

Cisco Aironet 1815i Access Point

Ideal for small and medium-sized networks, the Cisco[®] Aironet[®] 1815i Access Point brings a full slate of Cisco high-performance functionality to the enterprise environment.

Product Overview

The Cisco Aironet 1815i delivers industry-leading wireless performance with support for the latest Wi-Fi standard, IEEE's 802.11ac Wave 2 (Figure 1). It also meets the growing requirements of wireless networks by delivering a better user experience.

The 1815i 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.

Figure 1. Cisco Aironet 1815i Access Point



Features and Benefits

By adhering to the 802.11ac Wave 2 standard, the 1815i offers a data rate of up to 867 Mbps on the 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 performance expectations and needs of their wireless users.

Due to its convenience, in recent years corporate users have increasingly preferred wireless access as the form of network connectivity. Along 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 while allowing users to move freely. The 1815i delivers industry-leading performance for highly secure and reliable wireless connections and provides a robust mobility end-user experience. Table 1 lists the features and benefits of the 1815i.

Table 1. Features and Benefits

Feature	Benefit
ми-мімо	Multiuser (MU) multiple-input multiple-output (MU-MIMO) allows transmission of data to multiple 802.11ac Wave 2—capable clients simultaneously 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, typically referred to as single-user MIMO (SU-MIMO). 802.11ac Wave 2 with 2x2:2 MIMO technology uses two spatial streams when operating in SU-MIMO or MU-MIMO mode, offering 867-Mbps rates for more capacity and reliability than competing access points.
Cisco Mobility Express solution	Flexible deployment through the Mobility Express solution is ideal for small to medium-sized deployments. Easy setup allows the 1815i to be deployed on networks without a physical controller.
Integrated Bluetooth 4.1	Integrated Bluetooth low-energy (BLE) 4.1 radio for location and asset tracking (future availability).

Prominent Features

Increased wireless performance

The 1815i 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 1815i allows wired access via a single RJ-45 10/100/1000 auto-detection port. It supports full operation modes using PoE 802.3af power.

Mounting

These sleek access points with a small form factor are designed with flexible mounting options in mind. You can mount them directly on the ceiling or a wall. They are also easy to install.

Product Specifications

Table 2 lists the specifications for the Cisco Aironet 1815i Access Point. Table 3 provides the access point's RF specifications.

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) 802.11r 802.11i
Software	Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.5 or later Cisco Mobility Express
Supported WLAN Controllers	 Cisco 2500 Series Wireless Controllers, Cisco 3500 Series Wireless Controllers, Cisco Wireless Controller Module for ISR G2, Cisco Wireless Services Module 2 (WiSM2) for Catalyst® 6500 Series Switches, Cisco 5500 Series Wireless Controllers, Cisco Flex® 7500 Series Wireless Controllers, Cisco 8500 Series Wireless Controllers, Cisco 9800 series Wireless Controllers, Cisco Mobility Express
Maximum clients	Maximum number of associated wireless clients: 200 per Wi-Fi radio, in total 400 clients per access point

Item	Specificat	tion							
802.11ac	Maxim20-, 40PHY dPacket802.11	 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	Dynam	 Authentication with 802.1X or MAC filtered Dynamic VLAN or per port Traffic locally switched or tunneled back to wireless LAN controller 							
Bluetooth (future availability)	Integrated Bluetooth 4.1 (including BLE) radio Maximum transmit power: 4 dBm Antenna gain: 2 dBi								
Data rates supported	802.11a: 6	5, 9, 12, 18, 2	4, 36, 48, 54 N	/lbps					
	802.11b/g	: 1, 2, 5.5, 6,	9, 11, 12, 18,	24, 36, 48, 54 Mb	ps				
	_	ata rates on							
	MCS Inde	x ¹	GI ² = 800 ns	<u> </u>		GI = 400 ns			
			20-MHz Rate	e (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	10		39			43.3		
	11		52			57.8			
	12		78			86.7			
	13		104			115.6			
	14	14		117			130		
	15	130				144.4			
	802.11ac	data rates or	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	

Item	Specificat	Specification						
	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
	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
					780	_	400	866.7
Maximum number of				300	K (K regulator		-00	500.7
non-overlapping channels	A (A regulatory domain): 2.412 to 2.462 GHz; 11 channels 5.180 to 5.320 GHz; 8 channels (excludes 5.600 to 5.640 GHz) 5.745 to 5.825 GHz; 5 channels (excludes 5.600 to 5.640 GHz) 5.745 to 5.825 GHz; 5 channels (excludes 5.600 to 5.640 GHz) 5.745 to 5.825 GHz; 5 channels (excludes 5.600 to 5.640 GHz) 5.745 to 5.825 GHz; 11 channels 5.180 to 5.320 GHz; 8 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 (E 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 regulatory domain): 2.412 to 2.472 GHz; 13 channels 5.180 to 5.320 GHz; 8 channels 5.180 to 5.320 GHz; 8 channels (excludes 5.600 to 5.640 GHz) F (F regulatory domain): 2.412 to 2.472 GHz; 13 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 5.745 to 5.805 GHz; 7 channels H (H regulatory domain): 2.412 to 2.472 GHz; 13 channels 5.745 to 5.865 GHz; 7 channels 5.745 to 5.865 GHz; 7 channels 5.745 to 5.865 GHz; 7 channels 1 (I regulatory domain):				• 2.412 to 2.4 • 5.180 to 5.3 • 5.500 to 5.6 • 5.745 to 5.8 N (N regulator • 2.412 to 2.4 • 5.180 to 5.3 • 5.745 to 5.8 Q (Q regulator • 2.412 to 2.4 • 5.180 to 5.3 • 5.500 to 5.7 R (R regulator • 2.412 to 2.4 • 5.180 to 5.3 • 5.660 to 5.3 • 5.745 to 5.8 S (S regulator • 2.412 to 2.4 • 5.180 to 5.3 • 5.745 to 5.8 T (T regulator • 2.412 to 2.4 • 5.180 to 5.3 • 5.745 to 5.8 T (T regulator • 2.412 to 2.4 • 5.20 to 5.7 • 5.745 to 5.8 T (T regulator • 2.412 to 2.4 • 5.20 to 5.3 • 5.745 to 5.8 T (T regulator • 2.412 to 2.4 • 5.280 to 5.3 • 5.500 to 5.7 • 5.45 to 5.8 T (Z regulator • 2.412 to 2.4 • 5.180 to 5.3 • 5.500 to 5.7 • 5.745 to 5.8 T (Z regulator • 2.412 to 2.4 • 5.180 to 5.3	472 GHz; 13 cha 320 GHz; 8 char 320 GHz; 7 char 320 GHz; 7 char 325 GHz; 4 char 320 GHz; 8 char 325 GHz; 5 char 326 GHz; 13 cha 320 GHz; 8 char 320 GHz; 8 char 320 GHz; 13 cha 320 GHz; 13 cha 320 GHz; 13 cha 320 GHz; 8 char 700 GHz; 11 cha 320 GHz; 8 char 700 GHz; 11 cha 320 GHz; 8 char 700 GHz; 13 cha 320 GHz; 8 char 700 GHz; 11 cha 320 GHz; 8 char 700 GHz; 11 cha 320 GHz; 8 char 700 GHz; 11 cha 325 GHz; 5 char 9 domain): 462 GHz; 11 cha 320 GHz; 8 char 700 GHz; 11 cha 320 GHz; 8 char 700 GHz; 11 cha 325 GHz; 5 char 9 domain; 462 GHz; 11 cha 320 GHz; 8 char 700 GHz; 8 char 700 GHz; 8 char 700 GHz; 8 char	annels	
		o 2.472 GHz; o 5.320 GHz;			• 5.745 to 5.825 GHz; 5 channels			
Note: This varies by regu				mentation for spe	cific details for e	each regulatory of	lomain.	

Item	Specification				
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 (0.78mW)			
Note: The maximum pow specific details.	er setting will vary by channel and according to individual	country regulations. Refer to the product documentation for			
Integrated antennas	2.4 GHz, gain 2 dBi5 GHz, gain 4 dBi				
Interfaces	1 x 10/100/1000BASE-T autosensing (RJ-45), Powe Management console port (RJ-45)	er over Ethernet (PoE)			
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): 6 x 6 x 1.3 in (150.8 x 150.8 x 33 mm)				
Weight	Access point without mounting bracket or any other accessories: 14 oz (400 g)				
Environmental	 Operating Temperature: 32° to 104°F (0° to 40°C) Humidity: 10% to 90% (noncondensing) Max. altitude: 9843 ft (3000 m) @ 40°C Nonoperating (storage and transportation) Temperature: -22° to 158°F (-30° to 70°C) Humidity: 10% to 90% (noncondensing) Max. altitude: 15,000 ft (4500 m) @ 25°C 				
System	 1 GB DRAM 256 MB flash 710 MHz quad core 				
Input power requirements	Power injector: AIR-PWRINJ5= or AIR-PWRINJ6=				
Powering options	 802.3af/at Ethernet switch Optional Cisco power injectors (AIR-PWRINJ5=, AIR-PWRINJ6=) 				
Power draw	8.3W (maximum, on PoE)				
Physical security	Torx security screw, included with the access point				
Mounting	Included with the access point: mounting bracket All	R-AP-BRACKET8			
Accessories		as spare) , with 50 pcs. Security screws used to secure access point 2 pcs. unlock keys used to block physical access to Ethernet			
Warranty	Limited Lifetime Hardware Warranty				

tem	Specification
Compliance	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)
	∘ 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)
	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.

Table 3.RF Specifications

Transmit Power and Rec	eive Sensitivity (1815i)				
			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					
6 Mbps	1	20	-94	17	-94
24 Mbps	1	20	-87	20	-87

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

			2.4-GHz Radio	5-GHz Radio	
	Spatial Streams	Total TX Power (dBm)	RX Sensitivity (dBm)	Total TX Power (dBm)	RX Sensitivity (dBm)
54 Mbps	1	20	-78	18	-78
302.11n HT20	' '	20	70	10	70
MSC0	1	20	-93	20	-93
MSC4	1	20	-83	18	-82
MSC7	1	20	-75	16	-75
MSC8	2	20	-90	20	-90
MSC12	2	20	-80	18	-79
MSC12	2	20	-72	16	-79
802.11n HT40	2	20	-12	16	-12
	4			00	00
MSC0	1			20	-90
MSC4	1			18	-79
MSC7	1			16	-72
MSC8	2			20	-87
MSC12	2			18	-76
MSC15	2			16	-69
302.11ac 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
VISC7	2			16	-72
MSC8	2			15	-68
302.11ac 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

			2.4-GHz Radio	5-GHz Radio	
	Spatial Streams	Total TX Power (dBm)	RX Sensitivity (dBm)	Total TX Power (dBm)	RX Sensitivity (dBm)
MSC0	2			20	-84
MSC4	2			18	-74
MSC7	2			16	-66
MSC8	2			15	-62
MSC9	2			15	-60

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 4 provides ordering information for the Cisco Aironet 1815i Access Point. To place an order, visit the <u>Cisco Ordering homepage</u>. To download software, visit the <u>Cisco Software Center</u>.

Table 4. Ordering Information

Product Name	Part Number
Cisco Aironet 1815i	 AIR-AP1815i-x-K9: Dual-band, controller-based 802.11a/g/n/ac, Wave 2 AIR-AP1815i-x-K9C: Dual-band 802.11a/g/n/ac Wave 2 with default software Mobility Express Regulatory domains: (x = regulatory domain) For Mobility Express, part number AIR-AP1815i-x-K9C offers default 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 https://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

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



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