Cisco Aironet 1700 Series Access Points

Dual-Band Access Points with 802.11ac Wave 1 Support on the Integrated 5-GHz Radio

Ideal for Office Environments

- Sleek design with internal antennas
- Automatic remedial action
- UL 2043 plenum−rated for above-ceiling installation or suspension from drop ceilings
- Controller-based and standalone deployments

Troubleshooting Forensics

- Historic interference information for back-in-time analysis and faster problem solving
- 24x7 monitoring
- Air quality index provides a snapshot of network performance and interference impact

Robust Security and Policy Enforcement

- Detects rogue access points and denial-of-service attacks
- Management frame protection detects malicious users and alerts network administrators
- Policies prohibit devices that interfere with or jeopardize network security

Product Overview

If you operate a small or medium-sized enterprise network, deploy the Cisco® Aironet® 1700 Series Access Point for the latest 802.11ac Wi-Fi technology at an attractive price. The 1700 Series meets the growing requirements of wireless networks by delivering better performance than 802.11n and providing key RF management features for improved wireless experiences.

The 1700 Series supports 802.11ac Wave 1 standard capabilities. That includes a theoretical connection rate of up to 867 Mbps. The added throughput lets you stay ahead of growing bandwidth requirements as:

- More wireless clients associate with the network
- Users tap into bandwidth-heavy multimedia applications
- Mobile workers increasingly use multiple Wi-Fi devices

Features and Benefits

Building on the Cisco Aironet heritage of RF excellence, the 1700 Series access points run on a purpose-built, innovative chipset with a best-in-class RF architecture. The 1700 Series is a component of Cisco's flagship, 802.11ac-enabled Aironet access points that deliver robust mobility experiences.

Table 1. Primary Capabilities and How You Benefit

Feature	Benefit
802.11ac Wave 1 support with 3x3 multiple input and multiple output (MIMO) and two spatial streams	Delivers higher rates over a greater range for more capacity and reliability than competing access points. Provides up to three times more bandwidth than 802.11n networks.
Cisco CleanAir® Express Spectrum Intelligence	Detects RF interference and provides basic spectrum analysis capabilities while simplifying ongoing operations across 20-, 40-, and 80-MHz-wide channels
Optimized access point roaming	Directs client devices to associate with the access point in their coverage range, offering the fastest data rate available
MIMO equalization	Boosts uplink performance and reliability by reducing the impact of signal fade

Product Specifications

Item	Specification
Part numbers	**Cisco Aironet 1700i Access Point: Indoor environments, with internal antennas** • AIR-CAP1702I-**x**-K9: Dual-band, controller-based 802.11a/g/n/ac • AIR-CAP1702I-**x**K910: Eco-pack (dual-band 802.11a/g/n/ac) 10 quantity access points **Cisco SMARTnet® Service for the Cisco Aironet 1700i Access Point with internal antennas** • CON-SNT-C172Ix: SMARTnet 8x5xNBD for 1700i access point (dual-band 802.11a/g/n/ac) • CON-SNT-C172Ix10: SMARTnet 8x5xNBD for 10-quantity eco-pack 1700i access point (dual-band 802.11a/g/n/ac) **Regulatory domains: (x = regulatory domain)** Customers are responsible for verifying approval for use in their individual countries. To verify approval and to identify the regulatory domain that corresponds to a particular 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** • 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
Software	Cisco Unified Wireless Network Software Release 8.0 or later Cisco Autonomous AP IOS Software Release 15.3.3-JAB or later
Supported wireless LAN controllers	Cisco 2500 Series Wireless Controllers, Cisco Wireless Controller Module for ISR G2, Cisco Wireless Services Module 2 (WiSM2) for Cisco Catalyst® 6500 Series Switches, Cisco 5500 Series Wireless Controllers, Cisco Flex® 7500 Series Wireless Controllers, Cisco 8500 Series Wireless Controllers, Cisco Virtual Wireless Controller; Cisco 5760 Wireless LAN Controller, Cisco Catalyst 3850 Series Switches, Cisco Catalyst 3650 Series Switches
802.11n version 2.0 (and related) capabilities	• 3x3 MIMO with two spatial streams • Maximal ratio combining (MRC) • 802.11n and 802.11a/g beamforming • 20- and 40-MHz channels • PHY data rates up to 300 Mbps (40 MHz with 5 GHz) • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) • 802.11 Dynamic Frequency Selection (DFS) • Cyclic shift diversity (CSD) support
802.11ac Wave 1 capabilities	• 3x3 MIMO with two spatial streams • MRC • 802.11ac standard explicit beamforming • 20-, 40-, and 80-MHz channels • PHY data rates up to 867 Mbps (80 MHz in 5 GHz) • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) • 802.11 DFS • CSD support

Item	Specification							
Data rates supported	**802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps**							
	802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps							
	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 (5 GHz):							
	MCS Index[3]	**Spatial Streams**	**GI[4] = 800ns**			**GI = 400ns**		
			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] MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, the modulation, the coding rate, and data rate values.
[2] GI: A guard interval (GI) between symbols helps receivers overcome the effects of multipath delays.
[3] MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, the modulation, the coding rate, and data rate values.
[4] GI: A guard interval (GI) between symbols helps receivers overcome the effects of multipath delays.

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
	9	2	-	360	780	-	400	866.7

Frequency band and 20-MHz operating 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 **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 **H (H regulatory domain):** • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.350 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 5.805 GHz; 7 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: Customers are responsible for verifying approval for use in their individual countries. To verify approval and to identify the regulatory domain that corresponds to a particular country, visit https://www.cisco.com/go/aironet/compliance.		
Maximum number of nonoverlapping channels	**2.4 GHz** • 802.11b/g: ◦ 20 MHz: 3 • 802.11n: ◦ 20 MHz: 3	**5 GHz** • 802.11a: ◦ 20 MHz: 24 • 802.11n: ◦ 20 MHz: 24 ◦ 40 MHz: 11 • 802.11ac: ◦ 20 MHz: 24 ◦ 40 MHz: 11 ◦ 80 MHz: 5
Note: This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.		

<table>
<tr><th>Item</th><th colspan="8">Specification</th></tr>
<tr><td>Receive sensitivity</td><td colspan="2">• 802.11b (CCK)
◦ -101 dBm @ 1 Mbps
◦ -99 dBm @ 2 Mbps
◦ -93 dBm @ 5.5 Mbps
◦ -90 dBm @ 11 Mbps</td><td colspan="2">• 802.11g (non HT20)
◦ -93 dBm @ 6 Mbps
◦ -92 dBm @ 9 Mbps
◦ -92 dBm @ 12 Mbps
◦ -91 dBm @ 18 Mbps
◦ -88 dBm @ 24 Mbps
◦ -85 dBm @ 36 Mbps
◦ -80 dBm @ 48 Mbps
◦ -79 dBm @ 54 Mbps</td><td colspan="2">• 802.11a (non HT20)
◦ -93 dBm @ 6 Mbps
◦ -92 dBm @ 9 Mbps
◦ -92 dBm @ 12 Mbps
◦ -91 dBm @ 18 Mbps
◦ -88 dBm @ 24 Mbps
◦ -85 dBm @ 36 Mbps
◦ -80 dBm @ 48 Mbps
◦ -79 dBm @ 54 Mbps</td><td colspan="2"></td></tr>
<tr><td></td><td colspan="2">2.4 GHz
• 802.11n (HT20)
◦ -93 dBm @ MCS0
◦ -92 dBm @ MCS1
◦ -90 dBm @ MCS2
◦ -87 dBm @ MCS3
◦ -84 dBm @ MCS4
◦ -79 dBm @ MCS5
◦ -78 dBm @ MCS6
◦ -77 dBm @ MCS7
◦ -92 dBm @ MCS8
◦ -90 dBm @ MCS9
◦ -88 dBm @ MCS10
◦ -85 dBm @ MCS11
◦ -82 dBm @ MCS12
◦ -78 dBm @ MCS13
◦ -76 dBm @ MCS14
◦ -75 dBm @ MCS15</td><td colspan="2"></td><td colspan="2">5 GHz
• 802.11n (HT20)
◦ -93 dBm @ MCS0
◦ -92 dBm @ MCS1
◦ -90 dBm @ MCS2
◦ -87 dBm @ MCS3
◦ -84 dBm @ MCS4
◦ -80 dBm @ MCS5
◦ -78 dBm @ MCS6
◦ -77 dBm @ MCS7
◦ -92 dBm @ MCS8
◦ -90 dBm @ MCS9
◦ -88 dBm @ MCS10
◦ -85 dBm @ MCS11
◦ -82 dBm @ MCS12
◦ -77 dBm @ MCS13
◦ -76 dBm @ MCS14
◦ -74 dBm @ MCS15</td><td colspan="2">5 GHz
• 802.11n (HT40)
◦ -90 dBm @ MCS0
◦ -88 dBm @ MCS1
◦ -87 dBm @ MCS2
◦ -84 dBm @ MCS3
◦ -81 dBm @ MCS4
◦ -76 dBm @ MCS5
◦ -75 dBm @ MCS6
◦ -74 dBm @ MCS7
◦ -89 dBm @ MCS8
◦ -87 dBm @ MCS9
◦ -85 dBm @ MCS10
◦ -82 dBm @ MCS11
◦ -78 dBm @ MCS12
◦ -74 dBm @ MCS13
◦ -73 dBm @ MCS14
◦ -71 dBm @ MCS15</td></tr>
<tr><td></td><td colspan="8">802.11ac Receive Sensitivity</td></tr>
<tr><td></td><td colspan="8">802.11ac (non HT80)
• -86 dBm @ 6 Mbps
• -74 dBm @ 54 Mbps</td></tr>
<tr><td></td><td>MCS Index[5]</td><td>Spatial Streams</td><td colspan="6"></td></tr>
<tr><td></td><td></td><td></td><td>VHT20</td><td>VHT40</td><td>VHT80</td><td>VTH20-STBC</td><td>VHT40-STBC</td><td>VHT80-STBC</td></tr>
<tr><td></td><td>0</td><td>1</td><td>-92 dBm</td><td>-89 dBm</td><td>-85 dBm</td><td>-92 dBm</td><td>-89 dBm</td><td>-85 dBm</td></tr>
<tr><td></td><td>8</td><td>1</td><td>-73 dBm</td><td></td><td></td><td>-73 dBm</td><td></td><td></td></tr>
<tr><td></td><td>9</td><td>1</td><td></td><td>-68 dBm</td><td>-65 dBm</td><td></td><td>-68 dBm</td><td>-65 dBm</td></tr>
<tr><td></td><td>0</td><td>2</td><td>-91 dBm</td><td>-87 dBm</td><td>-84 dBm</td><td></td><td></td><td></td></tr>
<tr><td></td><td>8</td><td>2</td><td>-71 dBm</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>9</td><td>2</td><td></td><td>-66 dBm</td><td>-62 dBm</td><td></td><td></td><td></td></tr>
<tr><td>Maximum transmit power</td><td colspan="4">2.4 GHz
• 802.11b
◦ 22 dBm, 3 antennas
• 802.11g
◦ 22 dBm, 3 antennas
• 802.11n (HT20)
◦ 22 dBm, 3 antennas</td><td colspan="4">5 GHz
• 802.11a
◦ 22 dBm, 3 antennas
• 802.11n (HT20)
◦ 22 dBm, 3 antennas
• 802.11n (HT40)
◦ 22 dBm, 3 antennas
• 802.11ac
◦ non-HT80: 22 dBm, 3 antennas</td></tr>
</table>

[5] MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, the modulation, the coding rate, and data rate values.

Item	Specification	
		◦ VHT20 22 dBm, 3 antennas ◦ VHT40: 22 dBm, 3 antennas ◦ VHT80: 22 dBm, 3 antennas ◦ VHT20-STBC: 22 dBm, 3 antennas ◦ VHT40-STBC: 22 dBm, 3 antennas ◦ VHT80-STBC: 22 dBm, 3 antennas
Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.		
Available transmit power settings	**2.4 GHz** • 22 dBm (160 mW) • 19 dBm (80 mW) • 16 dBm (40 mW) • 13 dBm (20 mW) • 10 dBm (10 mW) • 7 dBm (5 mW) • 4 dBm (2.5 mW) • 2 dBm (1.25 mW)	**5 GHz** • 22 dBm (160 mW) • 19 dBm (80 mW) • 16 dBm (40 mW) • 13 dBm (20 mW) • 10 dBm (10 mW) • 7 dBm (5 mW) • 4 dBm (2.5 mW) • 1 dBm (1.25 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 antenna	• 2.4 GHz, gain 4 dBi, internal omni, horizontal beamwidth 360° • 5 GHz, gain 4 dBi, internal omni, horizontal beamwidth 360°	
Interfaces	• 2x10/100/1000BASE-T autosensing (RJ-45) • 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): 8.69 x 8.69 x 1.99 in. (22.1 x 22.1 x 5.1 cm)	
Weight	• 2.2 lb (1.0 kg)	
Environmental	**Cisco Aironet 1702i** • Non-operating (storage) temperature: −22° to 158°F (-30° to 70°C) • Non-operating (storage) altitude test: 25˚C, 15,000 ft. • Operating temperature: 32° to 104°F (0° to 40°C) • Operating humidity: 10% to 90% percent (non-condensing) • Operating altitude test: 40˚C, 9843 ft.	
System memory	• 512 MB DRAM • 64 MB flash	
Input power requirements	• AP1700: 44 to 57 VDC • Power supply and power injector: 100 to 240 VAC; 50 to 60 Hz	
Power draw	• AP1700: 15W	
Powering options	• 802.3af PoE • 802.3at PoE+ • Enhanced PoE • Cisco AP1700 power injectors (AIR-PWRINJ5=) • Cisco AP1700 local power supply (AIR-PWR-C= or AIR-PWR-D=)	
Warranty	Limited lifetime hardware warranty	
Compliance standards	◦ UL 60950-1 ◦ CAN/CSA-C22.2 No. 60950-1 ◦ UL 2043 ◦ IEC 60950-1 ◦ EN 60950-1 ◦ EN 50155 • Radio approvals: ◦ FCC Part 15.247, 15.407	

Item	Specification
	◦ RSS-210 (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 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC • IEEE standards: ◦ IEEE 802.11a/b/g, 802.11n, 802.11h, 802.11d ◦ IEEE 802.11ac Draft 5 • Security: ◦ 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA ◦ 802.1X ◦ Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) • 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 Wi-Fi CERTIFIED™ a, b, g, n, ac

Ordering Information

To place an order, visit the Cisco Ordering Home Page. To download software, visit the Cisco Software Center.

Table 2. Ordering Information

Product Name/Description	Part Number
Cisco Aironet 1702i access point; dual-band, controller-based 802.11a/g/n/ac (individual)	AIR-CAP1702I-x-K9
Cisco Aironet 1702i access point; dual-band, controller-based 802.11a/g/n/ac eco-pack (10 quantity)	AIR-CAP1702I-xK910

Limited Lifetime Hardware Warranty

The Cisco Aironet 1700 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 makes sure that software media are defect-free for 90 days. For more details, visit https://www.cisco.com/go/warranty.

Cisco Wireless LAN Services

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For More Information

For more information about the Cisco Aironet 1700 Series, visit https://www.cisco.com/go/wireless or contact your local account representative.

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