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Cisco Aironet 1815w Access Point

With a sleek design and small form factor, the Cisco Aironet 1815w Access Point brings a full slate of Cisco high-performance functionality to multiple-dwelling-unit deployments.

Product Overview

The Cisco[®] Aironet[®] 1815w Access Point (Figure 1) offers a compact, wall plate-mountable access point, ideal for hospitality, cruise ships, residential halls, or other multiple-dwelling-unit deployments.

Packing 802.11ac Wave 2 wireless standards support and Gigabit Ethernet wired connectivity into a sleek device, the 1815w is built to take full advantage of existing cabling infrastructure while blending into the visual footprint. This combination provides best-in-class performance while reducing total cost of ownership.





Features and Benefits

By adhering to the 802.11ac Wave 2 standard, the 1815w provides a data rate of up to 867 Mbps on its 5-GHz radio. This 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. This provides the necessary foundation for enterprise and service provider networks to stay ahead of the perform ance expectations and needs of their wireless users.

In recent years corporate users have increasingly preferred wireless access as their form of network connectivity, due to its convenience. With this shift, there is an expectation that wireless should not slow down users' day-to-day activities, but should enable a high-performance experience while allowing users to move about freely. The 1815w delivers industry-leading performance with highly secure and reliable wireless connections that provide a robust, mobile end-user experience.

Feature	Benefit
MU-MIMO	Multiuser (MU) multiple-input multiple-output (MU-MIMO) allows simultaneous data transmission 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 was typically referred to as single-user MIMO (SU-MIMO).
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 (for compatible controllers) or be locally switched by the access point. One of these Ethernet ports can also provide Power over Ethernet (PoE) out to power a device such as an IP phone or a security camera.
Cisco Mobility Express solution	Flexible deployment through the <u>Cisco Mobility Express solution</u> is ideal for small to medium-sized deployments that require 50 or fewer access points. Easy setup allows the 1815w to be deployed on networks without a phy sical controller.
Integrated Bluetooth 4.1	Integrated Bluetooth low-energy (BLE) 4.1 radio for location and asset tracking (future availability).

Increased Wireless Performance

The Aironet 1815w access point supports 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 functionality, 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 1815w allows wired access via a single RJ-45 10/100/1000 auto detection port. It supports full operation modes using PoE 802.3af power. The 1815w comes with three local Gigabit Ethernet ports, one uplink Gigabit Ethernet port, and one passive pass-through RJ-45 port, allowing for a variety of connections.

Mounting

This sleek access point with a small form factor is designed with flexible mounting options in mind. You can mount it directly on the wall or to numerous global wall junction standards. The access point is also easy to install.

Product Specifications

Table 1 lists the specifications for the Cisco Aironet 1815w Access Point. Table 2 lists the RF specifications.

Item	Specification
Authentication and security	 Adv anced Encryption Standard (AES) for Wi-Fi Protected Access 2 (WPA2) 802.1X, RADIUS authentication, authorization and accounting (AAA) 802.11r 802.11i
Software	 Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.4 or later Cisco Mobility Express
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 Dy namic Frequency Selection (DFS) Cy clic shift diversity (CSD) support

Table 1. Specifications

Item	Specificati	Specification							
Ethernet ports	Authentication with 802.1X or MAC filtered								
	Dy namic VLAN or per port								
	Traffic locally switched or tunneled back to wireless LAN controller								
Bluetooth (future Availability)	Integrate	ed Bluetooth 4	4.1 (including Bl	LE) radio					
	Antenna	Antenna gain: 2 dBi							
Data rates supported	802.11a: 6,	9, 12, 18, 24,	36, 48, 54 Mbp	s					
	802.11b/a:	1. 2. 5.5. 6. 9.	. 11. 12. 18. 24.	36. 48. 54 M	bps				
	802.11n da	ta rates on 2.	4 GHz:	,					
	MCS Index	1	Gl ² = 800 ns			GI = 400 ns			
			20-MHz Rate	20-MHz Pate (Mbps)			20-MHz Rate (Mbps)		
			6.5	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	65		
7 8 9		65			72.2				
		13			14.4				
		26			28.9				
	10 11		39			43.3			
			52			57.8			
12		78	78						
	13 14		104			115.6			
			117			130			
15		130			144.4				
	802.11ac d	ata rates on 5	5 GHz:						
	MCS Spatial Index 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	

Item	Specification								
	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	
	0	-		260	790		400	966 7	
Maximum number of		2	- \.	300	/ 60	- domain):	400	000.7	
non-overlapping	A (A regulatory domain):				• 2 412 to 2 472 GHz 13 channels				
channels	• 5 180 to	5 320 GHz: 8	channels		• 5 180 to 5 320) GHz: 8 channe	als		
	• 5 500 to	5 700 GHz [,] 8	channels		• 5 500 to 5 620) GHz: 7 channe	ls		
	(exclude	es 5.600 to 5.6	640 GHz)		• 5 745 to 5 805	GHz: 4 channe	als		
	• 5.745 to	5.825 GHz; 5	channels		N (N regulatory	domain):			
	B (B regula	atory domain):		• 2 412 to 2 462 GHz ⁻ 11 chappels				
	• 2.412 to	2.462 GHz; 1	1 channels		 5.180 to 5.320 GHz; 8 channels 				
	• 5.180 to	5.320 GHz; 8	channels		 5.745 to 5.825 GHz; 5 channels 				
	• 5.500 to	5.720 GHz; 1	2 channels		Q (Q regulatory domain):				
	 5.745 to 5.825 GHz; 5 channels 				• 2.412 to 2.472 GHz; 13 channels				
	C (C regulatory domain):				• 5.180 to 5.320 GHz; 8 channels				
	• 2.412 to 2.472 GHz; 13 channels				• 5.500 to 5.700) GHz; 11 chanr	nels		
	• 5.745 to 5.825 GHz; 5 channels				R (R regulatory	domain):			
	D (D regulatory domain):				• 2.412 to 2.472	2 GHz; 13 chanr	nels		
	• 2.412 to 2.462 GHz; 11 channels				• 5.180 to 5.320) GHz; 8 channe	els		
	• 5.180 to 5.320 GHz; 8 channels				• 5.660 to 5.700) GHz; 3 channe	els		
	• 5.745 to 5.825 GHz; 5 channels				• 5.745 to 5.805	5 GHz; 4 channe	els		
	E (E regula	atory domain):		S (S regulatory	domain):			
	• 2.412 to	2.472 GHz; 1	3 channels		• 2.412 to 2.472	2 GHz; 13 chanr	nels		
	• 5.180 to 5.320 GHz; 8 channels				• 5.180 to 5.320 GHz; 8 channels				
	 5.500 to 5.700 GHz; 8 channels (excludes 5.600 to 5.640 GHz) 				• 5.500 to 5.700 GHz; 11 channels				
	F (F regulatory domain):				• 5.745 to 5.825 GHz; 5 channels				
	• 2.412 to 2.472 GHz; 13 channels				T (T regulatory domain):				
	• 5.745 to 5.805 GHz; 4 channels				• 2.412 to 2.462 GHz; 11 channels				
	G (G regul	atory domain):		• 5.280 to 5.320) GHz; 3 channe	els		
	• 2.412 to 2.472 GHz; 13 channels				 5.500 to 5.700 GHz; 8 channels (excludes 5 600 to 5 640 GHz) 				
	• 5.745 to 5.865 GHz; 7 channels				• 5.745 to 5.825 GHz: 5 channels				
	H (H regula	atory domain):		Z (Z regulatory of	lomain):			
	• 2.412 to 2.472 GHz; 13 channels			• 2.412 to 2.462 GHz; 11 channels					
	• 5.180 to 5.320 GHz; 8 channels				• 5.180 to 5.320 GHz; 8 channels				
	• 5.745 to 5.825 GHz; 5 channels				• 5.500 to 5.700 GHz; 8 channels				
	l (l regulato	ory domain):			(excludes 5.600 to 5.640 GHz)				
	• 2.412 to 2.472 GHz; 13 channels				• 5.745 to 5.825 GHz; 5 channels				
	 5.180 to 5.320 GHz; 8 channels 								
Note: This varies by reg	ulatory domai	in. Refer to the	e product docur	nentation for	specific details for	each regulatory	domain.		

Item	Specification				
Available transmit	2.4 GHz	5 GHz			
power settings	20 dBm (100 mW)	20 dBm (100 mW)			
	17 dBm (50 mW)	17 dBm (50 mW)			
	14 dBm (25 mW)	14 dBm (25 mW)			
	11 dBm (12.5 mW)	11 dBm (12.5 mW)			
	8 dBm (6.25 mW) 8 dBm (6.25 mW)				
	5 dBm (3.13 mW)	5 dBm (3.13 mW)			
	2 dBm (1.56 mW)	2 dBm (1.56 mW)			
	-1 dBm (0.78 mW)	-1 dBm (0.78 mW)			
Note: The maximum pow specific details.	ver setting will vary by channel and according to individ	ual country regulations. Refer to the product document ation for			
Integrated antennas	• 2.4 GHz, gain 2 dBi				
	• 5 GHz, gain 3 dBi				
Interfaces	• 1 x 10/100/1000BASE-T autosensing (RJ-45). Pov	wer over Ethernet (PoE)			
	 Management console port (4-pin connector) 				
	• Three 10/100/1000BASE-T ports (local Ethernet p	orts), including one PoE out port:			
	 PoE out provides 802.3af (class 0) when access 	s point is powered by 802.3at, or no output when powered by			
	802.3af				
	 One passive pass-through port RJ-45 (back to bot 	tom)			
Indicators	 Status LED indicates boot loader status, associati errors 	on status, operating status, boot loader warnings, boot loader			
Dimensions (W x L x H)	• Access point (without mounting bracket): 3.5 x 5.5 x 1.25 in (89 x 140 x 31.5 mm)				
Weight	Access point without mounting bracket or any other	er accessories: 10 oz (280 g)			
Environmental	 Operating Temperature: 32° to 104°F (0° to 40°C) Humidity: 10% to 90% (non-condensing) Max. attitude: 98/4 ft (3,000 m) @ 40°C 				
	 Non-operating (storage and transportation) Temperature: -22° to 158°F (-30° to 70°C) 				
	• Humidity: 10% to 90% (non-condensing)				
	 Max. altitude: 15,000 ft (4,500 m) @ 25°C 				
System	• 1 GB DRAM				
	• 256 MB flash				
	 710 MHz quad-core 				
Powering options	 802.3af/at Ethernet switch Optional Cisco power injectors (AIR-PWRINJ5=, A 	AIR-PWRINJ6=)			
Power draw	 8.5W (maximum, without PoE out) 				
Physical security	 Torx security screw, included with the access poin 	t			
	Kensington lock slot to lock device to mounting bra	acket.			
Mounting	 Included with the access point: mounting bracket A 	AIR-AP-BRACKET-W3			
Accessories	 Mounting bracket: AIR-AP-BRACKET-W3= (availa 	able as spare)			
	 Spacer kit: AIR-AP1815W-KIT= (sold separately), includes spacer and RJ-45 jumper cable 				
	 Physical security kit: AIR-SEC-50= (sold separately), with 50 pcs. security screws used to secure the access point onto wall-mounting bracket, 20 pcs. RJ-45 caps and 2 pcs. unlock keys used to block physical access to 				
	Ethernet ports				
Warranty	Limited Lifetime Hardware Warranty				
Compliance	Safety:				
	• UL 60950-1				
	 CAN/CSA-C22.2 No. 60950-1 				
	• UL 2043				
	• IEC 60950-1				
	~ EN 00930-1				

Item	Specification
	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)
	• EN 50385
	• IEEE standards:
	 IEEE 802.11a/b/g, 802.11n, 802.11h, 802.11d
	• IEEE 802.11ac
	• 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)
	WI-FINUITIMedia (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, and the coding rate and data rate values.

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

Transmit Power and Receive Sensitivity (1815w)							
		2.4-GHz Radio		5-GHz Radio			
	Spatial Streams	Total TX Power (dBm)	RX Sensitivity (dBm)	Total TX Power (dBm)	RX Sensitivity (dBm)		
802.11/11b							
1 Mbps	1	17	-98	NA	NA		
11 Mbps	1	17	-89	NA	NA		
802.11a/g	802.11a/g						
6 Mbps	1	20	-94	17	-94		
24 Mbps	1	20	-87	20	-87		
54 Mbps	1	20	-78	18	-78		
802.11n HT20							
MSC0	1	20	-93	20	-93		
MSC4	1	20	-83	18	-82		

Table 2. RF Specifications

Transmit Power and Receive Sensitivity (1815w)					
MSC7	1	20	-75	16	-75
MSC8	2	20	-90	20	-90
MSC12	2	20	-80	18	-79
MSC15	2	20	-72	16	-72
802.11n HT40					
MSC0	1			20	-90
MSC4	1			18	-79
MSC7	1			16	-72
MSC8	2			20	-87
MSC12	2			18	-76
MSC15	2			16	-69
802.11ac VHT20					
MSC0	1			20	-93
MSC4	1			18	-82
MSC7	1			16	-75
MSC8	1			15	-71
MSC0	2			20	-90
MSC4	2			18	-79
MSC7	2			16	-72
MSC8	2			15	-68
802.11ac VHT40					
MSC0	1			20	-90
MSC4	1			18	-79
MSC7	1			16	-72
MSC8	1			15	-68
MSC9	1			15	-66
MSC0	2			20	-87
MSC4	2			18	-76
MSC7	2			16	-69
MSC8	2			15	-65
MSC9	2			15	-63
802.11ac VHT80					
MSC0	1			20	-87
MSC4	1			18	-77
MSC7	1			16	-69
MSC8	1			15	-65
MSC9	1			15	-63
MSC0	2			20	-84
MSC4	2			18	-74
MSC7	2			16	-66
MSC8	2			15	-62
MSC9	2			15	-60
Note: The maximum powe specific details.	r setting will vary by	channel and according to	o individual country regula	ations. Refer to the produce	ct document ation for

Ordering Information

Table 3 provides ordering information for the Cisco Aironet 1815w Access Point. To place an order, visit the <u>Cisco</u> <u>Ordering Home Page</u>. To download software, visit the <u>Cisco Software Center</u>.

Table 3. Ordering Information

Product Name	Part Number
Cisco Aironet 1815w	 AIR-AP1815w-x-K9: Dual-band, controller-based 802.11a/g/n/ac, Wave 2 AIR-AP1815w-x-K9C: Dual-band 802.11a/g/n/ac Wave 2 with def ault software Mobility Express Regulatory domains: (x = regulatory domain) For Mobility Express, part number AIR-AP1815w-x-K9C offers def ault software option Mobility Express
	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 <u>https://www.cisco.com/go/aironet/compliance</u> . Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.

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For more details, visit: https://www.cisco.com/c/en/us/products/wireless/service-listing.html.

Warranty Information

The Cisco Aironet 1815w 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-dayadvance hardware replacement and ensures that software media is defect-free for 90 days. For more details, visit: <u>https://www.cisco.com/go/warranty</u>.

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 1815w Access Point, visit https://www.cisco.com/c/en/us/products/wireless/aironet-1815-series-access-points/index.html.



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