Cisco Aironet 3600 Series Access Point

Cisco Aironet® 3600i Access Point

- Sleek design with internal antennas
- Ideal for office environments

Cisco Aironet 3600e 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
- Spectrum Expert Connect provides real-time, raw spectrum data to help with difficult-to-diagnose interference problems
- The Air Quality Index in CleanAir 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, 3 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.

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.

- MIMO equalization, which optimizes uplink performance and reliability by minimizing the impact of signal fading.
- Cisco ClientLink 2.0 technology to improve downlink performance to all mobile devices including one-, two-, and three spatial stream devices on 802.11n.
- Cisco CleanAir technology, which provides proactive, high-speed spectrum intelligence to combat performance problems due to wireless interference.

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	**The Cisco Aironet 3600i Access Point: Indoor environments, with internal antennas** ● AIR-CAP3602I-x-K9 - Dual-band controller-based 802.11a/g/n ● AIR-CAP3602I-xK910 - Eco-pack (dual-band 802.11a/g/n) 10 quantity access points **The Cisco Aironet 3600e Access Point: Indoor, challenging environments, with external antennas** ● AIR-CAP3602E-x-K9 - Dual-band controller-based 802.11a/g/n ● AIR-CAP3602E-xK910 - Eco-pack (dual-band 802.11a/g/n) 10 quantity access points **Cisco SMARTnet® Services for the Cisco Aironet 3600i Access Point with internal antennas** ● CON-SNT-CAP362Ix - SMARTnet 8x5xNBD 3600i access point (dual-band 802.11 a/g/n) ● Qty(10) CON-SNT-CAP362Ix - SMARTnet 8x5xNBD 10 quantity eco-pack 3600i access point (dual-band 802.11a/g/n) **SMARTnet Services for the Cisco Aironet 3600e Access Point with external antennas** ● CON-SNT-CAP3602x - SMARTnet 8x5xNBD 3600e access point (dual-band 802.11 a/g/n) ● Qty(10) CON-SNT-CAP3602x - SMARTnet 8x5xNBD 10 quantity eco-pack 3600e access point (dual-band 802.11a/g/n) **Cisco Wireless LAN Services** ● 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 **Regulatory domains: (x = regulatory domain)** 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. Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.

Item	Specification				
Software	Cisco Unified Wireless Network Software Release 7.2 or later.				
802.11n Version 2.0 (and Related) Capabilities	• 4x4 multiple-input multiple-output (MIMO) with three spatial streams • Maximal ratio combining (MRC) • 802.11n and 802.11a/g beamforming • 20- and 40-MHz channels • PHY 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	**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				
	802.11n data rates (2.4 GHz and 5 GHz):				
	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

[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):** • 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 (C regulatory domain):** • 2.412 to 2.472 GHz; 13 channels • 5.745 to 5.825 GHz; 5 channels **E (E regulatory domain):** • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.320 GHz; 8 channels • 5.500 to 5.700 GHz, 8 channels (excludes 5.600 to 5.640 GHz) **I (I regulatory domain):** • 2.412 to 2.472 GHz, 13 channels • 5.180 to 5.320 GHz; 8 channels **K (K regulatory domain):** • 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		**N (N regulatory domain):** • 2.412 to 2.462 GHz; 11 channels • 5.180 to 5.320 GHz; 8 channels • 5.745 to 5.825 GHz; 5 channels **Q (Q regulatory domain):** • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.320 GHz; 8 channels • 5.500 to 5.700 GHz; 11 channels **R (R regulatory domain):** • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.320 GHz; 8 channels • 5,660 to 5,805 GHz, 7 channels **S (S regulatory domain):** • 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 (T regulatory domain):** • 2.412 to 2.462 GHz; 11 channels • 5.280 to 5.320 GHz; 3 channels • 5.500 to 5.700 GHz, 8 channels (excludes 5.600 to 5.640 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** • 802.11b/g: ◦ 20 MHz: 3 • 802.11n: ◦ 20 MHz: 3		**5 GHz** • 802.11a: ◦ 20 MHz: 21 • 802.11n: ◦ 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	• 802.11b (CCK) ◦ 101 dBm @ 1 Mb/s ◦ 98 dBm @ 2 Mb/s ◦ 92 dBm @ 5.5 Mb/s ◦ 89 dBm @ 11 Mb/s	• 802.11g (non HT20) ◦ 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	• 802.11a (non HT20) ◦ 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 • 802.11n (HT20) ◦ 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		**5-GHz** • 802.11n (HT20) ◦ 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	**5-GHz** • 802.11n (HT40) ◦ 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

Item	Specification			
	◦ 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		◦ 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**	◦ 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
Maximum Transmit Power	**2.4 GHz** ● 802.11b ◦ 23 dBm - 4 Antennas ● 802.11g ◦ 23 dBm - 4 Antennas ● 802.11n (HT20) ◦ 23 dBm - 4 Antennas		**5 GHz** ● 802.11a ◦ 23 dBm - 4 Antennas ● 802.11n (HT20) ◦ 23 dBm - 4 Antennas ● 802.11n (HT40) ◦ 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** ● 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** ● 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.				
Integrated Antenna	● 2.4 GHz, Gain 2 dBi, internal Omni, horizontal beamwidth 360° ● 5 GHz, Gain 5 dBi, internal Omni, horizontal beamwidth 360°			
External Antenna (sold separately)	● 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	● 10/100/1000BASE-T autosensing (RJ-45) ● Management console port (RJ-45)			
Indicators	● Status LED indicates boot loader status, association status, operating status, boot loader warnings, boot loader errors			
Dimensions (W x L x H)	● Access point (without mounting bracket): 8.7 x 8.7 x 2.11 in. (22.1 x 22.1 x 5.4 cm)			
Weight	● 2.5 lbs (1.13 kg)			
Environmental	**Cisco Aironet 3600i** ● Nonoperating (storage) temperature: -22 to 158℉ (- 30 to 70℃) ● Operating temperature: 32 to 104℉ (0 to 40℃) ● Operating humidity: 10 to 90% percent (noncondensing) **Cisco Aironet 3600e** ● Nonoperating (storage) temperature: -22 to 158℉ (- 30 to 70℃) ● Operating temperature: -4 to 131℉ (-20 to 55℃) ● Operating humidity: 10 to 90 percent (noncondensing)			
System Memory	● 128 MB DRAM ● 32 MB flash			

Item	Specification
Input Power Requirements	● AP3600: 44 to 57 VDC ● Power Supply and Power Injector: 100 to 240 VAC; 50 to 60 Hz
Powering Options	● 802.3af Ethernet Switch ● Cisco AP3600 Power Injectors (AIR-PWRINJ4=) ● Cisco AP3600 Local Power Supply (AIR-PWR-B=)
Power Draw	● AP3600: 12.95 W **Note:** When deployed using Power over Ethernet (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 2.45W, bringing the total system power draw (access point + cabling) to 15.4W.
Warranty	Limited Lifetime Hardware Warranty
Compliance Standards	◦ UL 60950-1 ◦ CAN/CSA-C22.2 No. 60950-1 ◦ UL 2043 ◦ IEC 60950-1 ◦ EN 60950-1 ◦ EN 50155 ● Radio approvals: ◦ FCC Part 15.247, 15.407 ◦ RSS-210 (Canada) ◦ EN 300.328, EN 301.893 (Europe) ◦ ARIB-STD 66 (Japan) ◦ ARIB-STD T71 (Japan) ◦ 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 ● IEEE Standard: ◦ IEEE 802.11a/b/g, IEEE 802.11n, IEEE 802.11h, IEEE 802.11d ● Security: ◦ 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA ◦ 802.1X ◦ Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) ● EAP Type(s): ◦ 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: ◦ Wi-Fi Multimedia (WMM™) ● Other: ◦ 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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