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Cisco Aironet 1810W Series Access Points datasheet

With their sleek design and small form factor, the Cisco Aironet 1810W Series Access Points bring a full slate of Cisco high-performance functionality to multi-dwelling-unit deployments.



The Cisco[®] Aironet[®] 1810W Series Access Points offer a compact, wall plate–mountable access point, ideal for hospitality, cruise ships, residential halls or other multi-dwelling-unit deployments. The Aironet 1810W Series combines Gigabit Ethernet wired and 802.11ac Wave 2 wireless connectivity into a sleek device, built to take advantage of existing cabling infrastructure. This combination reduces total cost of ownership with no compromise to the end user.

Features and Benefits

With 802.11ac Wave 2, the 1810W Series provides a data rate of up to 867 Mbps on the 5-GHz radio, exceeding the data rates offered by today's high-end 802.11n access points. It also enables wired devices to connect to the network without the need for additional investments in cabling infrastructure.

The 1810W Series delivers industry-leading performance for highly secure and reliable wired or wireless connections and provides a robust mobility experience. Table 1 lists the features and benefits of these access points.

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.
	802.11ac Wave 2 with 2x2 MIMO technology with two spatial streams when operating in single-user or multiuser MIMO mode, offering 867-Mbps rates for more capacity and reliability than competing access points.
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.

Feature	Benefit
Integrated Bluetooth 4.1	Integrated Bluetooth low-energy (BLE) 4.1 radio for location and asset tracking (future availability).
Multiple mounting and security options	Multiple mounting options to standard junction boxes. You can vertically mount the access point directly on a wall or desk using the optional sleek desk cradle. Physical security is offered with the included Torx screw and the option to add a Kensington lock. Place your access point where you see fit, secure in the knowledge that it isn't going anywhere.

All of these features help ensure the best possible end-user experience on the wireless network.

Prominent Feature/Differentiator/Capability

The Aironet 1810W Series Access Points support 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, this access point can handle the increasing number of high-bandwidth devices that will soon become a normal part of the network.

The 1810W Series allows wired access via Power over Ethernet (PoE). This feature provides wired access with PoE out for other devices such as IP phones, security cameras, printers and copiers. In addition to standard PoE, the access point can be powered with an AC adapter. The 1810W Series comes with three local Gigabit Ethernet ports, one uplink Gigabit Ethernet port and one passive pass-through RJ-45 port, allowing for a variety of connections.

These sleek access points with a small form factor are designed with flexible mounting options in mind. You can mount them directly on the wall or to numerous global wall junction standards or have them desk mounted. They are also easy to install.

Product Specifications

Table 2 lists the specifications for the Cisco Aironet 1810W Series Access Points.

Item	Specification
Authentication and security	 Advanced Encryption Standard (AES) for Wi-Fi Protected Access 2 (WPA2) 802.1X, RADIUS authentication, authorization and accounting (AAA) 802.11i
Software	Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.2.111.0 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	Specificatio	Specification									
Bluetooth (future availability)	 Integrated Bluetooth 4.1 (including BLE) radio Maximum transmit power: 5 dBm Antenna gain: 2 dBi 										
Data rates supported	• Antenna gain: 2 dBi 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 Index ¹		Gl 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	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			

Item	Specification	on						
	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
Maximum number of non-overlapping channels	 2.412 to 5.180 to 5.500 to (exclude 5.745 to B (B regula 2.412 to 5.180 to 5.500 to 5.745 to C (C regula 2.412 to 5.745 to D (D regula 2.412 to 5.745 to D (D regula 2.412 to 5.745 to E (E regula 2.412 to 5.180 to 5.500 to (exclude F (F regula 2.412 to 5.745 to G (G regula 2.412 to 5.745 to H (H regula 2.412 to 5.745 to H (H regulat 2.412 to 5.745 to I (I regulato 5.180 to 	5.320 GHz; 5.700 GHz; 5.700 GHz; 5.500 to 5 5.825 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.825 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.320 GHz; 5.300 GHz; 5.300 GHz; 5.355 GHz; 5.300 GHz; 5.355 GHz; 5.355 GHz; 5.350 GHz; 5.320 GHz; 5.350 GHz; 5.350 GHz; 5.320 GHz;	11 channels 8 channels 640 GHz) 5 channels 640 GHz) 5 channels 11 channels 8 channels 12 channels 5 channels 5 channels 5 channels 6 channels 8 channels 8 channels 8 channels 8 channels 8 channels 13 channels 4 channels 5 channels 13 channels 13 channels 5 channels 13 channels 5 channels 13 channels 5 channels 13 channels 5 channels 13 channels 5 channels 13 channels 13 channels 8 channels 13 channels 13 channels 8 channels 13 channels 8 channels 13 channels 8 channels 13 channels 8 channels 13 channels 13 channels 13 channels 13 channels		 2.412 f 5.180 f 5.745 f N (N regu 2.412 f 5.180 f 5.745 f Q (Q regu 2.412 f 5.180 f 5.745 f R (R regu 2.412 f 5.180 f 5.745 f R (R regu 2.412 f 5.180 f 5.660 f S (S regul 2.412 f 5.180 f 5.600 f S.745 f T (T regul 2.412 f 5.500 f (exclud 5.745 f Z (Z regul 2.412 f 5.180 f (exclud 5.745 f 	latory domain): to 2.472 GHz; 13 to 5.320 GHz; 8 to 5.620 GHz; 7 to 5.805 GHz; 4 to 5.805 GHz; 4 to 5.805 GHz; 4 to 5.825 GHz; 5 to 2.462 GHz; 13 to 5.320 GHz; 8 to 5.825 GHz; 5 to 2.472 GHz; 13 to 5.320 GHz; 8 to 5.805 GHz; 7 to 2.472 GHz; 13 to 5.320 GHz; 8 to 5.805 GHz; 7 to 2.472 GHz; 13 to 5.320 GHz; 8 to 5.700 GHz; 8 to 5.700 GHz; 11 to 5.825 GHz; 5 to 2.462 GHz; 11 to 5.320 GHz; 8 to 5.700 GHz; 8 to 5.700 GHz; 8 to 5.825 GHz; 5 to 2.462 GHz; 11 to 5.320 GHz; 8 to 5.700 GHz; 8 to 5.825 GHz; 5 to 2.462 GHz; 11 to 5.320 GHz; 8 to 5.700 GHz; 8 to 5.700 GHz; 8 to 5.825 GHz; 5 to 2.462 GHz; 11 to 5.320 GHz; 8 to 5.700 GHz; 8 to 5.825 GHz; 5 to 2.462 GHz; 11 to 5.320 GHz; 8 to 5.825 GHz; 5 to 2.462 GHz; 5 to 2.462 GHz; 11 to 5.320 GHz; 8 to 5.825 GHz; 5 to 2.462 GHz;	channels channels	
Note: This varies by regu Receive sensitivity (combined sensitivity)	latory domain 802.11b -99 dBm @ -96 dBm @ -93 dBm @ -86 dBm @	1 Mbps 2 Mbps 5.5 Mbps	802.119 -94 dBr -93 dBr -92 dBr -90 dBr -86 dBr -83 dBr -78 dBr		pecific details f	802.11a -94 dBm -93 dBm -91 dBm -89 dBm -86 dBm -83 dBm -78 dBm		

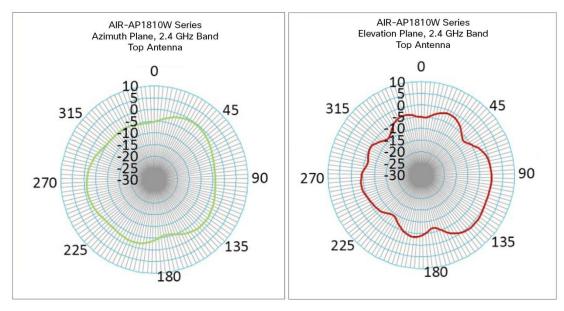
tem	Specification										
	2.4 GHz		5 GHz	5 GHz			5 GHz				
	802.11n (HT	20)	802.11n (HT20)			802.11n (HT40)					
	-93 dBm @ I	MCS0	-93 dBm @ MCS0			-90 dBm @	MCS0				
	-90 dBm @ I	MCS1	-90 dBm @	-90 dBm @ MCS1			MCS1				
	-88 dBm @ I	MCS2	-88 dBm @	MCS2		-85 dBm @	MCS2				
	-84 dBm @ I	MCS3	-84 dBm @	MCS3		-81 dBm @	MCS3				
	-81 dBm @ I	MCS4	-81 dBm @	MCS4		-78 dBm @	MCS4				
	-76 dBm @ I	MCS5	-76 dBm @	MCS5		-74 dBm @	MCS5				
	-75 dBm @ I		-75 dBm @	MCS6		-72 dBm @	MCS6				
	-74 dBm @ I		-73 dBm @			-71 dBm @					
	-92 dBm @ I		-92 dBm @			-90 dBm @					
	-89 dBm @ I		-89 dBm @			-86 dBm @					
	-87 dBm @ I		-86 dBm @			-84 dBm @					
	-83 dBm @ I		-83 dBm @			-81 dBm @					
	-79 dBm @ I		-80 dBm @			-78 dBm @					
	-76 dBm @ I		-75 dBm @			-73 dBm @					
	-74 dBm @ l		-74 dBm @			-72 dBm @					
	-73 dBm @ I		-73 dBm @	100015		-70 dBm @	10010				
	802.11ac (n	,									
	-88 dBm @ (
	-70 dBm @	54 Mbps									
	MCS Index	Spatial Streams									
			VHT20	VHT40	VHT80	VHT20- STBC	VHT40- STBC	VHT80- STBC			
	0	1	-93 dBm	-90 dBm	-87 dBm	-95 dBm	-93 dBm	-90 dBm			
	8	1	-69 dBm			-72 dBm	-68 dBm	-65 dBm			
	9	1		-64 dBm	-61 dBm						
	0	2	-92 dBm	-89 dBm	-86 dBm						
	8	2	-68 dBm								
	9	2		-63 dBm	-60 dBm						
Aaximum transmit	2.4 GHz				5 GHz						
ower	• 802.11b				• 802.11a						
	∘ 17 dBr	m with 1 antenna	l		 17 dBm with 1 antenna 						
	• 802.11g				 802.11n non-HT duplicate mode 						
	 20 dBr 	m with 2 antenna	IS		 20 dBm with 2 antennas 						
	• 802.11n	(HT20)			• 802.11n (HT20)						
	 20 dBr 	m with 2 antenna	IS		 20 dBm with 2 antennas 						
					• 802.11n (HT40)						
					 20 dBm with 2 antennas 802.11ac						
					 Non-HT80: 20 dBm with 2 antennas 						
					 VHT20: 20 dBm with 2 antennas 						
					 VHT40: 20 dBm with 2 antennas 						
						• VHT80: 20 dBm, 2 antennas					
						STBC: 20 dBm					
					 VHT40-STBC: 20 dBm with 2 antennas VHT80-STBC: 20 dBm with 2 antennas 						
					· VIII0U-	0100.20 uBII	r with \angle all eff	143			

Item	Specification						
Available transmit	2.4 GHz	5 GHz					
power settings	20 dBm (100 mW)	20 dBm (100 mW)					
	17 dBm (50 mW)	17 dBm (50 mW)					
	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 specific details.	er setting will vary by channel and according to individual coun	try regulations. Refer to the product documentation for					
Integrated antennas	• 2.4 GHz, gain 2 dBi						
	 5 GHz, gain 4 dBi 						
Interfaces	One 10/100/1000BASE-T PoE uplink port						
	 Management console port (RJ-45) 						
	 Three 10/100/1000BASE-T ports (local Ethernet ports), in 	ncluding one PoE out port:					
		ed by Cisco local power supply (AIR-PWR-C=, AIR-PWR-					
	D=), or ~6.5W when powered by 802.3at, or no output						
	• One passive pass-through port RJ-45 (back to bottom)						
	DC power connector						
Indicators	 Status LED indicates boot loader status, association statu 	us operating status, boot loader warnings, boot loader					
Indicators	errors	us, operating status, boot loader warnings, boot loader					
	Per-port status for local Ethernet ports						
	 For privacy, LEDs are automatically turned off when the access point joins a controller. LEDs may be enable 						
	administratively - see configuration guide.						
Dimensions (W x L x H)	• Access point (without mounting bracket): 6.5 x 4.5 x 1.6 in. (165 x 114 x 41 mm)						
Weight	 Access point without mounting bracket or any other accessories: 1.2 lb (560 g) 						
Environmental	 Nonoperating (storage) temperature: -22° to 158°F (-30° to 70°C) 						
	 Nonoperating (storage) maximum altitude: 25°C, 15,000 ft (4,500m) 						
	 Operating (storage) maximum andude: 25 C, 15,000 R (4,500m) Operating temperature: 32° to 104°F (0° to 40°C) 						
	Operating temperature: 32 to 104 F (0 to 40 C) Operating humidity: 10% to 90% percent (noncondensing)						
	Operating maximum altitude: 40°C, 9843 ft (3,000m)						
System	• 512 MB DRAM						
	• 256 MB flash						
	 1.4 GHz system dual-core CPU 						
Input power	• 44 to 57V DC						
requirements	Optional power supply and power injector: 100 to 240V A	C; 49 to 60 Hz					
Powering options	802.3af/at Ethernet switch						
· · · · · · · · · · · · · · · · · · ·	 Optional Cisco power injectors (AIR-PWRINJ5=, AIR-PW 	/RINJ6=)					
	 Optional Cisco local power supply (AIR-PWR-C= or AIR- 						
B							
Power draw	 Maximum values: 12.95W (15.4W with 100m of cable) with 6.49W PoE out and 27.65W with 12.95W PoE out (when 						
	Note: When deployed using PoE, the power draw numbers I						
	the uplink port and 100m of cabling on the PoE out port.						
Physical security	Torx security screw, included with the access point						
	Kensington security slot						
Mounting	 Included with the access point: mounting bracket AIR-AP junction box or multiple international standards 	-BRACKET-W2, compatible to install to single gang					
Optional:							
		pint directly on a wall where standard junction haves are					
	 AIR-AP1810W-KIT=, spacer kit to mount the access per not available 	onit directly on a wait where standard junction boxes are					
	 AIR-OEAP1810-CRD=, cradle kit to mount the access point on a desk 						
	,						

Item	Specification
Accessories	 Mounting bracket: AIR-AP-BRACKET-W2= (available as spare) Spacer kit: AIR-AP1810W-KIT= (sold separately), includes spacer and RJ-45 jumper cable Cradle kit: AIR-OEAP1810-CRD= (sold separately), includes back cover and RJ-45 jumper cable Physical security kit: AIR-SEC-50= (sold separately), with 50 pcs. security screws used to secure the access point onto wall-mounting bracket, 20 pcs. RJ-45 caps and 2 pcs. unlock keys used to block physical access to Ethernet ports Cisco local power supply: AIR-PWR-D= (sold separately)
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 71 (Japan) EMI and susceptibility (Class B) FCC Part 15.107 and 15.109 (CES-C03) (Canada) VCCI (Japan) EN 301.489-1 and -17 (Europe) IEEE standards: IEEE standards: IEEE standards: IEEE standards: IEEE standards: Security: 802.11a, WPA2, WPA 802.11x ARES Extensible Authentication Protocol (EAP) types: EAP-Transport Layer Security (TLS) EAP-Transport Layer Security (TLS) EAP-MSCHAPV2 EAP-Transport Layer Security (TLS) 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, the coding rate and data rate values.

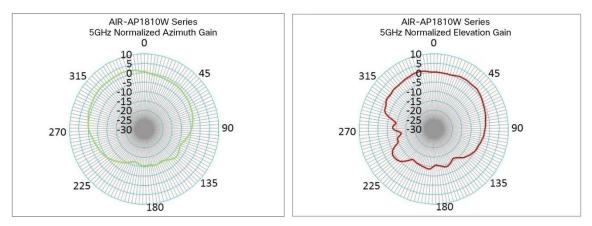
² A guard interval (GI) between symbols helps receivers overcome the effects of multipath delay spreads.



Antenna Radiation Patterns

2.4 GHz Normalized Antenna Radiation Pattern for Both Antennas

5 GHz Normalized Antenna Radiation Pattern for Both Antennas



Ordering Information

Table 3 provides ordering information for the Cisco Aironet 1800W Series Access Points. To place an order, visit the <u>Cisco Ordering Home Page</u>. To download software, visit the <u>Cisco Platform Suite</u>.

 Table 3.
 Ordering Information

Product Name	Part Number
Cisco Aironet 1810W Series	• AIR-AP1810W-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, 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

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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

Warranty Information

The Cisco Aironet 1810W 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 detail

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Contact Us

Phone: +852-51736677

Skype: wendycisco

WhatsAPP: +852-51736677

E-mail: wendy@donewin.com.hk