

Cisco Aironet 1560 Series Outdoor Access Points



Cisco Aironet[®] 1560 Series Outdoor Access Points offer the latest 802.11ac Wave 2 functions in a rugged, low-profile housing that service providers and enterprises can deploy easily.

Ideal for applications requiring rugged outdoor Wi-Fi coverage, the Cisco Aironet 1560 Series Access Points offer the latest IEEE 802.11ac Wave 2 radio standard in a compact, aesthetically pleasing, easy-to-deploy package. The 1560 Series offers flexible deployment options for service providers and enterprise networks, that need the fastest links possible for mobile, outdoor clients (smartphones, tablets, and laptops) and wireless backhaul. With options for internal or external antennas, the 1560 Series Access Points give network operators the flexibility to balance their desired wireless coverage with their need for easy deployment. The Cisco Aironet 1560 Series is built on the strong base of Cisco[®] wireless innovations such as:

- Cisco CleanAir® technology for spectrum intelligence
- Cisco ClientLink technology for beamforming
- Radio Resource Management (RRM) for dynamic transmitter channel and power control

Whether deployed as a traditional access point or wireless mesh access point, the Cisco Aironet 1560 Series provides the throughput capacity needed for today's bandwidth-hungry devices.

Features and Benefits

Table 1 lists the features and benefits of the Cisco Aironet 1560 Series.

Table 1. Features and Benefits of Cisco Aironet 1560 Series

Feature	Benefit
802.11ac Wave 2 radio	Provides up to 1.3-Gbps data rates with 3 x 3 multiple input, multiple output (MIMO) and up to three spatial streams
Multiuser MIMO (MU-MIMO)	Allows transmission of data to multiple 802.11ac Wave 2-capable clients simultaneously to improve client experience; prior to 802.11ac Wave 2, access points could transmit data to only one client at a time, typically referred to as single-user MIMO
Flexible deployment modes	Allows for deployment of the 1560 in a variety of ways including point -to-point and mesh networks; it can also be deployed with the Cisco Mobility Express Solution, which is ideal f or small to medium -sized deployments that supports multiple access points without a physical controller; all deployment modes are easy to set up and configure
Small Form-Factor Pluggable (SFP) port	Supports optical fiber-based network connectivity for remote locations

Prominent Feature/Differentiator/Capability

The Cisco Aironet 1560 Series offers the following features:

- Improved performance for multiple client devices: The 802.11ac Wave 2 access points use MU-MIMO technology, which allows different data streams to all flow at once from the access point to multiple 802.11ac Wave 2-supported devices. Now, multiple 802.11ac Wave 2 devices can connect at the same time, getting the information they need quicker.
- 5-GHz support: The Cisco Aironet 1560 Series doubles the scale of 5 -GHz mobile devices and raises the performance of high-density environments.
- 4G LTE Coexistence: The Cisco Aironet 1560 Series includes robust filtering around the 2.4 GHz unlicensed band to block out nearby licensed 4G LTE cellular signals.
- Cisco Flexible Antenna Port technology uses software configurable for either single- or dual-band antennas.
 It allows you to use the same antenna ports for either dual-band antennas to reduce footprint or single-band antennas to optimize radio coverage.
- Cisco Mobility Express: This solution is designed to bring enterprise-class wireless access to small and medium-sized networks. Easy to set up with low maintenance, Mobility Express includes advanced features from Cisco and does not require a physical controller appliance.
- Cisco High Density Experience (HDX): Cisco HDX comes standard on the 1560, giving this access point
 top-of-the-line network efficiency over a large number of wireless clients. HDX uses customized chipsets to
 target the needs of high-density networks. It is built with best-in-class RF architecture and gives a better
 user experience for high-performance applications.

Product Specifications

Table 2 lists the specifications of the 1560 access point.

 Table 2.
 Specifications of Cisco Aironet 1560 Series

Item	Specification	Specification							
802.11ac Wave 1 and 2 capabilities	 1562E/D. Multi- and Maximal r 802.11ac 20-, 40-, a PHY data Packet ac 802.11 dy 	 1562I: 3 x 3 MIMO with three spatial streams 1562E/D 2 x 2 MIMO with two spatial streams Multi- and single-user MIMO Maximal ratio combining (MRC) 802.11ac beamforming (transmit beamforming) 20-, 40-, and 80-MHz channels PHY data rates up to 1.3 Gbps (80 MHz in 5 GHz) Packet aggregation: A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) 802.11 dynamic frequency selection (DFS) Cyclic-shift-diversity (CSD) support 							
802.11n (and related) capabilities	1562E/D:MRC20- and 4PHY dataPacket ag	 1562I: 3 x 3 MIMO with three spatial streams 1562E/D: 2 x 2 MIMO with two spatial streams MRC 20- and 40-MHz channels PHY data rates up to 450 Mbps Packet aggregation: A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) • 802.11 DFS 							
Data rates supported	802.11b/g: 1,	802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps 802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps							
		rates on 2.4 and 5 GHz:		01 400					
	MCS Index	GI4 = 800 ns	40 MH= Datas	GI = 400 ns					
		20-MHz Rates (Mbps)	40-MHz Rates (Mbps)	20-MHz Rates (Mbps)	40-MHz Rates (Mbps)				
	0	6.5	13.5	7.2	15				
	1	13	27	14.4	30				
	2	19.5	40.5	21.7	45				
	3	26	54	28.9	60				
	4	39	81	43.3	90				
	5	52	108	57.8	120				
	6	58.5	121.5	65	135				
	7	65	135	72.2	150				
	8	13	27	14.4	30				
	9	26	54	28.9	60				
	10	39	81	43.3	90				
	11	52	108	57.8	120				
	12	78	162	86.7	180				
	13	104	216	115.6	240				
	14	117	243	130	270				
	15	130	270	144.4	300				
	16	19.5	40.5	21.7	45				
	17	39	81	43.3	90				

1	Specification	n							
	19	78		162	86.7	86.7		180	
	20	117		243	130		270		
	21	156		324	173.3		360		
	22	175.5		364.5	195		405		
	23	195		405	216.7		450		
	802.11ac Da	ta Rates (5 GH	lz)						
	Spatial Streams	MCS	GI = 800 i	ns		GI = 400 ns	3		
			20 MHz	40 MHz	80 MHz	20 MHz	40 MHz	80 MHz	
	1	0	6.5	13.5	29.3	7.2	15	32.5	
	1	1	13	27	58.5	14.4	30	65	
	1	2	19.5	40.5	87.8	21.7	45	97.5	
	1	3	26	54	117	28.9	60	130	
	1	4	39	81	175.5	43.3	90	195	
	1	5	52	108	234	57.8	120	260	
	1	6	58.5	121.5	263.3	65	135	292.5	
	1	7	65	135	292.5	72.2	150	325	
	1	8	78	162	351	86.7	180	390	
	1	9	-	180	390	-	200	433.3	
	2	0	13	27	58.5	14.4	30	65	
	2	1	26	54	117	28.9	60	130	
	2	2	39	81	175.5	43.3	90	195	
	2	3	52	108	234	57.8	120	260	
	2	4	78	162	351	86.7	180	390	
	2	5	104	216	468	115.6	240	520	
	2	6	117	243	526.5	130	270	585	
	2	7	130	270	585	144.4	300	650	
	2	8	156	324	702	173.3	360	780	
	2	9	-	360	780	_	400	866.7	
	3	0	19.5	40.5	87.8	21.7	45	97.5	
	3	1	39	81	175.5	43.3	90	195	
	3	2	58.5	121.5	263.3	65	135	292.5	
	3	3	78	162	351	86.7	180	390	
	3	4	117	243	526.5	130	270	585	
	3	5	156	324	702	173.3	360	780	
	3	6	175.5	364.5	_	195	405	_	
	3	7	195	405	877.5	216.7	450	975	
	3	8	234	486	1053	260	540	1170	
	3	9	260	540	1170	288.9	600	1300	

Item	Specification
Frequency	A:
band and 20-	2.412 to 2.462 GHz, 11 channels
MHz operating channels	5.280 to 5.320 GHz, 3 channels
(regulatory	5.500 to 5.580 GHz, 5 channels
domains)	5.660 to 5.700 GHz, 3 channels
	5.745 to 5.825 GHz, 5 channels
	B:
	2.412 to 2.462 GHz, 11 channels
	5.180 to 5.240 GHz, 4 channels
	5.260 to 5.320 GHz, 4 channels
	5.500 to 5.720 GHz, 12 channels
	5.745 to 5.825 GHz, 5 channels
	C:
	2.412 to 2.472 GHz, 13 channels
	5.745 to 5.825 GHz, 5 channels
	D:
	2.412 to 2.462 GHz, 11 channels
	5.745 to 5.865 GHz, 7 channels
	E:
	2.412 to 2.472 GHz, 13 channels
	5.500 to 5.580 GHz, 5 channels
	5.660 to 5.700 GHz, 3 channels
	F:
	2.412 to 2.472 GHz, 13 channels
	5.745 to 5.805 GHz, 4 channels
	G:
	2.412 to 2.472 GHz, 13 channels
	5.745 to 5.825 GHz, 5 channels
	-H:
	2.412 to 2.472 GHz, 13 channels
	5.745 to 5.825 GHz, 5 channels -1:
	2.412 to 2.472 GHz, 13 channels
	-K:
	2.412 to 2.462 GHz, 11 channels
	5.280 to 5.320 GHz, 3 channels
	5.500 to 5.620 GHz, 7 channels
	5.745 to 5.805 GHz, 4 channels
	-L:
	2.412 to 2.472 GHz, 13 channels
	5.500 to 5.620 GHz, 7 channels
	5.745 to 5.865 GHz, 7 channels
	-M:
	2.412 to 2.472 GHz, 13 channels
	5.500 to 5.580 GHz, 5 channels
	5.660 to 5.700 GHz, 3 channels
	5.745 to 5.805 GHz, 4 channels -N:
	2.412 to 2.462 GHz, 11 channels
	5.745 to 5.825 GHz, 5 channels
	-Q:
	2.412 to 2.472 GHz, 13 channels
	5.500 to 5.700 GHz, 11 channels
	-R:
	2.412 to 2.472 GHz, 13 channels
	5.260 to 5.320 GHz, 4 channels
	5.660 to 5.700 GHz, 3 channels
	5.745 to 5.825 GHz, 5 channels
	1

Item	Specification
	-S:
	2.412 to 2.472 GHz, 13 channels
	5.500 to 5.700 GHz, 11 channels
	5.745 to 5.825 GHz, 5 channels
	-T:
	2.412 to 2.462 GHz, 11 channels
	5.500 to 5.580 GHz, 5 channels
	5.660 to 5.700 GHz, 3 channels
	5.745 to 5.825 GHz, 5 channels
	-Z:
	2.412 to 2.462 GHz, 11 channels
	5.500 to 5.580 GHz, 5 channels
	5.660 to 5.700 GHz, 3 channels
	5.745 to 5.825 GHz, 5 channels

Note: Customers are responsible f or verifying approval f or use in their individual countries. To verify approval that corresponds t o a particular country, please visit https://www.cisco.com/go/aironet/compliance.

Maximum number of nonoverlapping channels

2.4 GHz

- 802.11b/g:
- o 20 MHz: 3
- 802.11n:
- ° 20 MHz: 3
- 40 MHz: 1 (hardware capable)

5 GHz

- 802.11a:
- o 20 MHz: 27
- 802.11n:
- o 20 MHz: 27
- · 40 MHz: 13
- 802.11ac:
- 20 MHz: 2740 MHz: 13
- 。 80 MHz: 6

Note: This number varies by regulatory domain. Refer to the product documentation f or specific details f or each regulatory domain.

Receive Sensitivity 2.4 GHz Radio 5 GHz Radio **Spatial Streams** 1562I 1562D/E 1562I 1562D/E 802.11/11b 1 Mbps -100 -98 NA NA 11 Mbps 1 -88 -87 NA NA 802.11a/g 1 -92 -90 -94 -93 6 Mbps 24 Mbps -86 -83 -89 -88 54 Mbps -76 -74 -80 -79 1 802.11n HT20 MCS0 -90 -89 -91 -90 MCS4 1 -84 -82 -88 -86 MCS7 1 -77 -75 -80 -78 MCS8 2 -89 -88 -90 -89 MCS12 2 -82 -80 -85 -83 MCS15 2 -75 -72 -78 -76 MCS16 3 -89 -90 MCS20 3 -81 -84 MCS23 3 -73 -76

Item	Specification				
802.11n HT40					
MCS0	1	-88	-86	-90	-90
MCS4	1	-82	-80	-85	-83
MCS7	1	-75	-74	-78	-76
MCS8	2	-87	-86	-90	-90
MCS12	2	-80	-78	-82	-81
MCS15	2	-72	-70	-75	-73
MCS16	3	-87		-90	
MCS20	3	-78		-81	
MCS23	3	-71		-74	
802.11ac VHT20					
MCS0	1			-95	-94
MCS4	1			-88	-86
MCS7	1			-81	-79
MCS8	1			-77	-75
MCS0	2			-94	-93
MCS4	2			-86	-84
MCS7	2			-78	-76
MCS8	2			-74	-72
MCS0	3			-93	
MCS4	3			-85	
MCS7	3			-78	
MCS8	3			-72	
MCS9	3			-69	
802.11ac VHT40					
MCS0	1			-91	-90
MCS4	1			-85	-84
MCS7	1			-79	-77
MCS8	1			-75	-73
MCS9	1			-73	-71
MCS0	2			-91	-90
MCS4	2			-83	-82
MCS7	2			-76	-74
MCS8	2			-73	-70
MCS9	2			-71	-68
MCS0	3			-91	
MCS4	3			-82	
MCS7	3			-74	
MCS8	3			-69	
MCS9	3			-68	

Item	Specification						
802.11ac VHT80	02.11ac VHT80						
MCS0	1				-88	-88	
MCS4	1				-83	-81	
MCS7	1				-75	-73	
MCS8	1				-71	-69	
MCS9	1				-69	-67	
MCS0	2				-88	-88	
MCS4	2				-80	-78	
MCS7	2				-73	-71	
MCS8	2				-69	-67	
MCS9	2				-67	-65	
MCS0	3				-88		
MCS4	3				-78		
MCS7	3				-71		
MCS8	3				-67		
MCS9	3				-65		
Maximum	15621			1562D		1562E	
conducted transmit power		9 dBm with 3 antel			3m with 2 antennas n with 2 antennas	ante	GHz: 27 dBm with 2 ennas Hz: 27 dBm with 2 ennas
Note: The maxim specific details.	um power setting	will vary by cha	nnel and acc	cording to individual	country regulations. Ref	er to the product	documentation f or
Interfaces	SFP port (f	fiber or electrica ent console port LED input	l)	net, autosensing (R	J-45), PoE in		
Uplink options	Ethernet, SFP, a	and wireless me	sh (future av	/ailability)			
Dimensions (L x W x D)	1562I: 9.0 x 6.8 1562D: 9.0 x 6.8 1562E:: 9.0 x 6.8	8 x 4.3 in.	(22.9 x 17	7.1 x 9.8 cm) 7.1 x 10.9 cm) 7.1 x 9.8 cm)			
Weight	1562I: 5.6 lb (2.4 1562D: 5.7 lb (2 1562E: 5.6 lb (2	2.6 kg)					
Environmental	Operating temperature: • -40 to 65°C (-40 to 149°F) ambient air with no solar loading • -40 to 55°C (-40 to 131°F) ambient air with solar loading Storage temperature: -40 to 85°C (-40 to 185°F) Humidity: 5 - 95%, non-condensing Wind resistance: • Up to 100-mph sustained winds • Up to 165-mph wind gusts						
Environmental ratings	IEC 60529 IP67 NEMA Type 4X Icing protection NEMA 250-2008 Corrosion NEMA 250-2008 (600 hours) Solar radiation EN 60068-2-5 (1200 W/ m2) Vibration MIL-STD-810						

Item	Specification								
Antennas	_		-omnidirectional antenr tional antenna radome,		Bi (2.4 GHz), 4 dBi (5 GHz) Hz), 10 dBi (5 GHz)				
	Dual Band								
	AIR-ANT25	568VG-N	6 dBi (2.4 GHz),	8 dBi (5 GHz)	Omni				
	AIR-ANT25	547VG-N	4 dBi (2.4 GHz),	7 dBi (5 GHz)	Omni				
	AIR-ANT25		4 dBi (2.4 GHz),	7 dBi (5 GHz)	Omni				
	AIR-ANT25		8 dBi (2.4 GHz),	8 dBi (5 GHz)	Directional				
	∘ AIR-ANT25		13 dBi (2.4 GHz),	13 dBi (5 GHz)	Directional				
	Single Band A CUI								
	2.4 GHz ∘ AIR-ANT2450V-N= 5 dBi (2.4 GHz). Omni								
			5 dBi (2.4 GHz),	Omni	rim a d				
	AIR-ANT24AIR-ANT24		5 dBi (2.4 GHz), 5 dBi (2.4 GHz),	Omni, vertical pola Omni, horizontal p					
	∘ AIR-ANT24		8 dBi (2.4 GHz),	Omni	Jianzeu				
	• AIR-ANT24		13 dBi (2.4 GHz),	Directional, dual po	plarized				
	5 GHz	+131 ZIVI-IN-	13 dbi (2.4 OH2),	Directional, dual po	Dianzeu				
	∘ AIR-ANT51	150VG-N=	5 dBi (5GHz),	Omni, vertical pola	rized				
	∘ AIR-ANT51		5 dBi (5GHz),	Omni, horizontal p					
	AIR-ANT51		8 dBi (5GHz),	Omni	J. G. 1200				
	AIR-ANT51		14 dBi (5GHz),	Directional, dual po	plarized				
			efer to the antenna web	•					
Powering	AC (with AIF)	R-PWRADPT	-RGD1=, AC/DC outd	loor power adapter)					
options			11051=, 710750 outo	ioor powor adaptory					
		44–57 VDC input Universal Power of Ethernet (UPoE), 802.3at							
	Cisco power injectors:								
	AIR-PWRINJ-60RGD1= (outdoor rated, 60W, with NEMA 5-15 AC plug)								
	AIR-PWRINJ-60RGD2= (outdoor rated, 60W, unterminated AC cable)								
	AIR-PWRINJ6= (indoor, 802.3at)								
	Note: If 802.3at F	Power over Et	hernet (PoE) is the sou	rce of power, the 1562	I radios will shift from 3 x 3 to	2 x 2.			
Power consumption	1562I 1562D/E	32 W (3x3:3, 25 W	full power)						
Compliance	Safety								
	• UL60950, 2 nd Edition								
	• CAN/CSA-C22.2 No. 60950, 2 nd Edition								
	• IEC 60950, 2 nd Edition								
	• EN 60950, 2 nd Edition								
	Immunity								
	• <= 5 mJ for	6kV/3kA @ 8	3/20 ms waveform						
	ANSI/IEEE C62.41								
	EN61000-4-5 Level 4 AC Surge Immunity								
	• EN61000-4-	EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity							
	EN61000-4-3 Level 4 EMC Field Immunity								
	• EN61000-4-	2 Level 2 ES	D Immunity						
	EN60950 Overvoltage Category IV								
	Radio Approvals								
	FCC Part 15	5.247, 15.407							
	FCC Bulleting	OET-65C							
	• RSS-247								
	• RSS-102								
	• AS/NZS 426	88.2003							
	ARIB-STD 6	66 (Japan)							
	ARIB-STD T	Γ71 (Japan)	• ARIB-STD T71 (Japan)						
	● EN 300 328								
	EN 300 328EN 301 893								

Item	Specification
	EMI and Susceptibility
	• FCC part 15.107, 15.109
	• ICES-003
	• EN 301 489-1, -17
	Security
	Wireless bridging/mesh (future availability)
	X.509 digital certificates
	MAC address authentication
	Advanced Encryption Standard (AES)
	Wireless Access
	802.11i, Wi-Fi Protected Access 2 (WPA2), and WPA
	 802.1X authentication, including Extensible Authentication Protocol (EAP) and Protected EAP (EAP-PEAP), EAP Transport Layer Security (EAP-TLS), EAP-Tunneled TLS (EAP-TTLS), EAP-Subscriber Identity Module - (EAP-SIM), and Cisco LEAP
	VPN pass-through
	• IP Security (IPsec)
	Layer 2 Tunneling Protocol (L2TP)
	MAC address filtering
Warranty	1-year limited hardware warranty

Ordering Information

Table 3 gives ordering information for the Cisco Aironet 1560 Series.

Table 3. Ordering Information for Cisco Aironet 1560 Series

Part Number	Product Description
Aironet 1560 Series	AIR-AP1562I-x-K9: Dual-band 802.11a/g/n/ac, Wave 2, internal semi-omni antennas
	AIR-AP1562E-x-K9: Dual-band 802.11a/g/n/ac, Wave 2, external antennas
	AIR-AP1562D-x-K9: Dual-band 802.11a/g/n/ac, Wave 2, internal directional antennas
	Regulatory domains: (x = regulatory domain)
	Customers are responsible f or verifying approval f or 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.
	• AIR-AP1562I-D-K9I: Dual-band 802.11a/g/n/ac, Wave 2, internal antennas (India only)
	Cisco SMARTnet [™] Service for the Cisco Aironet 1560 Series Access Points
	Refer to the Service part numbers available on Cisco Commerce Workspace f or available service offerings.

Warranty Information

The Cisco Aironet 1560 Series Outdoor Access Points come with a 1-year limited warranty that provides full warranty coverage of the hardware. The warranty includes 10 –day advance hardware replacement and helps ensure that software media are defect-free for 90 days. For more details, visit https://www.cisco.com/go/warranty.

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For More Information

For more information about the Cisco Aironet 1560 Series, visit https://www.cisco.com/go/wireless or contact your local Cisco account representative.



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