Cisco Aironet 1810 Series OfficeExtend Access Points

Perfect for teleworker or micro-branch deployments, this easy-to-install series of OfficeExtend access points provides secure wired and wireless access for organizations with employees who work from home.

Product Overview

The Cisco® Aironet® 1810 Series OfficeExtend Access Points offer a highly secure enterprise wireless and wired connection to the home, micro-branch, or other types of remote sites. The 1810 Series extends the corporate network to teleworkers, mobile workers and even micro-sites. The access points connect to the home or site broadband Internet access and establish a highly secure tunnel to the corporate network. This tunnel allows remote employees access to data, voice, video and cloud services for a mobility experience consistent with that at the corporate office. The 1810 Series supports highly secure access to corporate data and personal connectivity for teleworkers' home devices, with segmented home traffic.

Features and Benefits

The Cisco Aironet 1810 Series helps improve workforce productivity, business resiliency and work schedule flexibility while reducing travel costs and carbon emissions. It is targeted toward commercial, enterprise and service provider networks across all industries. The 1810 Series is appropriate for employees who need reliable and consistent access to networked business services at home, as well as for micro-branches where two or three remote workers require the same wired and wireless connectivity as at the corporate site.

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

The 1810 Series delivers industry-leading performance for highly secure and reliable wired or wireless connections and provides a robust mobility experience. Table 1 lists the features and benefits of these access points.

Table 1. Features and Benefits

Feature	Benefit
Dual-radio, dual-band	Dual-radio, dual-band 802.11ac Wave 2 access point provides highly secure and reliable wired and wireless connectivity to home or remote offices. This capability provides confidence that data will be secure and allows for two separate tunnels.
802.11ac Wave 2 support	Supports the latest Wi-Fi standard, 802.11ac Wave 2 with 2x2 multiple-input multiple-output (MIMO) technology and two spatial streams when operating in single-user or multiuser MIMO (MU-MIMO) mode, offering 867-Mbps rates for more capacity and reliability.
Real-time service extender	Extends real-time services such as voice, wireless, video and data to remote locations that have no IT staff. No longer will geography or climate be the reason for lost work hours. Working at home is now like being at the office.
Robust security	The Aironet 1810 Series establishes a secure Datagram Transport Layer Security (DTLS) connection between the access point and the controller to offer remote WLAN connectivity, using the same profile as at the corporate office.
Gigabit Ethernet ports	Three local Gigabit Ethernet ports are available to securely connect wired devices to the network. Traffic from wired devices can be tunneled back to a wireless LAN controller. One of these ports can also provide Power over Ethernet (PoE) out to power a device such as an IP phone.

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

Prominent Feature/Differentiator/Capability

The Cisco Aironet 1810 Series OfficeExtend Access Points support the latest 802.11ac Wave 2 standard for higher performance, greater access and higher-density networks. With features such as simultaneous dual radio and dual-band 2x2:2 with 802.11ac Wave 2 and MU-MIMO, the 1810 Series provides the perfect complement of functionalities for a remote worker.

With advanced security, you will never have to worry about your data being compromised while remote workers are working from a home office. A number of fortified security features separate corporate traffic from home traffic, with added firewall protection for home traffic. In addition, up to two ports can be tunneled back to a wireless LAN controller.

The Aironet 1810 Series allows wired access via Power over Ethernet (PoE). This feature provides wired access with PoE out for other devices such as IP phones, security cameras, printers and copiers. In addition to standard PoE, the access points can be powered with an AC adapter. The 1810 Series comes with three local Gigabit Ethernet ports and one uplink Gigabit Ethernet port, allowing for a variety of connections.

The 1810 Series can be configured at the corporate office and shipped for a simple install at the remote office. Whether it is mounted to the wall or resting on a desk, the vertical mounting optimizes wireless coverage with integrated antennas.

Product Specifications

Table 2 lists the specifications for the Cisco Aironet 1810 Series OfficeExtend Access Points.

Table 2. Specifications

Item	Specification
Authentication and security	• Advanced Encryption Standard (AES) for Wi-Fi Protected Access 2 (WPA2) • 802.1X, RADIUS authentication, authorization and accounting (AAA) • 802.11i

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Item	Specification
Software	• Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.2 MR1 or later
Maximum clients	• Maximum number of associated wireless clients: 200 per Wi-Fi radio, in total 400 clients per access point
802.11ac	• 2x2 single-user/multiuser MIMO with two spatial streams • Maximal ratio combining (MRC) • 20-, 40- and 80-MHz channels • PHY data rates up to 866.7 Mbps (80 MHz on 5 GHz) • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx) • 802.11 Dynamic Frequency Selection (DFS) • Cyclic shift diversity (CSD) support
Ethernet ports	• Authentication with 802.1X or MAC filtered • Dynamic VLAN or per port • Traffic locally switched or tunneled back to wireless LAN controller
Data rates supported	**802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps**
	802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54 Mbps
	802.11n data rates on 2.4 GHz:

MCS Index[1]	**GI[2] = 800 ns**	**GI = 400 ns**
	20-MHz Rate (Mbps)	**20-MHz Rate (Mbps)**
0	6.5	7.2
1	13	14.4
2	19.5	21.7
3	26	28.9
4	39	43.3
5	52	57.8
6	58.5	65
7	65	72.2
8	13	14.4
9	26	28.9
10	39	43.3
11	52	57.8
12	78	86.7
13	104	115.6
14	117	130
15	130	144.4

802.11ac data rates on 5 GHz:

MCS Index	**Spatial Streams**	**GI = 800 ns**			**GI = 400 ns**		
		20-MHz Rate (Mbps)	**40-MHz Rate (Mbps)**	**80-MHz Rate (Mbps)**	**20-MHz Rate (Mbps)**	**40-MHz Rate (Mbps)**	**80-MHz Rate (Mbps)**
0	1	6.5	13.5	29.3	7.2	15	32.5
1	1	13	27	58.5	14.4	30	65
2	1	19.5	40.5	87.8	21.7	45	97.5
3	1	26	54	117	28.9	60	130
4	1	39	81	175.5	43.3	90	195
5	1	52	108	234	57.8	120	260
6	1	58.5	121.5	263.3	65	135	292.5

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Item	Specification							
	7	1	65	135	292.5	72.2	150	325
	8	1	78	162	351	86.7	180	390
	9	1	–	180	390	–	200	433.3
	0	2	13	27	58.5	14.4	30	65
	1	2	26	54	117	28.9	60	130
	2	2	39	81	175.5	43.3	90	195
	3	2	52	108	234	57.8	120	260
	4	2	78	162	351	86.7	180	390
	5	2	104	216	468	115.6	240	520
	6	2	117	243	526.5	130	270	585
	7	2	130	270	585	144.4	300	650
	8	2	156	324	702	173.3	360	780
	9	2	–	360	780	–	400	866.7
Maximum number of nonoverlapping 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 **B (B regulatory domain):** • 2.412 to 2.462 GHz; 11 channels • 5.180 to 5.320 GHz; 8 channels • 5.500 to 5.720 GHz; 12 channels • 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 **D (D 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 **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) **F (F regulatory domain):** • 2.412 to 2.472 GHz; 13 channels • 5.745 to 5.805 GHz; 4 channels **G (G regulatory domain):** • 2.412 to 2.472 GHz; 13 channels • 5.745 to 5.825 GHz; 5 channels **H (H regulatory domain):** • 2.412 to 2.472 GHz; 13 channels • 5.150 to 5.350 GHz; 8 channels • 5.745 to 5.825 GHz; 5 channels **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 • 5.745 to 5.825 GHz; 5 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 • 5.500 to 5.700 GHz; 11 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 **Z (Z 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			
Note: This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.								

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Item	Specification		
Receive sensitivity (combined sensitivity)	**802.11b** -99 dBm @ 1 Mbps -96 dBm @ 2 Mbps -93 dBm @ 5.5 Mbps -86 dBm @ 11 Mbps	**802.11g** -94 dBm @ 6 Mbps -93 dBm @ 9 Mbps -92 dBm @ 12 Mbps -90 dBm @ 18 Mbps -86 dBm @ 24 Mbps -83 dBm @ 36 Mbps -78 dBm @ 48 Mbps -77 dBm @ 54 Mbps	**802.11a** -94 dBm @ 6 Mbps -93 dBm @ 9 Mbps -91 dBm @ 12 Mbps -89 dBm @ 18 Mbps -86 dBm @ 24 Mbps -83 dBm @ 36 Mbps -78 dBm @ 48 Mbps -76 dBm @ 54 Mbps
	2.4 GHz **802.11n (HT20)** -93 dBm @ MCS0 -90 dBm @ MCS1 -88 dBm @ MCS2 -84 dBm @ MCS3 -81 dBm @ MCS4 -76 dBm @ MCS5 -75 dBm @ MCS6 -74 dBm @ MCS7 -92 dBm @ MCS8 -89 dBm @ MCS9 -87 dBm @ MCS10 -83 dBm @ MCS11 -79 dBm @ MCS12 -76 dBm @ MCS13 -74 dBm @ MCS14 -73 dBm @ MCS15	**5 GHz** **802.11n (HT20)** -93 dBm @ MCS0 -90 dBm @ MCS1 -88 dBm @ MCS2 -84 dBm @ MCS3 -81 dBm @ MCS4 -76 dBm @ MCS5 -75 dBm @ MCS6 -73 dBm @ MCS7 -92 dBm @ MCS8 -89 dBm @ MCS9 -86 dBm @ MCS10 -83 dBm @ MCS11 -80 dBm @ MCS12 -75 dBm @ MCS13 -74 dBm @ MCS14 -73 dBm @ MCS15	**5 GHz** **802.11n (HT40)** -90 dBm @ MCS0 -87 dBm @ MCS1 -85 dBm @ MCS2 -81 dBm @ MCS3 -78 dBm @ MCS4 -74 dBm @ MCS5 -72 dBm @ MCS6 -71 dBm @ MCS7 -90 dBm @ MCS8 -86 dBm @ MCS9 -84 dBm @ MCS10 -81 dBm @ MCS11 -78 dBm @ MCS12 -73 dBm @ MCS13 -72 dBm @ MCS14 -70 dBm @ MCS15
	802.11ac (non HT80) -88 dBm @ 6 Mbps -70 dBm @ 54 Mbps		

MCS Index	Spatial Streams	VHT20	VHT40	VHT80	VHT20-STBC	VHT40-STBC	VHT80-STBC
0	1	-93 dBm	-90 dBm	-87 dBm	-95 dBm	-93 dBm	-90 dBm
8	1	-69 dBm			-72 dBm	-68 dBm	-65 dBm
9	1		-64 dBm	-61 dBm			
0	2	-92 dBm	-89 dBm	-86 dBm			
8	2	-68 dBm					
9	2		-63 dBm	-60 dBm			

Maximum transmit power	**2.4 GHz** • 802.11b ◦ 17 dBm with 1 antenna • 802.11g ◦ 20 dBm with 2 antennas • 802.11n (HT20) ◦ 20 dBm with 2 antennas	**5 GHz** • 802.11a ◦ 17 dBm with 1 antenna • 802.11n non-HT duplicate mode ◦ 20 dBm with 2 antennas • 802.11n (HT20) ◦ 20 dBm with 2 antennas • 802.11n (HT40) ◦ 20 dBm with 2 antennas • 802.11ac ◦ non-HT80: 20 dBm with 2 antennas ◦ VHT20: 20 dBm with 2 antennas

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Item	Specification	
		◦ VHT40: 20 dBm with 2 antennas ◦ VHT80: 20 dBm with 2 antennas ◦ VHT20-STBC: 20 dBm with 2 antennas ◦ VHT40-STBC: 20 dBm with 2 antennas ◦ VHT80-STBC: 20 dBm with 2 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** 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)	**5 GHz** 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)
Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.		
Integrated antennas	• 2.4 GHz, gain 2 dBi • 5 GHz, gain 5 dBi	
Interfaces	• One 10/100/1000BASE-T PoE uplink port • Management console port (RJ-45) • Three 10/100/1000BASE-T ports (local Ethernet ports), including one PoE out port: ◦ PoE out provides 802.3af when access point is powered by Cisco local power supply (AIR-PWR-D=), or ~6.5W when powered by 802.3at, or no output when powered by 802.3af • DC power connector	
Indicators	• Status LED indicates boot loader status, association status, operating status, boot loader warnings, boot loader errors ◦ For privacy, status LED is automatically turned off when the access point joins a controller • Per-port status for local Ethernet ports	
Dimensions (W x L x H)	• Access point (without mounting bracket): 6.5 x 4.5 x 1.6 in. (165 x 114 x 41 mm)	
Weight	• Access point without mounting bracket or any other accessories: 1.2 lb (560 g)	
Environmental	• Nonoperating (storage) temperature: -22° to 158°F (-30° to 70°C) • Nonoperating (storage) maximum altitude: 25°C, 15,000 ft (4,572m) • Operating temperature: 32° to 104°F (0° to 40°C) • Operating humidity: 10% to 90% percent (noncondensing) • Operating maximum altitude: 40°C, 9843 ft (3,000m)	
System	• 512 MB DRAM • 256 MB flash • 1.4 GHz system dual-core CPU	
Input power requirements	• 44 to 57V DC • Optional power supply and power injector: 100 to 240V AC; 49 to 60 Hz	
Powering options	• 802.3af/at Ethernet switch • Optional Cisco power injectors (AIR-PWRINJ5=, AIR-PWRINJ6=) • Optional Cisco local power supply (AIR-PWR-D=)	
Power draw	• Maximum values: 12.95W (15.4W with 100m of cable) with no PoE out, 20.7W (22W with 100m of cable) with 6.49W PoE out and 27.65W with 12.95W PoE out **Note:** When deployed using PoE, the power draw numbers listed above include the power loss in 100m of cabling on the uplink port and 100m of cabling on the PoE out port.	
Physical security	• Kensington security slot	

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Item	Specification
Accessories	• Included with the access point: ◦ AIR-OEAP1810-CRD, cradle kit to place access point on a desk ◦ AIR-PWR-D, Cisco local power supply • Available as spares or sold separately: ◦ Cradle kit: AIR-OEAP1810-CRD= (spare), includes back cover and RJ-45 jumper cable ◦ Cisco local power supply: AIR-PWR-D= (spare) ◦ Spacer kit: AIR-AP1810W-KIT= (sold separately), spacer kit to mount the access point directly on a wall where standard junction boxes are not available. Includes spacer and RJ-45 jumper cable ◦ AIR-AP-BRACKET-W2= (sold separately), mounting bracket to install to single gang junction box or multiple international standards ◦ AIR-SEC-50= (sold separately): 50 pcs. security screws used to secure the access point onto wall-mounting bracket, 50 pcs. RJ-45 caps and 2 pcs. unlock keys used to block physical access to Ethernet ports
Warranty	Limited Lifetime Hardware Warranty
	• 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-247 (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) • IEEE standards: ◦ IEEE 802.11a/b/g, 802.11n, 802.11h, 802.11d ◦ IEEE 802.11ac Draft 5 • Security: ◦ 802.11i, WPA2, WPA ◦ 802.1X ◦ AES • Extensible Authentication Protocol (EAP) types: ◦ EAP-Transport Layer Security (TLS) ◦ EAP-Tunneled TLS (TTLS) or Microsoft Challenge Handshake Authentication Protocol Version 2 (MSCHAPv2) ◦ Protected EAP (PEAP) v0 or EAP-MSCHAPv2 ◦ EAP-Flexible Authentication via Secure Tunneling (FAST) ◦ PEAP v1 or EAP-Generic Token Card (GTC) ◦ EAP-Subscriber Identity Module (SIM) • Multimedia: ◦ Wi-Fi Multimedia (WMM) • Other: ◦ FCC Bulletin OET-65C ◦ RSS-102

[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] A guard interval (GI) between symbols helps receivers overcome the effects of multipath delay spreads.

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Ordering Information

Table 3 provides ordering information for the Cisco Aironet 1800 Series OfficeExtend Access Points. To place an order, visit the Cisco Ordering Home Page. To download software, visit the Cisco Software Center.

Table 3. Ordering Information

Product Name	Part Number
Cisco Aironet 1810 Series OfficeExtend Access Point	• AIR-OEAP1810-x-K9: 802.11ac Wave 2 OfficeExtend access point • Regulatory domains: (x = regulatory domain) Customers are responsible for verifying approval for use in their individual countries. To verify approval that corresponds to a particular country or the regulatory domain used in a specific 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.

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.

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

Warranty Information

The Cisco Aironet 1810 Series OfficeExtend Access Points come 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.

Find warranty information on Cisco.com at the Product Warranties page.

Cisco Capital

Financing to Help You Achieve Your Objectives

Cisco Capital® can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce CapEx. Accelerate your growth. Optimize your investment dollars and ROI. Cisco Capital financing gives you flexibility in acquiring hardware, software, services and complementary third-party equipment. And there's just one predictable payment. Cisco Capital is available in more than 100 countries. Learn more.

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

For More Information

For more information about the Cisco Aironet 1810 Series OfficeExtend Access Point, visit http://www.cisco.com/c/en/us/products/wireless/aironet-1810-series-officeextend-access-points/index.html.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Printed in USA C78-736868-01 05/16

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.