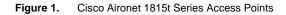# Cisco Aironet 1815t Series Access Points

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

Product Overview

The Cisco® Aironet® 1815t Series Access Points (Figure 1) offer a highly secure enterprise wired and wireless connection to the home, micro-branch, or any type of remote sites. No longer will geography or the elements play a role in delaying productivity, as the 1815t Series extends the corporate network to teleworkers, mobile workers, and even micro-sites. The access points connect to the home or on-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 network experience consistent with that at the corporate office. The 1815t Series supports highly secure access to corporate data and personal connectivity for teleworkers' home devices, with segmented home traffic.

Figure 1.   Cisco Aironet 1815t Series Access Points

Features and Benefits

The Cisco Aironet 1815t Series helps improve workforce productivity, business resiliency, and job flexibility while reducing travel costs and carbon emissions. The 1815t Series targets commercial, enterprise, and service provider networks across all industries. Employees who need reliable and consistent access to networked business services at home, and micro-branches where remote workers require the same network connectivity as at the corporate site, are both excellent candidates for the 1815t Series.

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 work, but should enable a high-performance experience. The 1815t Series 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).
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	Using the same profile as at the corporate office, the Aironet 1815t Series establishes a secure Datagram Transport Layer Security (DTLS) connection between the access point and the controller to offer remote WLAN connectivity.
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.

Increased Wireless Performance

The Aironet 1815t Series 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 1815t Series allows wired access via a single RJ-45 10/100/1000 auto detection port. The access points come with three local Gigabit Ethernet ports and one uplink Gigabit Ethernet port, allowing for a variety of connections.

Mounting

The 1815t Series can be configured at the corporate office and shipped, for a simple install at the remote office. The integrated antennas optimize wireless coverage when resting on a desk.

Product Specifications

Table 1 lists the specifications for the Cisco Aironet 1815t Series Access Points. Table 2 lists the RF specifications.

Table 1.   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 8.4 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

Item	Specification
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:

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
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

Item	Specification							
	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

Item	Specification
Maximum number of non-overlapping 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 5.865 GHz; 7 channels **H (H 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 **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 5.700 GHz; 3 channels • 5.745 to 5.805 GHz; 4 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.
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 3 dBi

Item	Specification
Interfaces	• 1 x 10/100/1000BASE-T autosensing (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=)
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 4 x 1.5 in (152.4 x 101.6 x 37.7mm)
Weight	• Access point without mounting bracket or any other accessories: 13 oz (365 g)

Environmental	• Operating
	  ◦ Temperature: 32° to 104°F (0° to 40°C)
	  ◦ Humidity: 10% to 90% (non-condensing)
	  ◦ Max. altitude: 9843 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	• 512 MB DRAM • 128 MB flash • 710 MHz quad-core
Input power requirements	• 44 to 52V DC
Power draw	• 8.5W (no PoE out and no USB)
PoE output	• 802.3af: 15.4W at port
Physical security	• Kensington lock slot
Accessories	• 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	• 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

Item	Specification
	• 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, and the coding rate and data rate values.

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

Table 2.   RF Specifications

Transmit Power and Receive Sensitivity (1815t)					
		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
54 Mbps	1	20	-78	18	-78
802.11n HT20					
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
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

Transmit Power and Receive Sensitivity (1815t)					
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 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 1815t Series 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 1815t Series	• AIR-AP1815t-x-K9: Dual-band, controller-based 802.11a/g/n/ac, Wave 2 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.

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

Warranty Information

The Cisco Aironet 1815t 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 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.

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For More Information

For more information about the Cisco Aironet 1815t Series Access Points, visit
http://www.cisco.com/c/en/us/products/wireless/aironet-1815t-series-access-points/index.html.

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