

Cisco Aironet 3600P Series Access Point



Cisco Aironet 3600p Access Point

- Rugged metal housing and extended operating temperature
- Ideal for factories, warehouses, and other indoor industrial environments
- Versatile RF coverage with external antennas
- UL 2043 plenum-rated for above-ceiling installation options or suspended from drop ceilings
- Classify over 20 different types of interference, including non-Wi-Fi interference within 5 to 30 seconds
- Automatic remedial action and less manual intervention

Troubleshooting Forensics for Faster Interference Resolution and Proactive Action

- Historic interference information for back-in-time analysis and faster problem solving
- 24/7 monitoring with remote access reduces travel and speeds resolution
- Cisco® Spectrum Expert Connect provides real-time, raw spectrum data to help with difficult-to-diagnose interference problems
- The Air Quality Index in Cisco CleanAir™ technology provides a snapshot of network performance and the impact of interference

Robust Security and Policy Enforcement

- Industry's first access point with non-Wi-Fi detection for off-channel rogues
- Supports rogue access point detection and detection of denial-of-service attacks
- Management frame protection detects malicious users and alerts network administrators
- Set policies to prohibit devices that interfere with the Wi-Fi network or jeopardize network security

Secure Interoperability

- Controller-based deployment only



Delivering up to three times more coverage versus competition for tablets, smartphones, and high-performance laptops, the industry's only 4x4 MIMO, three-spatial-stream access point delivers mission-critical reliability. Current solutions struggle to scale to meet demands on the wireless networks from the influx of diverse mobile devices and mobile applications. The new Cisco Aironet® 3600 Series sustains reliable connections at higher speeds further from the access point than competing solutions, resulting in up to three times more availability of 450 Mbps rates, and optimizing the performance of more mobile devices. The Cisco Aironet 3600p Access Point has been specifically approved for outdoor transmission, bringing its enhanced radio performance to stadiums and other outdoor venues. FCC regulations require the Cisco Aironet 3500p Access Point to be installed by a certified professional.

Cisco Aironet 3600 Series includes Cisco ClientLink 2.0 to boost performance and range for clients and includes Cisco CleanAir spectrum intelligence for a self-healing, self-optimizing network.

RF Excellence

Building on the Cisco Aironet heritage of RF excellence, the 3600 Series is a flagship access point, delivering industry-leading performance for secure and reliable [wireless](#) connections.

Enterprise-class silicon and optimized radios deliver a robust mobility experience which includes:

- 802.11n with 4x4 multiple-input multiple-output (MIMO) technology with three spatial streams, which sustains 450-Mbps rates over a greater range for more capacity and reliability than competing access points.
- Cisco ClientLink 2.0 technology to improve downlink performance to all mobile devices including one-, two-, and three-spatial-stream devices on 802.11n while improving battery life on mobile devices such as smartphones and tablets.
- Cisco CleanAir™ technology, which provides proactive, high-speed spectrum intelligence to combat performance problems due to wireless interference.
- MIMO equalization optimized uplink performance and reliability by minimizing the impact of signal fade.

All of these features help ensure the best possible end-user experience on the wireless network.

Cisco also offers the industry's broadest selection of [802.11n antennas](#) delivering optimal coverage for a variety of deployment scenarios.

Scalability

The Cisco Aironet 3600 Series is a component of the Cisco Unified Wireless Network, which can scale to up to 18,000 access points with full Layer 3 mobility across central or remote locations on the enterprise campus, in branch offices, and at remote sites. The Cisco Unified Wireless Network is the industry's most flexible, resilient, and scalable architecture, delivering secure access to mobility services and applications and offering the lowest total cost of ownership and investment protection by integrating seamlessly with the existing wired network.

Product Specifications

Table 1 lists the product specifications for Cisco Aironet 3600 Series Access Points.

Table 1. Product Specifications for Cisco Aironet 3600 Series Access Points

Item	Specification
Part Numbers	<p>The Cisco Aironet 3600p Access Point: Indoor, challenging environments, with external antennas</p> <ul style="list-style-type: none">• AIR-CAP3602P-A-K9 - Dual-band controller-based 802.11a/g/n• AIR-CAP3602P-AK910 - Eco-pack (dual-band 802.11a/g/n) 10 quantity access points <p>Cisco SMARTnet Service for the Cisco Aironet 3600p Access Point with external antennas</p> <ul style="list-style-type: none">• CON-SNT-CAP3602x - SMARTnet 8x5xNBD 3600p access point (dual-band 802.11 a/g/n)• Qty(10) CON-SNT-CAP3602x - SMARTnet 8x5xNBD 10 quantity eco-pack 3600p access point (dual-band 802.11a/g/n) <p>Cisco Wireless LAN Services</p> <ul style="list-style-type: none">• AS-WLAN-CNSLT - Cisco Wireless LAN Network Planning and Design Service• AS-WLAN-CNSLT - Cisco Wireless LAN 802.11n Migration Service• AS-WLAN-CNSLT - Cisco Wireless LAN Performance and Security Assessment Service <p>Regulatory domains: (x = regulatory domain)</p> <p>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, visit: http://www.cisco.com/go/aironet/compliance.</p> <p>Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.</p>

Item	Specification																																																																																																																																		
Software	Cisco Unified Wireless Network Software Release 7.4 or later																																																																																																																																		
Supported Wireless LAN Controllers	<ul style="list-style-type: none">Cisco 2500 Series Wireless Controllers, Cisco Wireless LAN Controller Module (WLCM) on Cisco Services-Ready Engine (SRE) for Cisco Integrated Services Router Generation 2 (ISR G2), Cisco Wireless Services Module 2 (WiSM2), Cisco 5500 Series Wireless Controller, Cisco Flex 7500 Series Wireless Controllers																																																																																																																																		
802.11n Version 2.0 (and Related) Capabilities	<ul style="list-style-type: none">4x4 multiple-input multiple-output (MIMO) with three spatial streamsMaximal ratio combining (MRC)802.11n and 802.11a/g beamforming20- and 40-MHz channelsPHY data rates up to 450 Mbps (40-MHz with 5 GHz)Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx)802.11 dynamic frequency selection (DFS)Cyclic shift diversity (CSD) support																																																																																																																																		
Data Rates Supported	<div>802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps</div> <div>802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</div> <div>802.11n data rates (2.4 GHz and 5 GHz):</div> <table><thead><tr><th>MCS Index¹</th><th colspan="2">GI² = 800ns</th><th colspan="2">GI = 400ns</th></tr><tr><th></th><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></thead><tbody><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>150</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><tr><td>16</td><td>19.5</td><td>40.5</td><td>21.7</td><td>45</td></tr><tr><td>17</td><td>39</td><td>81</td><td>43.3</td><td>90</td></tr><tr><td>18</td><td>58.5</td><td>121.5</td><td>65</td><td>135</td></tr><tr><td>19</td><td>78</td><td>162</td><td>86.7</td><td>180</td></tr><tr><td>20</td><td>117</td><td>243</td><td>130</td><td>270</td></tr><tr><td>21</td><td>156</td><td>324</td><td>173.3</td><td>360</td></tr><tr><td>22</td><td>175.5</td><td>364.5</td><td>195</td><td>405</td></tr><tr><td>23</td><td>195</td><td>405</td><td>216.7</td><td>450</td></tr></tbody></table>	MCS Index ¹	GI ² = 800ns		GI = 400ns			20-MHz Rate (Mbps)	40-MHz Rate (Mbps)	20-MHz Rate (Mbps)	40-MHz Rate (Mbps)	0	6.5	13.5	7.2	15	1	13	27	14.4	30	2	19.5	40.5	21.7	45	3	26	54	28.9	60	4	39	81	43.3	90	5	52	108	57.8	120	6	58.5	121.5	65	135	7	65	135	72.2	150	8	13	27	14.4	30	9	26	54	28.9	60	10	39	81	43.3	90	11	52	108	57.8	120	12	78	162	86.7	180	13	104	216	115.6	240	14	117	243	130	270	15	130	270	144.4	300	16	19.5	40.5	21.7	45	17	39	81	43.3	90	18	58.5	121.5	65	135	19	78	162	86.7	180	20	117	243	130	270	21	156	324	173.3	360	22	175.5	364.5	195	405	23	195	405	216.7	450
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¹ MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, the modulation, the coding rate, and data rate values.

² GI: A guard interval (GI) between symbols helps receivers overcome the effects of multipath delays.

Item	Specification			
Frequency Band and 20-MHz Operating Channels	A (A regulatory domain): <ul style="list-style-type: none">• 2.412 to 2.462 GHz; 11 channels• 5.180 to 5.320 GHz; 8 channels• 5.500 to 5.700 GHz, 6 channels (excludes 5.580 to 5.660 GHz)• 5.745 to 5.825 GHz; 5 channels			
Note: 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, visit: http://www.cisco.com/go/aironet/compliance .				
Maximum Number of Nonoverlapping Channels	2.4 GHz <ul style="list-style-type: none">• 802.11b/g:<ul style="list-style-type: none">◦ 20 MHz: 3• 802.11n:<ul style="list-style-type: none">◦ 20 MHz: 3		5 GHz <ul style="list-style-type: none">• 802.11a:<ul style="list-style-type: none">◦ 20 MHz: 21• 802.11n:<ul style="list-style-type: none">◦ 20 MHz: 21◦ 40 MHz: 9	
Note: This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.				
Receive Sensitivity	<ul style="list-style-type: none">• 802.11b (CCK)<ul style="list-style-type: none">◦ -101 dBm @ 1 Mb/s◦ -98 dBm @ 2 Mb/s◦ -92 dBm @ 5.5 Mb/s◦ -89 dBm @ 11 Mb/s	<ul style="list-style-type: none">• 802.11g (non HT20)<ul style="list-style-type: none">◦ -91 dBm @ 6 Mb/s◦ -91 dBm @ 9 Mb/s◦ -91 dBm @ 12 Mb/s◦ -90 dBm @ 18 Mb/s◦ -87 dBm @ 24 Mb/s◦ -85 dBm @ 36 Mb/s◦ -80 dBm @ 48 Mb/s◦ -79 dBm @ 54 Mb/s	<ul style="list-style-type: none">• 802.11a (non HT20)<ul style="list-style-type: none">◦ -90 dBm @ 6 Mb/s◦ -90 dBm @ 9 Mb/s◦ -90 dBm @ 12 Mb/s◦ -89 dBm @ 18 Mb/s◦ -86 dBm @ 24 Mb/s◦ -83 dBm @ 36 Mb/s◦ -78 dBm @ 48 Mb/s◦ -77 dBm @ 54 Mb/s	
	2.4-GHz <ul style="list-style-type: none">• 802.11n (HT20)<ul style="list-style-type: none">◦ -90 dBm @ MCS0◦ -90 dBm @ MCS1◦ -90 dBm @ MCS2◦ -88 dBm @ MCS3◦ -85 dBm @ MCS4◦ -80 dBm @ MCS5◦ -78 dBm @ MCS6◦ -77 dBm @ MCS7◦ -90 dBm @ MCS8◦ -90 dBm @ MCS9◦ -89 dBm @ MCS10◦ -86 dBm @ MCS11◦ -82 dBm @ MCS12◦ -78 dBm @ MCS13◦ -77 dBm @ MCS14◦ -75 dBm @ MCS15◦ -90 dBm @ MCS16◦ -89 dBm @ MCS17◦ -87 dBm @ MCS18◦ -84 dBm @ MCS19◦ -81 dBm @ MCS20◦ -76 dBm @ MCS21◦ -75 dBm @ MCS22◦ -74 dBm @ MCS23		5-GHz <ul style="list-style-type: none">• 802.11n (HT20)<ul style="list-style-type: none">◦ -91 dBm @ MCS0◦ -90 dBm @ MCS1◦ -89 dBm @ MCS2◦ -86 dBm @ MCS3◦ -83 dBm @ MCS4◦ -78 dBm @ MCS5◦ -77 dBm @ MCS6◦ -75 dBm @ MCS7◦ -91 dBm @ MCS8◦ -89 dBm @ MCS9◦ -87 dBm @ MCS10◦ -84 dBm @ MCS11◦ -80 dBm @ MCS12◦ -76 dBm @ MCS13◦ -75 dBm @ MCS14◦ -73 dBm @ MCS15◦ -90 dBm @ MCS16◦ -88 dBm @ MCS17◦ -85 dBm @ MCS18◦ -82 dBm @ MCS19◦ -79 dBm @ MCS20◦ -74 dBm @ MCS21◦ -73 dBm @ MCS22◦ -72 dBm @ MCS23	5-GHz <ul style="list-style-type: none">• 802.11n (HT40)<ul style="list-style-type: none">◦ -88 dBm @ MCS0◦ -87 dBm @ MCS1◦ -86 dBm @ MCS2◦ -82 dBm @ MCS3◦ -80 dBm @ MCS4◦ -75 dBm @ MCS5◦ -73 dBm @ MCS6◦ -72 dBm @ MCS7◦ -88 dBm @ MCS8◦ -86 dBm @ MCS9◦ -84 dBm @ MCS10◦ -80 dBm @ MCS11◦ -77 dBm @ MCS12◦ -73 dBm @ MCS13◦ -71 dBm @ MCS14◦ -70 dBm @ MCS15◦ -87 dBm @ MCS16◦ -84 dBm @ MCS17◦ -82 dBm @ MCS18◦ -78 dBm @ MCS19◦ -75 dBm @ MCS20◦ -71 dBm @ MCS21◦ -69 dBm @ MCS22◦ -68 dBm @ MCS23

Item	Specification	
Maximum Transmit Power	2.4 GHz <ul style="list-style-type: none"> 802.11b <ul style="list-style-type: none"> 23 dBm: 4 antennas 802.11g <ul style="list-style-type: none"> 23 dBm: 4 antennas 802.11n (HT20) <ul style="list-style-type: none"> 23 dBm: 4 antennas 	5 GHz <ul style="list-style-type: none"> 802.11a <ul style="list-style-type: none"> 23 dBm: 4 antennas 802.11n (HT20) <ul style="list-style-type: none"> 23 dBm: 4 antennas 802.11n (HT40) <ul style="list-style-type: none"> 23 dBm: 4 antennas
Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.		
Available Transmit Power Settings	2.4 GHz <ul style="list-style-type: none"> 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) 	5 GHz <ul style="list-style-type: none"> 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)
Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.		
External Antenna (Sold Separately)	<ul style="list-style-type: none"> Certified for use with antenna gains up to 6 dBi (2.4 GHz and 5 GHz) Cisco offers the industry's broadest selection of 802.11n antennas delivering optimal coverage for a variety of deployment scenarios 	
Interfaces	<ul style="list-style-type: none"> 10/100/1000BASE-T autosensing (RJ-45) Management console port (RJ-45) 	
Indicators	<ul style="list-style-type: none"> Status LED indicates boot loader status, association status, operating status, boot loader warnings, boot loader errors 	
Dimensions (W x L x H)	<ul style="list-style-type: none"> Access point (without mounting bracket): 8.7 x 8.7 x 2.11 in. (22.1 x 22.1 x 5.4 cm) 	
Weight	<ul style="list-style-type: none"> 2.5 lbs (1.13 kg) 	
Environmental	Cisco Aironet 3600p <ul style="list-style-type: none"> Nonoperating (storage) temperature: -22 to 158°F (-30 to 70°C) Nonoperating (storage) Altitude Test - 25°C, 15,000 ft. Operating temperature: -4 to 131°F (-20 to 55°C) Operating humidity: 10 to 90 percent (noncondensing) Operating Altitude Test -40°C, 9843 ft. 	
System Memory	<ul style="list-style-type: none"> 256-MB DRAM 32-MB flash 	
Input Power Requirements	<ul style="list-style-type: none"> AP3600: 44 to 57 VDC Power Supply and Power Injector: 100 to 240 VAC; 50 to 60 Hz 	
Powering Options	AP3600 without add-on module <ul style="list-style-type: none"> 802.3af Ethernet Cisco AP3600 Power Injectors (AIR-PWRINJ4=) Cisco AP3600 Local Power Supply (AIR-PWR-B=) 	
Power Draw	<ul style="list-style-type: none"> AP3600: 12.95 W Note: When deployed using a PoE specification, 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 with PoE 802.3af as an example.	
Warranty	Limited Lifetime Hardware Warranty	

Item	Specification
Compliance Standards	<ul style="list-style-type: none"> ◦ UL 60950-1 ◦ CAN/CSA-C22.2 No. 60950-1 ◦ UL 2043 ◦ IEC 60950-1 ◦ EN 60950-1 ◦ EN 50155 • Radio approvals: <ul style="list-style-type: none"> ◦ FCC Part 15.247, 15.407 ◦ EMI and susceptibility (Class B) ◦ FCC Part 15.107 and 15.109 ◦ EN 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC • IEEE Standard: <ul style="list-style-type: none"> ◦ IEEE 802.11a/b/g, IEEE 802.11n, IEEE 802.11h, IEEE 802.11d • Security: <ul style="list-style-type: none"> ◦ 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA ◦ 802.1X ◦ Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) • EAP Type(s): <ul style="list-style-type: none"> ◦ Extensible Authentication Protocol-Transport Layer Security (EAP-TLS) ◦ EAP-Tunneled TLS (TTLS) or Microsoft Challenge Handshake Authentication Protocol Version 2 (MSCHAPv2) ◦ Protected EAP (PEAP) v0 or EAP-MSCHAPv2 ◦ Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST) ◦ PEAPv1 or EAP-Generic Token Card (GTC) ◦ EAP-Subscriber Identity Module (SIM) • Multimedia: <ul style="list-style-type: none"> ◦ Wi-Fi Multimedia (WMM™) • Other: <ul style="list-style-type: none"> ◦ FCC Bulletin OET-65C ◦ RSS-102

Limited Lifetime Hardware Warranty

The Cisco Aironet 3600 Series Access Point comes with a Limited Lifetime Warranty that provides full warranty coverage of the hardware for as long as the original end user continues to own or use the product. The warranty includes 10-day advance hardware replacement and ensures that software media is defect-free for 90 days. For more details, visit: <http://www.cisco.com/go/warranty>.

Cisco Wireless LAN Services

Realize the full business value of your technology investments faster with intelligent, customized services from Cisco and our partners. Backed by deep networking expertise and a broad ecosystem of partners, Cisco Wireless LAN Services enable you to deploy a sound, scalable mobility network that enables rich media collaboration while improving the operational efficiency gained from a converged wired and wireless network infrastructure based on the Cisco Unified Wireless Network. Together with partners, we offer expert plan, build, and run services to accelerate your transition to advanced mobility services while continuously optimizing the performance, reliability, and security of that architecture after it is deployed. For more details, visit: <http://www.cisco.com/go/wirelesslanservices>.

For More Information

For more information about the Cisco Aironet 3600 Series, visit <http://www.cisco.com/go/wireless> or contact your local account representative.




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