

## Cisco Aironet 1850 Series Access Points



### Product Overview

Ideal for small and medium-sized networks, the Cisco® Aironet® 1850 Series delivers industry-leading performance for enterprise and service provider markets via enterprise-class 4x4 MIMO, four-spatial-stream access points that support the IEEE's new 802.11ac Wave 2 specification. The Aironet 1850 Series 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.

### Features and Benefits

With 802.11ac Wave 2, the Aironet 1850 Series provides a data rate of up to 1.7 Gbps on the 5-GHz radio, more than triple the rates offered by today's high-end 802.11n access points. It also enables a total aggregate dual-radio data rate of greater than 2.0 Gbps, providing the necessary foundation for enterprise and service provider networks to stay ahead of the performance and bandwidth expectations and needs of their wireless users.

Due to its convenience, wireless access is increasingly the preferred form of network connectivity for corporate users. Along with this shift, there is an expectation that wireless should not slow down users' day-to-day work, but should enable a high-performance experience while allowing users to move freely. The 1850 Series delivers industry-leading performance for highly secure and reliable wireless connections and provides a robust mobility experience that includes:

- 802.11ac Wave 2 with 4x4 multiple-input multiple-output (MIMO) technology with four spatial streams when operating in single-user MIMO mode and three spatial streams while operating in multiuser MIMO mode, offering 1.7-Gbps rates for more capacity and reliability than competing access points.
- Multiuser MIMO, allowing transmission of data to multiple 802.11ac Wave 2 capable clients simultaneously to improve client experience. Prior to multiuser 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.
- Transmit beamforming technology to improve downlink performance to mobile devices, including one-, two-, and three-spatial-stream devices on 802.11ac, while improving battery life on mobile devices such as smartphones and tablets.

All of these features help ensure the best possible end-user experience on the wireless network. Cisco also offers the industry's broadest selection of 802.11n and 802.11ac antennas, delivering optimal coverage for a variety of deployment scenarios.

## Product Specifications

**Table 1.** Product Specifications

Feature	Specifications																																													
<b>Software</b>	Cisco Unified Wireless Network Software Release with AireOS wireless controllers: <ul style="list-style-type: none"> <li>8.1 MR1 or later for the Cisco Aironet 1850 Series Access Points</li> </ul>																																													
<b>Deployment modes</b>	Centralized local, Stand-alone, Sniffer, Cisco FlexConnect™, Monitor, OfficeExtend, Mesh																																													
<b>Supported wireless LAN controllers</b>	<ul style="list-style-type: none"> <li>Cisco 2500 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 Virtual Wireless Controller, Cisco 5760 Series Wireless Controllers, Cisco Catalyst 3650/3850 Series switch with integrated controller</li> </ul>																																													
<b>802.11n version 2.0 (and related) capabilities</b>	<ul style="list-style-type: none"> <li>4x4 MIMO with four spatial streams</li> <li>Maximal ratio combining (MRC)</li> <li>20- and 40-MHz channels</li> <li>PHY data rates up to 600 Mbps (40 MHz with 5 GHz)</li> <li>Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx)</li> <li>802.11 dynamic frequency selection (DFS)</li> <li>Cyclic shift diversity (CSD) support</li> </ul>																																													
<b>802.11ac Wave 1 and 2 capabilities</b>	<ul style="list-style-type: none"> <li>4x4 MIMO with four spatial streams, single-user MIMO</li> <li>4x4 MIMO with three spatial streams, multiuser MIMO</li> <li>MRC</li> <li>802.11ac beamforming (transmit beamforming)</li> <li>20-, 40-, and 80-MHz channels</li> <li>PHY data rates up to 1.7 Gbps (80 MHz in 5 GHz)</li> <li>Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx)</li> <li>802.11 DFS</li> <li>CSD support</li> </ul>																																													
<b>Data rates supported</b>	<p><b>802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps</b></p> <p><b>802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</b></p> <p><b>802.11n data rates on 2.4 GHz (only 20 MHz and MCS 0 to MCS 23) and 5 GHz:</b></p> <table border="1"> <thead> <tr> <th>MCS Index<sup>1</sup></th> <th>GI<sup>2</sup> = 800 ns</th> <th>GI = 800 ns</th> <th>GI = 400 ns</th> <th>GI = 400 ns</th> </tr> <tr> <th></th> <th>20-MHz Rate (Mbps)</th> <th>40-MHz Rate (Mbps)</th> <th>20-MHz Rate (Mbps)</th> <th>40-MHz Rate (Mbps)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>6.5</td> <td>13.5</td> <td>7.2</td> <td>15</td> </tr> <tr> <td>1</td> <td>13</td> <td>27</td> <td>14.4</td> <td>30</td> </tr> <tr> <td>2</td> <td>19.5</td> <td>40.5</td> <td>21.7</td> <td>45</td> </tr> <tr> <td>3</td> <td>26</td> <td>54</td> <td>28.9</td> <td>60</td> </tr> <tr> <td>4</td> <td>39</td> <td>81</td> <td>43.3</td> <td>90</td> </tr> <tr> <td>5</td> <td>52</td> <td>108</td> <td>57.8</td> <td>120</td> </tr> <tr> <td>6</td> <td>58.5</td> <td>121.5</td> <td>65</td> <td>135</td> </tr> </tbody> </table>	MCS Index <sup>1</sup>	GI <sup>2</sup> = 800 ns	GI = 800 ns	GI = 400 ns	GI = 400 ns		20-MHz Rate (Mbps)	40-MHz Rate (Mbps)	20-MHz Rate (Mbps)	40-MHz Rate (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
MCS Index <sup>1</sup>	GI <sup>2</sup> = 800 ns	GI = 800 ns	GI = 400 ns	GI = 400 ns																																										
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0	6.5	13.5	7.2	15																																										
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<sup>1</sup> MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, the modulation, the coding rate, and data rate values.

<sup>2</sup> GI: A guard interval (GI) between symbols helps receivers overcome the effects of multipath delay spreads.

Feature	Specifications							
Data rates supported	MCS Index <sup>3</sup>	GI <sup>4</sup> = 800 ns	GI = 800 ns		GI = 400 ns			
		20-MHz Rate (Mbps)	40-MHz Rate (Mbps)		40-MHz Rate (Mbps)			
					20-MHz Rate (Mbps)	40-MHz Rate (Mbps)		
		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	
		18	58.5	121.5		65	135	
		19	78	162		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	
		24	26	54		28.9	60	
		25	52	108		57.8	120	
		26	78	162		86.7	180	
		27	104	216		115.6	240	
		28	156	324		173.3	360	
		29	208	432		231.1	480	
		30	234	486		260	540	
		31	260	540		288.9	600	
	<b>802.11ac data rates (5 GHz):</b>							
		<b>MCS Index</b>	<b>Spatial Streams</b>	<b>GI = 800 ns</b>			<b>GI = 400 ns</b>	
				<b>20-MHz Rate (Mbps)</b>	<b>40-MHz Rate (Mbps)</b>	<b>80-MHz Rate (Mbps)</b>	<b>20-MHz Rate (Mbps)</b>	<b>40-MHz Rate (Mbps)</b>
	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

<sup>3</sup> MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, the modulation, the coding rate, and data rate values.

<sup>4</sup> GI: A guard interval (GI) between symbols helps receivers overcome the effects of multipath delay spreads.

Feature	Specifications							
	8	1	78	162	351	86.7	180	390
	<b>MCS Index</b>	<b>Spatial Streams</b>	<b>GI = 800 ns</b>			<b>GI = 400 ns</b>		
			<b>20-MHz Rate (Mbps)</b>	<b>40-MHz Rate (Mbps)</b>	<b>80-MHz Rate (Mbps)</b>	<b>20-MHz Rate (Mbps)</b>	<b>40-MHz Rate (Mbps)</b>	<b>80-MHz Rate (Mbps)</b>
	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
	0	3	19.5	40.5	87.8	21.7	45	97.5
	1	3	39	81	175.5	43.3	90	195
	2	3	58.5	121.5	263.3	65	135	292.5
	3	3	78	162	351	86.7	180	390
	4	3	117	243	526.5	130	270	585
	5	3	156	324	702	173.3	360	780
	6	3	175.5	364.5	-	195	405	-
	7	3	195	405	877.5	216.7	450	975
	8	3	234	486	1053	260	540	1170
	9	3	260	540	1170	288.9	600	1300
	0	4	26	54	117	28.9	60	130
	1	4	52	108	234	57.8	120	260
	2	4	78	162	351	86.7	180	390
	3	4	104	216	468	115.6	240	520
	4	4	156	324	702	173.3	360	780
	5	4	208	432	936	231.1	480	1040
	6	4	234	486	1053	260	540	1170
	7	4	260	540	1170	288.9	600	1300
	8	4	312	648	1404	346.7	720	1560
	9	4	-	720	1560	-	800	1733.3

Feature	Specifications			
<b>Maximum number of nonoverlapping channels</b>	<b>A (A regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.462 GHz; 11 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.500 to 5.700 GHz; 8 channels (excludes 5.600 to 5.640 GHz)</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>B (B regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.462 GHz; 11 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.500 to 5.720 GHz; 9 channels</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>C (C regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>D (D regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.462 GHz; 11 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>E (E regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.500 to 5.700 GHz; 8 channels (excludes 5.600 to 5.640 GHz)</li> </ul> <b>F (F regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>H (H regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.150 to 5.350 GHz; 8 channels</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>I (I regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> </ul>		<b>K (K regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.500 to 5.620 GHz; 7 channels</li> <li>● 5.745 to 5.805 GHz; 4 channels</li> </ul> <b>N (N regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.462 GHz; 11 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>Q (Q regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.500 to 5.700 GHz; 11 channels</li> </ul> <b>R (R regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.660 to 5.805 GHz; 7 channels</li> </ul> <b>S (S regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.472 GHz; 13 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.500 to 5.700 GHz; 11 channels</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>T (T regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.462 GHz; 11 channels</li> <li>● 5.280 to 5.320 GHz; 3 channels</li> <li>● 5.500 to 5.700 GHz; 8 channels (excludes 5.600 to 5.640 GHz)</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul> <b>Z (Z regulatory domain):</b> <ul style="list-style-type: none"> <li>● 2.412 to 2.462 GHz; 11 channels</li> <li>● 5.180 to 5.320 GHz; 8 channels</li> <li>● 5.500 to 5.700 GHz; 8 channels (excludes 5.600 to 5.640 GHz)</li> <li>● 5.745 to 5.825 GHz; 5 channels</li> </ul>	
<p><b>Note:</b> Customers are responsible for verifying approval for use in their individual countries. To verify approval that corresponds to a particular country, visit <a href="http://www.cisco.com/go/aironet/compliance">http://www.cisco.com/go/aironet/compliance</a></p>				
<b>Maximum number of nonoverlapping channels</b>	<b>2.4 GHz</b> <ul style="list-style-type: none"> <li>● 802.11b/g: <ul style="list-style-type: none"> <li>○ 20 MHz: 3</li> </ul> </li> <li>● 802.11n: <ul style="list-style-type: none"> <li>○ 20 MHz: 3</li> </ul> </li> </ul>		<b>5 GHz</b> <ul style="list-style-type: none"> <li>● 802.11a: <ul style="list-style-type: none"> <li>○ 20 MHz: 25</li> </ul> </li> <li>● 802.11n: <ul style="list-style-type: none"> <li>○ 20 MHz: 25</li> <li>○ 40 MHz: 12</li> </ul> </li> <li>● 802.11ac: <ul style="list-style-type: none"> <li>○ 20 MHz: 21</li> <li>○ 40 MHz: 12</li> <li>○ 80 MHz: 6</li> </ul> </li> </ul>	
<p><b>Note:</b> This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.</p>				
<b>Receive sensitivity</b>	<ul style="list-style-type: none"> <li>● 802.11b (CCK) <ul style="list-style-type: none"> <li>○ -101 dBm @ 1 Mbps</li> <li>○ -98 dBm @ 2 Mbps</li> <li>○ -92 dBm @ 5.5 Mbps</li> <li>○ -89 dBm @ 11 Mbps</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● 802.11g (non HT20) <ul style="list-style-type: none"> <li>○ -96 dBm @ 6 Mbps</li> <li>○ -95 dBm @ 9 Mbps</li> <li>○ -94 dBm @ 12 Mbps</li> <li>○ -92 dBm @ 18 Mbps</li> <li>○ -88 dBm @ 24 Mbps</li> <li>○ -85 dBm @ 36 Mbps</li> <li>○ -81 dBm @ 48 Mbps</li> <li>○ -79 dBm @ 54 Mbps</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● 802.11a (non HT20) <ul style="list-style-type: none"> <li>○ -96 dBm @ 6 Mbps</li> <li>○ -95 dBm @ 9 Mbps</li> <li>○ -94 dBm @ 12 Mbps</li> <li>○ -92 dBm @ 18 Mbps</li> <li>○ -88 dBm @ 24 Mbps</li> <li>○ -85 dBm @ 36 Mbps</li> <li>○ -80 dBm @ 48 Mbps</li> <li>○ -79 dBm @ 54 Mbps</li> </ul> </li> </ul>	

Feature	Specifications				
Receive sensitivity	<b>2.4 GHz</b> <ul style="list-style-type: none"> <li>● 802.11n (HT20) <ul style="list-style-type: none"> <li>○ -96 dBm @ MCS0</li> <li>○ -93 dBm @ MCS1</li> <li>○ -90 dBm @ MCS2</li> <li>○ -87 dBm @ MCS3</li> <li>○ -84 dBm @ MCS4</li> <li>○ -79 dBm @ MCS5</li> <li>○ -78 dBm @ MCS6</li> <li>○ -76 dBm @ MCS7</li> <li>○ -93 dBm @ MCS8</li> <li>○ -90 dBm @ MCS9</li> <li>○ -87 dBm @ MCS10</li> <li>○ -84 dBm @ MCS11</li> <li>○ -81 dBm @ MCS12</li> <li>○ -76 dBm @ MCS13</li> <li>○ -75 dBm @ MCS14</li> <li>○ -73 dBm @ MCS15</li> <li>○ -91 dBm @ MCS16</li> <li>○ -88 dBm @ MCS17</li> <li>○ -85 dBm @ MCS18</li> <li>○ -82 dBm @ MCS19</li> <li>○ -79 dBm @ MCS20</li> <li>○ -74 dBm @ MCS21</li> <li>○ -73 dBm @ MCS22</li> <li>○ -71 dBm @ MCS23</li> </ul> </li> </ul>		<b>5 GHz</b> <ul style="list-style-type: none"> <li>● 802.11n (HT20) <ul style="list-style-type: none"> <li>○ -96 dBm @ MCS0</li> <li>○ -92 dBm @ MCS1</li> <li>○ -90 dBm @ MCS2</li> <li>○ -86 dBm @ MCS3</li> <li>○ -83 dBm @ MCS4</li> <li>○ -79 dBm @ MCS5</li> <li>○ -77 dBm @ MCS6</li> <li>○ -76 dBm @ MCS7</li> <li>○ -93 dBm @ MCS8</li> <li>○ -89 dBm @ MCS9</li> <li>○ -87 dBm @ MCS10</li> <li>○ -83 dBm @ MCS11</li> <li>○ -80 dBm @ MCS12</li> <li>○ -76 dBm @ MCS13</li> <li>○ -74 dBm @ MCS14</li> <li>○ -73 dBm @ MCS15</li> <li>○ -91 dBm @ MCS16</li> <li>○ -87 dBm @ MCS17</li> <li>○ -85 dBm @ MCS18</li> <li>○ -81 dBm @ MCS19</li> <li>○ -78 dBm @ MCS20</li> <li>○ -74 dBm @ MCS21</li> <li>○ -72 dBm @ MCS22</li> <li>○ -71 dBm @ MCS23</li> <li>○ -89 dBm @ MCS24</li> <li>○ -85 dBm @ MCS25</li> <li>○ -83 dBm @ MCS26</li> <li>○ -79 dBm @ MCS27</li> <li>○ -76 dBm @ MCS28</li> <li>○ -72 dBm @ MCS29</li> <li>○ -70 dBm @ MCS30</li> <li>○ -69 dBm @ MCS31</li> </ul> </li> </ul>	<b>5 GHz</b> <ul style="list-style-type: none"> <li>● 802.11n (HT40) <ul style="list-style-type: none"> <li>○ -93 dBm @ MCS0</li> <li>○ -90 dBm @ MCS1</li> <li>○ -87 dBm @ MCS2</li> <li>○ -84 dBm @ MCS3</li> <li>○ -80 dBm @ MCS4</li> <li>○ -76 dBm @ MCS5</li> <li>○ -75 dBm @ MCS6</li> <li>○ -73 dBm @ MCS7</li> <li>○ -90 dBm @ MCS8</li> <li>○ -87 dBm @ MCS9</li> <li>○ -84 dBm @ MCS10</li> <li>○ -81 dBm @ MCS11</li> <li>○ -77 dBm @ MCS12</li> <li>○ -73 dBm @ MCS13</li> <li>○ -72 dBm @ MCS14</li> <li>○ -70 dBm @ MCS15</li> <li>○ -88 dBm @ MCS16</li> <li>○ -85 dBm @ MCS17</li> <li>○ -82 dBm @ MCS18</li> <li>○ -79 dBm @ MCS19</li> <li>○ -75 dBm @ MCS20</li> <li>○ -71 dBm @ MCS21</li> <li>○ -70 dBm @ MCS22</li> <li>○ -68 dBm @ MCS23</li> <li>○ -86 dBm @ MCS24</li> <li>○ -83 dBm @ MCS25</li> <li>○ -80 dBm @ MCS26</li> <li>○ -77 dBm @ MCS27</li> <li>○ -73 dBm @ MCS28</li> <li>○ -69 dBm @ MCS29</li> <li>○ -68 dBm @ MCS30</li> <li>○ -66 dBm @ MCS31</li> </ul> </li> </ul>	
	<b>802.11ac Receive Sensitivity</b>				
<b>802.11ac (non HT80)</b> <ul style="list-style-type: none"> <li>● -89 dBm @ 6 Mbps</li> <li>● -73 dBm @ 54 Mbps</li> </ul>					
<b>MCS Index</b>		<b>Spatial Streams</b>	<b>VHT20</b>	<b>VHT40</b>	<b>VHT80</b>
0		1	-96 dBm	-93 dBm	-89 dBm
7		1	-76 dBm	-73 dBm	-70 dBm
8		1	-71 dBm	-69 dBm	-66 dBm
9		1	NA	-67 dBm	-64 dBm
0		2	-93 dBm	-90 dBm	-86 dBm
7		2	-73 dBm	-70 dBm	-67 dBm
8		2	-68 dBm	-66 dBm	-63 dBm
9		2	NA	-64 dBm	-61 dBm
0		3	-91 dBm	-88 dBm	-84 dBm
7		3	-71 dBm	-68 dBm	-65 dBm
8		3	-66 dBm	-64 dBm	-61 dBm

Feature	Specifications				
	9	3	-64 dBm	-62 dBm	-59 dBm
	<b>MCS Index</b>	<b>Spatial Streams</b>			
			<b>VHT20</b>	<b>VHT40</b>	<b>VHT80</b>
	0	4	-89 dBm	-86 dBm	-82 dBm
	7	4	-69 dBm	-66 dBm	-63 dBm
	8	4	-64 dBm	-62 dBm	-59 dBm
	9	4	NA	-60 dBm	-57 dBm
<b>Maximum transmit power</b>	<b>2.4 GHz</b> <ul style="list-style-type: none"> <li>● 802.11b <ul style="list-style-type: none"> <li>◦ 22 dBm, 3 antennas</li> </ul> </li> <li>● 802.11g <ul style="list-style-type: none"> <li>◦ 22 dBm, 3 antennas</li> </ul> </li> <li>● 802.11n (HT20) <ul style="list-style-type: none"> <li>◦ 22 dBm, 3 antennas</li> </ul> </li> </ul>		<b>5 GHz</b> <ul style="list-style-type: none"> <li>● 802.11a <ul style="list-style-type: none"> <li>◦ 23 dBm, 4 antennas</li> </ul> </li> <li>● 802.11n (HT20) <ul style="list-style-type: none"> <li>◦ 23 dBm, 4 antennas</li> </ul> </li> <li>● 802.11n (HT40) <ul style="list-style-type: none"> <li>◦ 23 dBm, 4 antennas</li> </ul> </li> <li>● 802.11ac <ul style="list-style-type: none"> <li>◦ non-HT80: 23 dBm, 4 antennas</li> <li>◦ VHT20: 23 dBm, 4 antennas</li> <li>◦ VHT40: 23 dBm, 4 antennas</li> <li>◦ VHT80: 23 dBm, 4 antennas</li> </ul> </li> </ul>		
<p><b>Note:</b> The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.</p>					
<b>Available transmit power settings</b>	<b>2.4 GHz</b> <ul style="list-style-type: none"> <li>● 22 dBm</li> <li>● 19 dBm</li> <li>● 16 dBm</li> <li>● 13 dBm</li> <li>● 10 dBm</li> <li>● 7 dBm</li> <li>● 4 dBm</li> <li>● 1 dBm</li> </ul>		<b>5 GHz</b> <ul style="list-style-type: none"> <li>● 23 dBm</li> <li>● 20 dBm</li> <li>● 17 dBm</li> <li>● 14 dBm</li> <li>● 11 dBm</li> <li>● 8 dBm</li> <li>● 5 dBm</li> <li>● 2 dBm</li> </ul>		
<p><b>Note:</b> The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.</p>					
<b>Integrated antenna</b>	<ul style="list-style-type: none"> <li>● 2.4 GHz, gain 3 dBi, internal omni, horizontal beamwidth 360°</li> <li>● 5 GHz, gain 5 dBi, internal omni, horizontal beamwidth 360°</li> </ul>				
<b>External antenna (sold separately)</b>	<ul style="list-style-type: none"> <li>● Certified for use with antenna gains up to 6 dBi (2.4 GHz and 5 GHz)</li> <li>● Cisco offers the industry's broadest selection of <a href="#">antennas</a>, delivering optimal coverage for a variety of deployment scenarios</li> </ul>				
<b>Interfaces</b>	<ul style="list-style-type: none"> <li>● 1 x 10/100/1000BASE-T autosensing (RJ-45), Power over Ethernet (PoE)</li> <li>● 1 x 10/100/1000BASE-T autosensing (RJ-45), AUX</li> <li>● Management console port (RJ-45)</li> <li>● USB 2.0 (enabled via future software)</li> </ul>				
<b>Indicators</b>	<ul style="list-style-type: none"> <li>● Status LED indicates boot loader status, association status, operating status, boot loader warnings, boot loader errors</li> </ul>				
<b>Dimensions (W x L x H)</b>	<ul style="list-style-type: none"> <li>● Access point (without mounting bracket): 8.3 x 8.3 x 2 in. (210.8 x 210.8 x 50.8 mm)</li> </ul>				
<b>Weight</b>	<ul style="list-style-type: none"> <li>● 3.12 lb (1.41 kg)</li> </ul>				
<b>Environmental</b>	<b>Cisco Aironet 1850i</b> <ul style="list-style-type: none"> <li>● Nonoperating (storage) temperature: -22° to 158°F (-30° to 70°C)</li> <li>● Nonoperating (storage) altitude test: 25°C, 15,000 ft.</li> <li>● Operating temperature: 32° to 104°F (0° to 40°C)</li> <li>● Operating humidity: 10% to 90% (noncondensing)</li> <li>● Operating altitude test: 40°C, 9843 ft.</li> </ul> <b>Cisco Aironet 1850e</b> <ul style="list-style-type: none"> <li>● Nonoperating (storage) temperature: -22° to 158°F (-30° to 70°C)</li> <li>● Nonoperating (storage) altitude test: 25°C, 15,000 ft.</li> </ul>				

Feature	Specifications
<b>Environmental</b>	<ul style="list-style-type: none"> <li>Operating temperature: -4° to 122°F (-20° to 50°C)</li> <li>Operating humidity: 10% to 90% (noncondensing)</li> <li>Operating altitude test: 40°C, 9843 ft.</li> </ul>
<b>System memory</b>	<ul style="list-style-type: none"> <li>1 GB DRAM</li> <li>256 MB flash</li> </ul>
<b>Input power requirements</b>	<ul style="list-style-type: none"> <li>AP1850: 44 to 57 VDC</li> <li>Power supply and power injector: 100 to 240 VAC; 50 to 60 Hz</li> </ul>
<b>Power draw</b>	<ul style="list-style-type: none"> <li>20.9W</li> </ul> <p><b>Note:</b> When deployed using a Power over Ethernet (PoE) specification, the power drawn from the power sourcing equipment will be higher by some amount, depending on the length of the interconnecting cable.</p>
<b>Powering options</b>	<ul style="list-style-type: none"> <li>802.3at</li> <li>Enhanced PoE</li> <li>Cisco power injector, AIR-PWRINJ4=</li> <li>Cisco local power supply, AIR-PWR-C=</li> <li>Cisco power injector, AIR-PWRINJ5= (Note: this injector supports 802.3af only)</li> <li>802.3af</li> </ul> <p><b>Note:</b> If 802.3af PoE is the source of power, the access point's 5-GHz radio will dynamically shift from 4x4 to 3x3, and the 2.4-GHz radio will shift to 2x2 from 3x4. The USB port and AUX Ethernet port are disabled.</p>
<b>Warranty</b>	Limited lifetime hardware warranty
<b>Compliance standards</b>	<ul style="list-style-type: none"> <li>UL 60950-1</li> <li>CAN/CSA-C22.2 No. 60950-1</li> <li>UL 2043</li> <li>IEC 60950-1</li> <li>EN 60950-1</li> <li>EN 50155</li> <li>Radio approvals: <ul style="list-style-type: none"> <li>FCC Part 15.247, 15.407<sup>*</sup></li> <li>RSS-210 (Canada)</li> <li>EN 300.328, EN 301.893 (Europe)</li> <li>ARIB-STD 66 (Japan)</li> <li>ARIB-STD T71 (Japan)</li> <li>EMI and susceptibility (Class B)</li> <li>FCC Part 15.107 and 15.109<sup>*</sup></li> <li>ICES-003 (Canada)</li> <li>VCCI (Japan)</li> <li>EN 301.489-1 and -17 (Europe)</li> <li>EN 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC</li> </ul> </li> <li>IEEE standards: <ul style="list-style-type: none"> <li>IEEE 802.11a/b/g, 802.11n, 802.11h, 802.11d</li> <li>IEEE 802.11ac Draft 5</li> </ul> </li> <li>Security: <ul style="list-style-type: none"> <li>802.11i, Wi-Fi Protected Access 2 (WPA2), WPA</li> <li>802.1X</li> <li>Advanced Encryption Standard (AES), Temporal Key Integrity Protocol (TKIP)</li> </ul> </li> <li>Extensible Authentication Protocol (EAP) types: <ul style="list-style-type: none"> <li>EAP-Transport Layer Security (TLS)</li> <li>EAP-Tunneled TLS (TTLS) or Microsoft Challenge Handshake Authentication Protocol Version 2 (MSCHAPv2)</li> <li>Protected EAP (PEAP) v0 or EAP-MSCHAPv2</li> <li>EAP-Flexible Authentication via Secure Tunneling (FAST)</li> <li>PEAP v1 or EAP-Generic Token Card (GTC)</li> <li>EAP-Subscriber Identity Module (SIM)</li> </ul> </li> <li>Multimedia: <ul style="list-style-type: none"> <li>Wi-Fi Multimedia (WMM)</li> </ul> </li> <li>Other: <ul style="list-style-type: none"> <li>FCC Bulletin OET-65C</li> <li>RSS-102</li> </ul> </li> </ul>

Future



## Warranty Information

The Cisco Aironet 1850 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 are defect-free for 90 days. For more details, visit <http://www.cisco.com/go/warranty>.

## Ordering Information

To place an order, visit the [Cisco How to Buy page](#). To download software, visit the [Cisco Software Center](#).

**Table 2.** Ordering Information

Product Name	Part Number
<b>Aironet 1850 Series</b>	<p><b>Cisco Aironet 1852i Access Point: Indoor environments, with internal antennas</b></p> <p><b>Universal Regulatory Domain</b></p> <ul style="list-style-type: none"><li>● AIR-AP1852I-UXXK9: Dual-band, controller-based 802.11a/g/n/ac, Wave 2</li><li>● AIR-AP1852I-UXXK910: Eco-pack (dual-band 802.11a/g/n/ac) 10 quantity access points, Wave 2</li><li>● AIR-AP1852I-UXXK9C: Dual-band, controller-based 802.11a/g/n/ac, Wave 2, configurable</li><li>● AIRAP1852I-UXXK910C: Eco-pack (dual-band 802.11a/g/n/ac) 10 quantity access points, Wave 2, configurable</li></ul> <p><b>Individual Regulatory Domain</b></p> <ul style="list-style-type: none"><li>● AIR-AP1852I-x-K9: Dual-band, controller-based 802.11a/g/n/ac, Wave 2</li><li>● AIR-AP1852I-x-K9C: Dual-band, controller-based 802.11a/g/n/ac, Wave 2, configurable</li><li>● Regulatory domains: (x = regulatory domain)</li></ul> <p><b>Cisco Aironet 1852e Access Point: Indoor, challenging environments, with external antennas</b></p> <p><b>Universal Regulatory Domain</b></p> <ul style="list-style-type: none"><li>● AIR-AP1852E-UXXK9: Dual-band, controller-based 802.11a/g/n/ac, Wave 2</li><li>● AIR-AP1852E-UXXK910: Eco-pack (dual-band 802.11a/g/n/ac) 10 quantity access points, Wave 2</li><li>● AIR-AP1852E-UXXK9C: Dual-band, controller-based 802.11a/g/n/ac, Wave 2, configurable</li><li>● AIRAP1852E-UXXK910C: Eco-pack (dual-band 802.11a/g/n/ac) 10 quantity access points, Wave 2, configurable</li></ul> <p><b>Individual Regulatory Domain</b></p> <ul style="list-style-type: none"><li>● AIR-AP1852E-x-K9: Dual-band, controller-based 802.11a/g/n/ac, Wave 2</li><li>● AIR-AP1852E-x-K9C: Dual-band, controller-based 802.11a/g/n/ac, Wave 2, configurable</li><li>● Regulatory domains: (x = regulatory domain)</li></ul> <p>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, visit <a href="http://www.cisco.com/go/aironet/compliance">http://www.cisco.com/go/aironet/compliance</a>.</p> <p>Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.</p>

## Cisco Services

Realize the full business value of your technology investments faster with intelligent, customized services from Cisco and our partners. Backed by deep networking expertise and a broad ecosystem of partners, Cisco Wireless LAN Services help you deploy a sound, scalable mobility network that enables rich media collaboration while improving the operational efficiency gained from a converged wired and wireless network infrastructure based on the Cisco Unified Wireless Network. Together with partners, we offer expert plan, build, and run services to accelerate your transition to advanced mobility services while continuously optimizing the performance, reliability, and security of that architecture after it is deployed. For more details, visit <http://www.cisco.com/go/wirelesslanservices>.

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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](#)

## For More Information

For more information about the Cisco Aironet 1850 Series, visit <http://www.cisco.com/go/wireless> or contact your local account representative.



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