AIR-AP1815I-S-K9 Datasheet

Overview

The Cisco Aironet 1815i delivers industry-leading wireless performance with support for the latest Wi-Fi standard, IEEE's 802.11ac Wave 2. 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.

Product Details

Table 1 shows the Features and Benefits.

Feature	Benefit
MU-MIMO	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).

Table 2 shows the models list.

SKU	Description
AIR-AP1815I-A-K9	Cisco Aironet 1815i Series (not for US), Reg Domain A
AIR-AP1815I-A-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain A
AIR-AP1815I-E-K9	Cisco Aironet 1815i Series, Reg Domain E
AIR-AP1815I-E-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain E
AIR-AP1815I-I-K9	Cisco Aironet 1815i Series, Reg Domain I
AIR-AP1815I-I-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain I
AIR-AP1815I-N-K9	Cisco Aironet 1815i Series, Reg Domain N
AIR-AP1815I-N-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain N
AIR-AP1815I-S-K9	Cisco Aironet 1815i Series, Reg Domain S
AIR-AP1815I-S-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain S
AIR-AP1815I-Z-K9	Cisco Aironet 1815i Series, Reg Domain Z
AIR-AP1815I-Z-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain Z
AIR-AP1815I-B-K9	Cisco Aironet 1815i Series (for US), Reg Domain B
AIR-AP1815I-B-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain B
AIR-AP1815I-C-K9	Cisco Aironet 1815i Series, Reg Domain C
AIR-AP1815I-D-K9	Cisco Aironet 1815i Series, Reg Domain D
AIR-AP1815I-T-K9	Cisco Aironet 1815i Series, Reg Domain T

AIR-AP1815I-D-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain D
AIR-AP1815I-H-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain H
AIR-AP1815I-K-K9	Cisco Aironet 1815i Series, Reg Domain K
AIR-AP1815I-K-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain K
AIR-AP1815I-Q-K9	Cisco Aironet 1815i Series, Reg Domain Q
AIR-AP1815I-Q-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain Q
AIR-AP1815I-T-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain T
AIR-AP1815I-F-K9	Cisco Aironet 1815i Series, Reg Domain F
AIR-AP1815I-F-K9C	Cisco Aironet Mobility Express 1815i Series, Reg Domain F
Note	• 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

Supported Platforms

Table 3 shows the Supported WLAN Controllers of this AP series.

Supported WLAN Controllers	Recommended Model
Cisco 2500 Series Wireless Controllers	AIR-CT2504-5-K9 AIR-CT2504-15-K9 AIR-CT2504-25-K9
Cisco 3500 Series Wireless Controllers	AIR-CT3504-K9
Cisco Wireless Controller Module for ISR G2	/
Cisco Wireless Services Module 2 (WiSM2) for Catalyst® 6500 Series Switches	/
Cisco 5500 Series Wireless Controllers	AIR-CT5508-12-K9 AIR-CT5508-25-K9 AIR-CT5520-K9
Cisco Flex® 7500 Series Wireless Controllers	AIR-CT7510-300-K9 AIR-CT7510-500-K9
Cisco 8500 Series Wireless Controllers	AIR-CT8510-300-K9 AIR-CT8540-K9
Cisco 9800 series Wireless Controllers	C9800-40-K9 C9800-80-K9
Cisco Mobility Express	/

Get More Information

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Specification

Cisco Aironet 1815i Access Point 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
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
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, 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 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
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

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)

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 (0.78mW)

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 4 dBi
Interfaces	● 1 x 10/100/1000BASE-T autosensing (RJ-45), Power over Ethernet (PoE) ● Management console port (RJ-45)
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 AIR-AP-BRACKET8
Accessories	• Mounting bracket: AIR-AP-BRACKET8= (available as spare) • Physical security kit: AIR-SEC-50= (sold separately), with 50 pcs. Security screws used to secure 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 • 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

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