 9.52 x 2.35 in. (20.62 x 24.18 x 5.97 cm) • AP (with mounting bracket): 8.12 x 9.52 x 2.75 in. (20.62 x 24.18 x 6.99 cm)
Weight	• AP with 2 radios installed: 5.1 lbs (2.31 kg) • AP chassis: 2.1 lbs (0.95 kg) • 2.4 GHz radio: 1.5 lbs (0.68 kg) • 5 GHz radio: 1.5 lbs (0.68 kg)
Environmental	**Non-operating (storage) temperature:** –40 to 185°F (–40 to 85°C) **Operating temperature:** –4 to +131°F (–20 to +55°C) **Operating humidity:** 10 to 90 percent (non-condensing)
System Memory	• 64 MB DRAM • 32 MB flash
Input Power Requirements	• AP1250: 36 to 57 VDC • Power Supply and Power Injector: 100 to 240 VAC; 50 to 60 Hz
Powering Options	• Cisco Catalyst switch port capable of sourcing 18W or greater • Cisco AP1250 Power Injector (AIR-PWRINJ4) • Cisco AP1250 Local Power Supply (AIR-PWR-SPLY1) • 802.3af switch (AP1250 with single radio only)
Power Draw	• AP1250 with two RM1252 radio modules installed: 16.5 W • AP1250 with one RM1252 radio module installed: 12.95 W **Note:** For an AP1250 with two radios, 16.5 W is the maximum power required at the access point (powered device). When deployed using PoE, 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 1.5W, bringing the total system power draw (access point + cabling) to 18 W. A similar consideration applies for an AP1250 with one radio.
Warranty	90 days
Compliance	**Standards** • **Safety:** ◦ UL 60950-1 ◦ CAN/CSA-C22.2 No. 60950-1 ◦ UL 2043 ◦ IEC 60950-1 ◦ EN 60950-1 • **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) ◦ EN 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC • **Security:** ◦ 802.11i, WPA2, WPA ◦ 802.1X ◦ AES, TKIP • **Other:** ◦ FCC Bulletin OET-65C ◦ RSS-102

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Item	Specification
Wireless Network Standards and Wi-Fi Certification	 **IEEE Standard** • IEEE 802.11a • IEEE 802.11b • IEEE 802.11g • IEEE 802.11n draft 2.0 • IEEE 802.11h • IEEE 802.11d **Security:** • WPA™: Enterprise, Personal • WPA2™: Enterprise, Personal **EAP Type(s):** • EAP-Transport Layer Security (TLS) • EAP-Tunneled TLS(TTLS)/Microsoft Challenge Handshake Authentication Protocol Version 2 (MSCHAPv2) • Protected EAP (PEAP)v0/EAP-MSCHAPv2 • PEAPv1/EAP-Generic Token Card (GTC) • EAP-SIM **Multimedia:** • WMM™

Power Options

The Cisco Aironet 1250 Series Access Point may be powered by a Cisco Ethernet switch, a power injector, or a local power supply.

Cisco Ethernet Switch

The number of radio modules determines which Cisco Ethernet switch can power the Aironet 1250 Series access point. There are two scenarios:

Aironet 1250 Series Access Point with one RM1252 radio module installed

The Aironet 1250 Series Access Point with one RM1252 radio module installed requires 12.95W, which is within the 802.3af Power over Ethernet standard. Any Cisco switch supporting 802.3af may be used to power the Aironet 1250 Series Access Point with one RM1252 radio module installed.

Aironet 1250 Series Access Point with two RM1252 radio modules installed

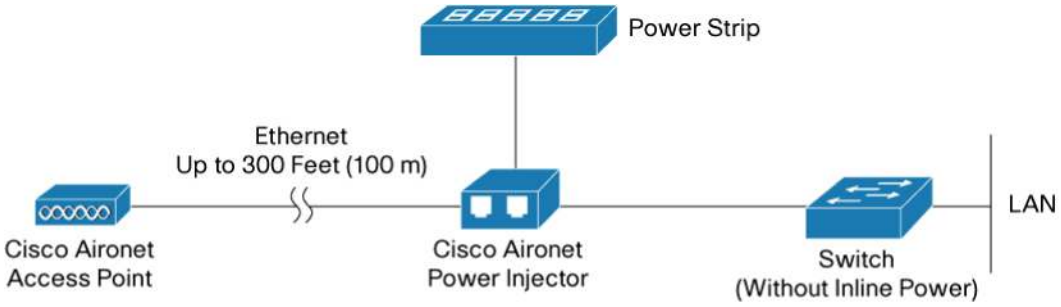
Beginning late 2007, Cisco will enable auto-negotiating, single-port power for the Aironet 1250 Access Point on leading switches across the Catalyst portfolio. This unique, integrated solution provides the full power requirements for dual radio modules and eliminates the need to run an additional cabling drop or insert a separate power injector.

Power Injector

The power injector for Cisco Aironet 1250 Series Access Points (AIR-PWRINJ4) contains an integrated power supply that converts 100 to 240 volts AC into 56 volts DC and then injects this power onto the Category 5 Ethernet cable to power the access point (Figure 2).

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Figure 2. Cisco Aironet Power Injector: Providing Inline Power to Cisco Aironet Access Points



The power injector provides uses the unused wire pairs of a Category 5 Ethernet cable, supplying enough power to run an Aironet 1250 Series Access Point over a 100-meter cable run.

As shown in Table 3, a Cisco Aironet Power Injector can be configured to order or can be ordered as a separate item. If the power injector is configured with the access point order, it will ship inside the packaging box of the access point. If the power injector is ordered as a spare, it will ship in a separate box.

Table 3. Cisco Aironet 1250 Series Power Injector Product Numbers

Product Number	Product Description
AIR-PWRINJ4	Cisco Aironet Power Injector for the 1250 Series
AIR-PWRINJ4=	Cisco Aironet Power Injector for the 1250 Series (Spare)

Power Injector Product Specifications

Table 4 shows the product specifications for the Cisco Aironet Power Injector for the Aironet 1250 Series Access Point.

Table 4. Specifications of Cisco Aironet Power Injector for the Cisco Aironet 1250 Series

Description	Cisco Aironet Power Injector for Cisco Aironet 1250 Series
Part Number	AIR-PWRINJ4
LAN Connection	• Max Category 5 cable length: 100m from switch to device • Type: RJ-45 • Label: 10/100/1000 BASE-TX To SWITCH
Device Connection	• Max Cat 5 cable length: 100m from switch to device • Type: RJ-45 • Label: 10/100/1000BASE-TX To AP
LEDs	AC Power Status, Access Point Power Status and Fault
Electrical	• Integrated power supply • Input voltage: 100–240 VAC, 50/60 Hz • Input current: 0.95A • Output voltage: 56 VDC • Output current: 0.550A
Dimensions	6.54 x 3.15 x 1.73 in. (16.6 x 8 x 4.4 cm)
Weight	13.8 oz (390 grams)
Environmental	• Non-operating temperature: –40 to +176°F (–40 to +85°C) • Operating temperature: –4 to +131°F (–20 to +55°C)
Compliance	**Standards** • **Safety:** ◦ UL 60950-1 ◦ CAN/CSA-C22.2 No. 60950-1

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Description	Cisco Aironet Power Injector for Cisco Aironet 1250 Series
	◦ IEC 60950-1 ◦ EN 60950-1

Power Supply

The Cisco Aironet 1250 Power Supply is a 100- to 240-VAC power supply that provides 56 VDC to locally power the access point.

As shown in Table 5, a Cisco Aironet power supply can be configured to order or can be ordered as a separate item. If the power supply is configured with the access point order, it will ship inside the packaging box of the access point. If the power injector is ordered as a spare, it will ship in a separate box.

Table 5. Cisco Aironet 1250 Power Supply Product Numbers

Product Number	Product Description
AIR-PWR-SPLY1	Power Supply for 1250 Series
AIR-PWR-SPLY=	Power Supply for 1250 Series (Spare)

Ordering Information

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

Table 6 lists the product part numbers for Cisco Aironet 1250 Access Points.

Table 6. Product Part Numbers for Cisco Aironet 1250 Access Points

Part Number	Description
AIR-AP1252AG-A-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; FCC configuration
AIR-AP1252AG-C-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; China configuration
AIR-AP1252AG-E-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; ETSI configuration
AIR-AP1252AG-I-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; Israel configuration
AIR-AP1252AG-K-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; Korea configuration
AIR-AP1252AG-N-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; Non-FCC configuration
AIR-AP1252AG-P-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; Japan2 configuration
AIR-AP1252AG-S-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; Singapore config
AIR-AP1252AG-T-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Autonomous AP; 6 RP-TNC; Taiwan configuration
AIR-AP1252G-A-K9	802.11g/n-draft 2.0 2.4-GHz Modular Autonomous AP; 3 RP-TNC; FCC configuration
AIR-AP1252G-E-K9	802.11g/n-draft 2.0 2.4-GHz Modular Autonomous AP; 3 RP-TNC; ETSI configuration
AIR-AP1252G-P-K9	802.11g/n-draft 2.0 2.4-GHz Modular Autonomous AP; 3 RP-TNC; Japan2 configuration
AIR-LAP1252AG-A-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC FCC configuration
AIR-LAP1252AG-C-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC China configuration
AIR-LAP1252AG-E-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC ETSI configuration
AIR-LAP1252AG-I-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC Israel configuration
AIR-LAP1252AG-K-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC Korea configuration
AIR-LAP1252AG-N-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC Non-FCC configuration
AIR-LAP1252AG-P-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC Japan2 configuration
AIR-LAP1252AG-S-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC Singapore configuration
AIR-LAP1252AG-T-K9	802.11a/g/n-draft 2.0 2.4/5-GHz Modular Unified AP; 6 RP-TNC Taiwan configuration
AIR-LAP1252G-A-K9	802.11g/n-draft 2.0 2.4-GHz Modular Unified AP; 3 RP-TNC; FCC configuration

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Part Number	Description
AIR-LAP1252GN-E-K9	802.11g/n-draft 2.0 2.4-GHz Modular Unified AP; 3 RP-TNC; ETSI configuration
AIR-LAP1252GN-P-K9	802.11g/n-draft 2.0 2.4-GHz Modular Unified AP; 3 RP-TNC; Japan2 configuration
AIR-RM1252A-A-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; FCC configuration; spare
AIR-RM1252A-C-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; China configuration; spare
AIR-RM1252A-E-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; ETSI configuration; spare
AIR-RM1252A-I-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; Israel configuration; spare
AIR-RM1252A-K-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; Korea configuration; spare
AIR-RM1252A-N-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; Non-FCC configuration; spare
AIR-RM1252A-P-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; Japan2 configuration; spare
AIR-RM1252A-S-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; Singapore configuration; spare
AIR-RM1252A-T-K9=	802.11a/n-draft 2.0 5-GHz Radio Module; 3 RP-TNC; Taiwan configuration; spare
AIR-RM1252G-A-K9=	802.11g/n-draft 2.0 2.4-GHz Radio Module; 3 RP-TNC; FCC configuration; spare
AIR-RM1252G-E-K9=	802.11g/n-draft 2.0 2.4-GHz Radio Module; 3 RP-TNC; ETSI configuration; spare
AIR-RM1252G-P-K9=	802.11g/n-draft 2.0 2.4-GHz Radio Module; 3 RP-TNC; Japan2 configuration; spare
AIR-AP1250=	Modular Autonomous AP Platform (no radio modules); Spare
AIR-LAP1250=	Modular Unified AP Platform (no radio modules); Spare
AIR-AP1250MNTGKIT=	1250 Series Ceiling, Wall Mount Bracket kit; Spare

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For More Information

For more information about the Cisco Aironet 1250 Series, visit http://www.cisco.com/go/wireless or contact your local account representative.

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