# AIR-AP1815T-H-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<br>Mobility<br>Express<br>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<br>Bluetooth<br>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<br>AIR-CT2504-15-<br>K9 AIR-CT2504-<br>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-<br>K9 AIR-CT5508-<br>25-K9 AIR-<br>CT5520-K9  |
| Cisco Flex® 7500 Series Wireless Controllers                                | AIR-CT7510-300-<br>K9 AIR-CT7510-<br>500-K9                  |
| Cisco 8500 Series Wireless Controllers                                      | AIR-CT8510-300-<br>K9 AIR-CT8540-K9                          |
| Cisco 9800 series Wireless Controllers                                      | C9800-40-K9<br>C9800-80-K9                                   |
| Cisco Mobility Express  | /  |

#### **Get More Information**

Do you have any question about the Cisco Aironet 1815i Access Point?

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# Specification

|                                       | Ciso  | co Aironet 1815i Access Point S | Specification      |  |  |
|---------------------------------------|---|---------------------------------|--------------------|--|--|
| Authentication and security           | <ul> <li>Advanced Encryption Standard (AES) for Wi-Fi Protected Access 2 (WPA2)</li> <li>802.1X, RADIUS authentication, authorization, and accounting (AAA)</li> <li>802.11r</li> <li>802.11i</li> </ul>  |                                 |                    |  |  |
| Software                              | <ul> <li>Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.5 or later</li> <li>Cisco Mobility Express</li> </ul>   |                                 |                    |  |  |
| Supported<br>WLAN<br>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<br>clients                    | Maximum number of associated wireless clients: 200 per Wi-Fi radio, in total 400 clients per access point   |                                 |                    |  |  |
| 802.11ac                              | <ul> <li>2x2 single-user/multiuser MIMO with two spatial streams</li> <li>Maximal ratio combining (MRC)</li> <li>20-, 40- and 80-MHz channels</li> <li>PHY data rates up to 866.7 Mbps (80 MHz on 5 GHz)</li> <li>Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx)</li> <li>802.11 Dynamic Frequency Selection (DFS)</li> <li>Cyclic shift diversity (CSD) support</li> </ul>                            |                                 |                    |  |  |
| Ethernet ports                        | <ul> <li>Authentication with 802.1X or MAC filtered</li> <li>Dynamic VLAN or per port</li> <li>Traffic locally switched or tunneled back to wireless LAN controller</li> </ul>  |                                 |                    |  |  |
| Bluetooth<br>(future<br>availability) | <ul> <li>Integrated Bluetooth 4.1 (including BLE) radio</li> <li>Maximum transmit power: 4 dBm</li> <li>Antenna gain: 2 dBi</li> </ul>  |                                 |                    |  |  |
| Data rates                            | 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps  |                                 |                    |  |  |
| supported                             | 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              |  |  |
|                                       |   |                                 |                    |  |  |

|                               | 130  |   |   | 144.4                                      |  |   |
|-------------------------------|--|---|---|--|--|---|
| 802.11ac data rates on 5 GHz: |  |   |   |  |  |   |
| Spatial<br>Streams            | GI = 800 ns  |   | GI = 400 ns                                 |  |  |   |
|                               | 20-MHz Rate<br>(Mbps)                                  | 40-MHz Rate<br>(Mbps)                                   | 80-MHz Rate<br>(Mbps)                       | 20-MHz Rate<br>(Mbps)                      | 40-MHz Rate<br>(Mbps)                      | 80-MHz Rate<br>(Mbps)                                     |
| 1                             | 6.5  | 13.5  | 29.3  | 7.2  | 15   | 32.5  |
| 1                             | 13   | 27  | 58.5  | 14.4                                       | 30   | 65  |
| 1                             | 19.5   | 40.5  | 87.8  | 21.7                                       | 45   | 97.5  |
| 1                             | 26   | 54  | 117   | 28.9                                       | 60   | 130   |
| 1                             | 39   | 81  | 175.5                                       | 43.3                                       | 90   | 195   |
| 1                             | 52   | 108   | 234   | 57.8                                       | 120  | 260   |
| 1                             | 58.5   | 121.5   | 263.3                                       | 65   | 135  | 292.5   |
| 1                             | 65   | 135   | 292.5                                       | 72.2                                       | 150  | 325   |
| 1                             | 78   | 162   | 351   | 86.7                                       | 180  | 390   |
| 1                             | -  | 180   | 390   | -  | 200  | 433.3   |
| 2                             | 13   | 27  | 58.5  | 14.4                                       | 30   | 65  |
| 2                             | 26   | 54  | 117   | 28.9                                       | 60   | 130   |
| 2                             | 39   | 81  | 175.5                                       | 43.3                                       | 90   | 195   |
| 2                             | 52   | 108   | 234   | 57.8                                       | 120  | 260   |
| 2                             | 78   | 162   | 351   | 86.7                                       | 180  | 390   |
| 2                             | 104  | 216   | 468   | 115.6                                      | 240  | 520   |
| 2                             | 117  | 243   | 526.5                                       | 130  | 270  | 585   |
| 2                             | 130  | 270   | 585   | 144.4                                      | 300  | 650   |
| 2                             | 156  | 324   | 702   | 173.3                                      | 360  | 780   |
| 2                             | -  | 360   | 780   | _  | 400  | 866.7   |
|                               | Spatial Streams  1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 | Spatial Streams GI = 800 ns Streams GI = 800 ns Streams | Acc data rates on 5 GHz:    Spatial Streams | Ac data rates on 5 GHz:    Spatial Streams | Ac data rates on 5 GHz:    Spatial Streams | Spatial Streams   GI = 800 ns   GI = 400 ns   GI = 400 ns |

| Maximum<br>number of<br>non-<br>overlapping<br>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 B (B regulatory domain):  2.412 to 2.462 GHz; 11 channels 5.180 to 5.320 GHz; 8 channels 5.180 to 5.320 GHz; 8 channels 5.180 to 5.320 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 5.745 to 5.825 GHz; 5 channels Up 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 (E (E regulatory domain):  2.412 to 2.472 GHz; 13 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 (f (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 5.745 to 5.865 GHz; 7 channels (5.745 to 5.865 GHz; 13 channels (5.745 to 5.865 GHz; 13 channels (5.745 to 5.825 GHz; 5 channels (6 (F regulatory domain):  2.412 to 2.472 GHz; 13 channels (6 (F regulatory domain):  2.412 to 2.472 GHz; 13 channels (6 (F regulatory domain):  2.412 to 2.472 GHz; 13 channels (6 (F regulatory domain):  2.412 to 2.472 GHz; 13 channels (6 (F regulatory domain):  2.412 to 2.472 GHz; 13 channels (6 (F regulatory domain):  2.412 to 2.472 GHz; 13 channels (7 regulatory domain):  2.412 to 2.472 GHz; 13 channels (8 channels (9 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 | 2.4 GHz          | 5 GHz            |
|-----------|------------------|------------------|
| transmit  | 20 dBm (100 mW)  | 20 dBm (100 mW)  |
| power     | 17 dBm (50 mW)   | 17 dBm (50 mW)   |
| settings  | 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 (0.78mW)  |
|           |                  |                  |

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       | <ul><li>2.4 GHz, gain 2 dBi</li><li>5 GHz, gain 4 dBi</li></ul>   |
|---------------------------|---|
| Interfaces                | <ul> <li>1 x 10/100/1000BASE-T autosensing (RJ-45), Power over Ethernet (PoE)</li> <li>Management console port (RJ-45)</li> </ul>   |
| Indicators                | Status LED indicates boot loader status, association status, operating status, boot loader warnings, boot loader errors   |
| Dimensions<br>(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             | <ul> <li>Operating</li> <li>Temperature: 32° to 104°F (0° to 40°C)</li> <li>Humidity: 10% to 90% (noncondensing)</li> <li>Max. altitude: 9843 ft (3000 m) @ 40°C</li> <li>Nonoperating (storage and transportation)</li> <li>Temperature: -22° to 158°F (-30° to 70°C)</li> <li>Humidity: 10% to 90% (noncondensing)</li> <li>Max. altitude: 15,000 ft (4500 m) @ 25°C</li> </ul> |

| System       | • 1 GB DRAM  |
|--------------|--|
|              | 256 MB flash     710 MHz good core   |
|              | 710 MHz quad core  |
| Input power  | Power injector: AIR-PWRINJ5= or AIR-PWRINJ6=   |
| requirements | - Tono injector fully invalide   |
|              |  |
| Powering     | 802.3af/at Ethernet switch   |
| options      | Optional Cisco power injectors (AIR-PWRINJ5=, AIR-PWRINJ6=)  |
| Power draw   | 8.3W (maximum, on PoE)   |
| Power draw   | • 6.5w (maximum, on FoL)   |
| Physical     | Torx security screw, included with the access point  |
| security     |  |
|              |  |
| Mounting     | Included with the access point: mounting bracket AIR-AP-BRACKET8   |
| Accessories  | Mounting bracket: AID AD DDACVETS— (available as spare)  |
| Accessories  | <ul> <li>Mounting bracket: AIR-AP-BRACKET8= (available as spare)</li> <li>Physical security kit: AIR-SEC-50= (sold separately), with 50 pcs. Security screws used to secure access point onto wall-</li> </ul> |
|              | 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  |
|              | ○ UL 2043<br>○ 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, 802.11d<br>  • 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:     Will Fi Multimedia (WMM)   |
|              | Wi-Fi Multimedia (WMM)   |
|              | Other:      FCC Bulletin OFT 6FC   |
|              | FCC Bulletin OET-65C  RSS-102  |
|              |  |
|              |  |

## Contact Us

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