

Cisco Aironet 1815m Series Access Points

Ideal for networks in dense buildings, the Cisco Aironet® 1815m Access Points bring a higher power option and full slate of Cisco® high-performance functions to the enterprise environment.

Product Overview

With more transmit power than the other access points in its family, the Cisco Aironet 1815m Series supports a larger coverage area with fewer access points. In addition, the 1815m delivers industry-leading wireless performance with support for the latest Wi-Fi standard, the IEEE's new 802.11ac Wave 2 standard. The 1815m Series extends support to a new generation of Wi-Fi clients, such as: smartphones, tablets, and high-performance laptops that have integrated 802.11ac Wave 1 or Wave 2 support.

With the increased coverage area, 802.11ac Wave 2 support, and the functions and features of an enterprise-level access point, the 1815m fully meets the growing requirements of wireless networks by delivering a better user experience (Figure 1).

Figure 1. Cisco Aironet 1815m



Features and Benefits

By adhering to the 802.11ac Wave 2 standard, the 1815m Series provides a data rate of up to 867 Mbps on the 5-GHz radio. This rate exceeds the data rates offered by access points that support the 802.11n standard. It also enables a total aggregate dual-radio data rate of up to 1 Gbps, allowing for the necessary foundation for enterprise and service provider networks to stay ahead of the performance expectations and needs of their wireless users.

In recent years, corporate users have increasingly preferred wireless access as the form of network connectivity because of its convenience. With this shift, there is an expectation that wireless should not slow down users' day-to-day work, but should enable a high-performance experience. The 1815m Series delivers industry-leading performance with highly secure and reliable wireless connections, providing a robust mobility end-user experience.

Table 1 lists the features and benefits of the Cisco Aironet 1815m.

Table 1. Cisco Aironet 1815m

Feature	Benefit
Higher Tx power	With up to 3 dB more transmit power than the 1815i, the 1815m can penetrate walls and doors, making it ideal for deployment in hotels, dorm rooms, or other dense building locations.
MU-MIMO	Multuser (MU) multiple-input, multiple-output (MU-MIMO) allows simultaneous data transmission of data to multiple 802.11ac Wave 2–capable clients to improve the client experience. Prior to MU-MIMO, 802.11n and 802.11ac Wave 1 access points could transmit data to only one client at a time. This transmission was typically referred to as single-user MIMO (SU-MIMO).
Cisco Mobility Express Solution	Flexible deployment mode through the Mobility Express Solution is ideal for small to medium-sized deployments that require 50 or fewer access points. Easy setup allows deployment of the 1815m Series on networks without a physical controller.
Integrated Bluetooth 4.1	Integrated Bluetooth low-energy (BLE) 4.1 radio will be used for location and asset tracking (future availability).

Prominent Feature, Differentiator, and Capability

- **Increased wireless performance:** The Aironet® 1815m Series Access Points support the latest 802.11ac Wave 2 standard for higher performance, greater access, and higher-density networks. With simultaneous dual radios and dual band with 802.11ac Wave 2 MU-MIMO functions, this access point can handle the increasing number of high-bandwidth devices that will soon become a common part of the network.
- **Wired access:** The 1815m Series allows wired access through a single RJ-45 10/100/1000 autodetection port. It supports full operation modes using Power over Ethernet (PoE) 802.3af power.
- **Mounting:** These sleek access points with a small form factor are designed with flexible mounting options in mind, with support for placement on either ceilings or walls.

Product Specifications

Table 1 lists the general specifications for the Cisco Aironet 1815m Series Access Points, and Table 2 lists the RF specifications.

Table 2. Specifications

Item	Specification
Authentication and security	<ul style="list-style-type: none"> • Advanced Encryption Standard (AES) for Wi-Fi Protected Access 2 (WPA2) • 802.1X, RADIUS authentication, authorization, and accounting (AAA) • 802.11r • 802.11i
Software	<ul style="list-style-type: none"> • Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.5 or later • Cisco Mobility Express
Maximum clients	<ul style="list-style-type: none"> • Maximum number of associated wireless clients: 200 per Wi-Fi radio, in total 400 clients per access point
802.11ac	<ul style="list-style-type: none"> • 2 x 2 single-user/multuser 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	<ul style="list-style-type: none"> • Authentication with 802.1X or MAC filtered • Dynamic VLAN or per port • Traffic locally switched or tunneled back to wireless LAN controller

Item	Specification							
Bluetooth (future availability)	<ul style="list-style-type: none"> Integrated Bluetooth 4.1 (including BLE) radio Maximum transmit power: 4 dBm Antenna gain: 2 dBi 							
Data rates supported	802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps							
	802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps							
	802.11n Data Rates on 2.4 GHz							
	MCS Index¹	GI² = 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
	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

Item	Specification							
	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 non-overlapping 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; 8 channels (excludes 5.600 to 5.640 GHz) 5.745 to 5.825 GHz; 5 channels B (B 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 5.720 GHz; 12 channels 5.745 to 5.825 GHz; 5 channels C (C regulatory domain): <ul style="list-style-type: none"> 2.412 to 2.472 GHz; 13 channels 5.745 to 5.825 GHz; 5 channels D (D regulatory domain): <ul style="list-style-type: none"> 2.412 to 2.462 GHz; 11 channels 5.180 to 5.320 GHz; 8 channels 5.745 to 5.825 GHz; 5 channels E (E regulatory domain): <ul style="list-style-type: none"> 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): <ul style="list-style-type: none"> 2.412 to 2.472 GHz; 13 channels 5.745 to 5.805 GHz; 4 channels G (G regulatory domain): <ul style="list-style-type: none"> 2.412 to 2.472 GHz; 13 channels 5.745 to 5.865 GHz; 7 channels H (H regulatory domain): <ul style="list-style-type: none"> 2.412 to 2.472 GHz; 13 channels 5.180 to 5.320 GHz; 8 channels 5.745 to 5.825 GHz; 5 channels I (I regulatory domain): <ul style="list-style-type: none"> 2.412 to 2.472 GHz; 13 channels 5.180 to 5.320 GHz; 8 channels 				K (K regulatory domain): <ul style="list-style-type: none"> 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): <ul style="list-style-type: none"> 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): <ul style="list-style-type: none"> 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): <ul style="list-style-type: none"> 2.412 to 2.472 GHz; 13 channels 5.180 to 5.320 GHz; 8 channels 5.660 to 5.700 GHz; 3 channels 5.745 to 5.805 GHz; 4 channels S (S regulatory domain): <ul style="list-style-type: none"> 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): <ul style="list-style-type: none"> 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): <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; 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.								
Available transmit power settings	2.4 GHz 27 dBm (500 mW) 24 dBm (250 mW) 21 dBm (125 mW) 18 dBm (63 mW) 15 dBm (32 mW) 12 dBm (16 mW) 9 dBm (8 mW) 6 dBm (4 mW)				5 GHz 24 dBm (250 mW) 21 dBm (125 mW) 18 dBm (63 mW) 15 dBm (32 mW) 12 dBm (16 mW) 9 dBm (8 mW) 6 dBm (4 mW) 3 dBm (2 mW)			
Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.								

Item	Specification
Integrated antennas	<ul style="list-style-type: none"> • 2.4 GHz, gain 2 dBi • 5 GHz, gain 4 dBi
Interfaces	<ul style="list-style-type: none"> • 1 x 10/100/1000BASE-T autosensing (RJ-45), Power over Ethernet (PoE) • 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, and boot loader errors
Dimensions (W x L x H)	<ul style="list-style-type: none"> • Access point (without mounting bracket): 6 x 6 x 1.3 in. (150.8 x 150.8 x 33mm)
Weight	<ul style="list-style-type: none"> • Access point without mounting bracket or any other accessories: 1.01 lb (460 grams)
Environmental	<ul style="list-style-type: none"> • Operating <ul style="list-style-type: none"> ◦ Temperature: 32° to 104°F (0° to 40°C) ◦ Humidity: 10% to 90% (noncondensing) ◦ Max. altitude: 9,843 ft (3,000m) @ 40°C • Nonoperating (storage and transportation) <ul style="list-style-type: none"> ◦ Temperature: -22° to 158°F (-30° to 70°C) ◦ Humidity: 10% to 90% (noncondensing) ◦ Max. altitude: 15,000 ft (4,500m) @ 25°C
System	<ul style="list-style-type: none"> • 1-GB DRAM • 256-MB flash memory • 710-MHz quad-core
Input power requirements	<ul style="list-style-type: none"> • 802.3af or 802.3at power
Powering options	<ul style="list-style-type: none"> • 802.3af/at Ethernet switch • Optional Cisco power injectors (AIR-PWRINJ5=, AIR-PWRINJ6=)
Power draw	<ul style="list-style-type: none"> • 12.5W (maximum, on PoE)
Physical security	<ul style="list-style-type: none"> • Torx security screw, included with the access point
Mounting	<ul style="list-style-type: none"> • Included with the access point: mounting bracket AIR-AP-BRACKET-8
Accessories	<ul style="list-style-type: none"> • Mounting bracket: AIR-AP-BRACKET-8= (available as spare) • Physical security kit: AIR-SEC-50= (sold separately), with 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
Compliance	<ul style="list-style-type: none"> • Safety: <ul style="list-style-type: none"> ◦ UL 60950-1 ◦ CAN/CSA-C22.2 No. 60950-1 ◦ UL 2043 ◦ IEC 60950-1 ◦ EN 60950-1 • Radio approvals: <ul style="list-style-type: none"> ◦ 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) ◦ EN 50385 • IEEE standards: <ul style="list-style-type: none"> ◦ IEEE 802.11a/b/g, 802.11n, 802.11h, 802.11d ◦ IEEE 802.11ac

Item	Specification
	<ul style="list-style-type: none"> • Security: <ul style="list-style-type: none"> ◦ 802.11i, WPA2, WPA ◦ 802.1X ◦ AES • Extensible Authentication Protocol (EAP) types: <ul style="list-style-type: none"> ◦ 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 (EAP-GTC) ◦ EAP-Subscriber Identity Module (EAP-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

¹ MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, modulation, coding rate, and data rate values.

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

Table 3. RF Specifications

Transmit Power and Receive Sensitivity (1815m)					
	Spatial Streams	2.4-GHz Radio		5-GHz Radio	
		Total TX Power (dBm)	RX Sensitivity (dBm)	Total TX Power (dBm)	RX Sensitivity (dBm)
802.11/11b					
1 Mbps	1	27	-100	-	-
11 Mbps	1	27	-91	-	-
802.11a/g					
6 Mbps	1	27	-95	24	-93
24 Mbps	1	27	-89	24	-86
54 Mbps	1	25	-79	24	-77
802.11n HT20					
MSC0	1	27	-94	24	-92
MSC4	1	27	-84	24	-81
MSC7	1	25	-76	23	-74
MSC8	2	27	-93	24	-91
MSC12	2	27	-82	24	-79
MSC15	2	25	-74	23	-72
802.11n HT40					
MCS0	1			24	-89
MCS4	1			24	-78
MCS7	1			23	-71
MCS8	2			24	-88
MCS12	2			24	-76
MCS15	2			23	-69

Transmit Power and Receive Sensitivity (1815m)					
	Spatial Streams	2.4-GHz Radio		5-GHz Radio	
		Total TX Power (dBm)	RX Sensitivity (dBm)	Total TX Power (dBm)	RX Sensitivity (dBm)
802.11ac VHT20					
MCS0	1			24	-92
MCS4	1			24	-81
MCS7	1			21	-74
MCS8	1			20	-70
MCS0	2			24	-91
MCS4	2			24	-79
MCS7	2			21	-72
MCS8	2			20	-68
802.11ac VHT40					
MCS0	1			24	-89
MCS4	1			24	-78
MCS7	1			21	-71
MCS8	1			20	-67
MCS9	1			20	-65
MCS0	2			24	-88
MCS4	2			24	-76
MCS7	2			21	-69
MCS8	2			20	-65
MCS9	2			20	-63
802.11ac VHT80					
MCS0	1			24	-86
MCS4	1			23	-75
MCS7	1			21	-68
MCS8	1			20	-64
MCS9	1			20	-61
MCS0	2			24	-85
MCS4	2			23	-73
MCS7	2			21	-66
MCS8	2			20	-62
MCS9	2			20	-59

Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.

Ordering Information

Table 3 provides ordering information for the Cisco Aironet 1815m Series Access Points. To place an order, visit the [Cisco Ordering Home Page](#). To download software, visit the [Cisco Software Center](#).

Table 4. Ordering Information

Product Name	Part Number
Cisco Aironet 1815m Series	<ul style="list-style-type: none">• AIR-AP1815m-x-K9: Cisco Aironet 1815M Series, Reg Domain x• AIR-AP1815m-x-K9C: Cisco Aironet 1815M Series with Mobility Express, Reg Dom. x<ul style="list-style-type: none">◦ Regulatory domains: (x = regulatory domain)◦ For Mobility Express, part number AIR-AP1815m-x-K9C offers default software option Mobility Express <p>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.</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>

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Warranty Information

The Cisco Aironet 1815m Series 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 helps ensure 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.

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For More Information

For more information about the Cisco Aironet 1815m Series Access Point, visit

<http://www.cisco.com/c/en/us/products/wireless/aironet-1815m-series-access-points/index.html>.




Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

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

Europe Headquarters
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