



The bridge to possible

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# Cisco Catalyst 9117 Series Access Points

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The Cisco® Catalyst® 9117 Series Access Points are the next generation of enterprise access points. They are resilient, secure, and intelligent.



Hyperconnectivity with steady performance in demanding environments. Exponential growth of Internet of Things (IoT) devices and next-generation applications. Advanced persistent security threats. All of these require a wireless network that provides resiliency and superior connectivity, integrated security with advanced classification and containment, and hardware and software innovations to automate, secure, and simplify networks. Updating your wireless infrastructure to one that will meet these needs is paramount for today’s digital business. The new generation of Cisco Catalyst 9100 Access Points, with high-performance Wi-Fi 6 (802.11ax) capabilities and innovations in RF performance, security, and analytics, enables end-to-end digitization and helps accelerate the rollout of business services by delivering beyond Wi-Fi.

With the Catalyst 9117 Series, you can secure remote workers or the micro-office. Any Cisco Aironet or Catalyst access point can function as an OfficeExtend access point (OEAP). With an OEAP, an employee at home or in a temporary micro-office will have access to the corporate SSID and the corporate network without the need to set up a VPN or have any advanced technical know-how.

Extending Cisco’s intent-based network and perfect for networks of all sizes, the Catalyst 9117 Series scales to meet the growing demands of IoT while fully supporting the latest innovations and new technologies. The Catalyst 9117 Series is also a leader in performance, security, and analytics.

The Catalyst 9117 Series Access Points, paired with the Cisco Digital Network Architecture (Cisco DNA), are enterprise-class products that will address both your current and future needs. They are the first step in updating your network to take better advantage of all of the features and benefits that Wi-Fi 6 provides.

**Table 1.** Features and benefits

Feature	Benefits
<b>802.11ax (Wi-Fi 6)</b>	The IEEE 802.11ax emerging standard, also known as High-Efficiency Wireless (HEW) or Wi-Fi 6, builds on 802.11ac. It will deliver a better experience in typical environments and more predictable performance for advanced applications such as 4K or 8K video, high-density, high-definition collaboration apps, all-wireless offices, and IoT. 802.11ax is designed to use both the 2.4-GHz and 5-GHz bands, unlike the 802.11ac standard.
<b>802.11ac Wave 2 support</b>	Provides a connection rate of up to 3.5 Gbps—significantly higher than rates offered by today’s high-end 802.11ac access points.
<b>OFDMA</b>	OFDMA-based scheduling splits the bandwidth into smaller chunks called Resource Units (RUs), which can be allocated to individual clients only in the downlink direction to reduce overhead and latency.

Feature	Benefits
<b>MU-MIMO technology</b>	Supporting eight spatial streams, MU-MIMO enables access points to split spatial streams between client devices, to maximize throughput.
<b>Target wake time</b>	A new power savings mode called Target Wake Time (TWT) allows the client to stay asleep and to wake up only at prescheduled (target) times to exchange data with the AP. This offers significant energy savings for battery-operated devices, up to 3x to 4x compared to 802.11n and 802.11ac.
<b>Embedded Catalyst Wireless Controller</b>	The 9117 Series Wi-Fi 6 access points are available with a built-in controller. The Cisco Embedded Wireless Controller on Catalyst 9100 Access Points provides an easy-to-deploy and manage option that does not require a physical appliance. The control resides on the access point, so there is no added footprint or complexity. And, because it uses Cisco Catalyst 9800 Series Wireless Controller code, it's easy to migrate your network as your needs grow. For more details refer <a href="#">EWC</a> .
<b>User Defined Network</b>	A feature available in Cisco DNA Center, allows IT to give end users control of their very own wireless network partition on a shared network. End users can then remotely and securely deploy their devices on this network. Perfect for university dormitories or extended hospital stays, Cisco User Defined Network grants both device security and control, allowing each user to choose who can connect to their network. (Available second half of calendar year 2020.) <a href="#">For more details refer to UDN</a> .
<b>Application Hosting on Catalyst 9100 Access</b>	Application Hosting on Catalyst 9100 Access Points helps future-proof and simplify IoT deployments by eliminating the need to install and manage overlay networks. Utilizing the USB interface, containerized applications and hardware modules can be deployed to reduce cost and complexity. Adding Cisco DNA Center provides workflows and deployment-wide application lifecycle management.
<b>Multigigabit Ethernet support</b>	Provides uplink speeds of 5 Gbps, in addition to 100 Mbps and 1 Gbps. All speeds are supported on Category 5e cabling for an industry first, as well as 10GBASE-T (IEEE 802.3bz) cabling.
<b>Bluetooth 5.0</b>	Integrated Bluetooth Low Energy (BLE) 5.0 radio to enable IoT use cases such as location tracking and wayfinding.
<b>Apple features</b>	<p>Apple and Cisco have partnered to create an optimal mobile experience for iOS devices on corporate networks based on Cisco technologies. Using new features in iOS 10, in combination with the latest software and hardware from Cisco, businesses can now more effectively use their network infrastructure to deliver an enhanced user experience across all business applications.</p> <p>At the center of the collaboration is a unique handshake between the Cisco WLAN and Apple devices. This handshake enables the Cisco WLAN to provide an optimal Wi-Fi roaming experience to Apple devices. Additionally, the Cisco WLAN trusts Apple devices and gives priority treatment for business-critical applications specified by the Apple device. This feature is also known as Fast Lane.</p>

For more details about Wi-Fi 6, see [Cisco's technical white paper](#) on Wi-Fi 6.

For more details about C9117 feature support, see [Cisco's Feature Matrix](#).

## Secure infrastructure

**Trustworthy systems built with Cisco Trust Anchor Technologies** provide a highly secure foundation for Cisco products. With the Cisco Catalyst 9100 Access Points, these technologies enable assurance of hardware and software authenticity for supply chain trust and strong defense against man-in-the-middle attacks that compromise software and firmware. Trust Anchor capabilities include:

- **Image signing**
- **Secure Boot:**
- **Cisco Trust Anchor module**

## Cisco DNA support

Pairing the Catalyst 9117 Series Access Points with Cisco DNA allows for a total network transformation. Cisco DNA allows you to truly understand your network with real-time analytics, quickly detect and contain security threats, and easily provide networkwide consistency through automation and virtualization. The Catalyst 9117 Series Access Points support SD-Access, Cisco's leading enterprise architecture.

Working together, the Catalyst 9117 Series and Cisco DNA offer such features as:

- Cisco DNA Spaces
- Cisco Identity Services Engine
- Cisco DNA Analytics and Assurance

The result? Your network stays relevant, becomes digital ready, and is the lifeblood of your organization.

**Note:** For information about Cisco DNA, refer to the [Cisco DNA](#)

## Product specifications

**Table 2.** Specifications

Item	Specification
Part numbers	<p><b>Cisco Catalyst 9117AXI Access Point: Indoor environments, with internal antennas</b></p> <ul style="list-style-type: none"><li>• C9117AXI-x: Cisco Catalyst 9117</li></ul> <p><b>Cisco Catalyst 9117AXI Access Point: Indoor environments, with internal antennas, with embedded wireless controller</b></p> <ul style="list-style-type: none"><li>• C9117AXI-EWC-x: Cisco Catalyst 9117</li></ul> <p><b>Regulatory domains: (x = regulatory domain)</b></p> <p>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 <a href="https://www.cisco.com/go/aironet/compliance">https://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> <p><b>Cisco Wireless LAN Services</b></p> <ul style="list-style-type: none"><li>• AS-WLAN-CNSLT: <a href="#">Cisco Wireless LAN Network Planning and Design Service</a></li><li>• AS-WLAN-CNSLT: <a href="#">Cisco Wireless LAN 802.11n Migration Service</a></li><li>• AS-WLAN-CNSLT: <a href="#">Cisco Wireless LAN Performance and Security Assessment Service</a></li></ul>

Item	Specification
<b>Software</b>	<ul style="list-style-type: none"> <li>• Cisco Unified Wireless Network Software Release 8.9 or later</li> <li>• Cisco IOS® XE Software Release 16.11 or later</li> </ul>
<b>Supported wireless LAN controllers</b>	<ul style="list-style-type: none"> <li>• Cisco Catalyst 9800 Series Wireless Controllers</li> <li>• Cisco 3500, 5520, and 8540 Series Wireless Controllers, and Cisco Virtual Wireless Controller</li> </ul>
<b>802.11n version 2.0 (and related) capabilities</b>	<ul style="list-style-type: none"> <li>• 8x8 MIMO with four spatial streams for 5-GHz band</li> <li>• 4x4 MIMO with four spatial streams for 2.4-GHz band</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 (transmit and receive), A-MSDU (transmit and receive)</li> <li>• Cyclic Shift Diversity (CSD) support</li> </ul>
<b>802.11ac</b>	<ul style="list-style-type: none"> <li>• 8x8 downlink MU-MIMO with eight spatial streams</li> <li>• MRC</li> <li>• 802.11ac beamforming</li> <li>• 20-, 40-, 80, and 160-MHz channels</li> <li>• PHY data rates up to 3.5 Gbps at 5 GHz</li> <li>• Packet aggregation: A-MPDU (transmit and receive), A-MSDU (transmit and receive)</li> <li>• CSD support</li> <li>• 160 MHz support only on 4-spatial stream</li> </ul>
<b>802.11ax</b>	<ul style="list-style-type: none"> <li>• 8x8 MIMO with eight spatial streams for 5-GHz band</li> <li>• 4x4 MIMO with four spatial streams for 2.4-GHz band</li> <li>• Downlink OFDMA</li> <li>• TWT</li> <li>• MRC</li> <li>• 802.11ax beamforming</li> <li>• 20-, 40-, 80, and 160-MHz channels</li> <li>• PHY data rates up to 5 Gbps at 5 GHz</li> <li>• Packet aggregation: A-MPDU (transmit and receive), A-MSDU (transmit and receive)</li> <li>• CSD support</li> </ul>
<b>Integrated antenna</b>	<ul style="list-style-type: none"> <li>• 2.4 GHz, peak gain 4 dBi, internal antenna, omnidirectional in azimuth</li> <li>• 5 GHz, peak gain 6 dBi, internal antenna, omnidirectional in azimuth</li> </ul>
<b>Interfaces</b>	<ul style="list-style-type: none"> <li>• 1x 100, 1000, 2500, 5000 Multigigabit Ethernet (RJ-45) - IEEE 802.3bz</li> <li>• Management console port (RJ-45)</li> <li>• USB 2.0 with up to 4.5W (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, and 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 and mounting features): 8.70 x 8.70 x 1.94 in. (22 x 22 x 4.93 cm)</li> <li>• Access point (without mounting bracket): 8.70 x 8.70 x 2.19 in. (22 x 22 x 5.56 cm)</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>• 3.02 lb (1.4 kg)</li> </ul>

Item	Specification																																																
<b>Input power requirements</b>	<ul style="list-style-type: none"> <li>802.3at Power over Ethernet Plus (PoE+), 802.3bt Cisco Universal PoE (Cisco UPOE+, Cisco UPOE®)</li> <li>Cisco power injector, AIR-PWRINJ6=</li> <li>802.3af PoE</li> <li>Cisco power injector, AIR-PWRINJ5= (Note: This injector supports only 802.3af)</li> </ul> <p>Note: When 802.3af PoE is the source of power, both 2.4-GHz and 5-GHz radios will be reduced to 2x2 and Ethernet downgraded to 2.5 Gbps; in addition, the USB port will be off.</p>																																																
<b>Power draw</b>	<b>802.3bt Cisco UPOE+ Cisco UPOE Full Feature</b> <table border="1"> <thead> <tr> <th>Power source</th> <th>Power type</th> <th>2.4-GHz radio</th> <th>5-GHz radio</th> <th>Link speed</th> <th>USB</th> <th>LLDP</th> </tr> </thead> <tbody> <tr> <td>802.3bt Cisco UPOE+, Cisco UPOE</td> <td>PoE</td> <td>4x4</td> <td>8x8</td> <td>5 Gbps</td> <td>Y</td> <td>28.9W</td> </tr> </tbody> </table> <b>802.3at Full Feature*</b> <table border="1"> <thead> <tr> <th>Power source</th> <th>Power type</th> <th>2.4-GHz radio</th> <th>5-GHz radio</th> <th>Link speed</th> <th>USB</th> <th>LLDP</th> </tr> </thead> <tbody> <tr> <td>802.3at</td> <td>PoE</td> <td>4x4</td> <td>8x8</td> <td>5 Gbps</td> <td>N</td> <td>25.4W</td> </tr> </tbody> </table> <b>802.3af Reduced Feature</b> <table border="1"> <thead> <tr> <th>Power source</th> <th>Power type</th> <th>2.4-GHz radio</th> <th>5-GHz radio</th> <th>Link speed</th> <th>USB</th> <th>LLDP</th> </tr> </thead> <tbody> <tr> <td>802.3af</td> <td>PoE</td> <td>2x2</td> <td>2x2</td> <td>2.5 Gbps</td> <td>N</td> <td>13.5W</td> </tr> </tbody> </table> <p>* USB port can be enabled, but the 5-GHz radio will be reduced to 4x4.</p> <p><b>Note:</b> Power required at the Power Source Equipment (PSE) will depend on the cable length and other environmental issues</p>							Power source	Power type	2.4-GHz radio	5-GHz radio	Link speed	USB	LLDP	802.3bt Cisco UPOE+, Cisco UPOE	PoE	4x4	8x8	5 Gbps	Y	28.9W	Power source	Power type	2.4-GHz radio	5-GHz radio	Link speed	USB	LLDP	802.3at	PoE	4x4	8x8	5 Gbps	N	25.4W	Power source	Power type	2.4-GHz radio	5-GHz radio	Link speed	USB	LLDP	802.3af	PoE	2x2	2x2	2.5 Gbps	N	13.5W
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802.3af	PoE	2x2	2x2	2.5 Gbps	N	13.5W																																											
<b>Environmental</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 122°F (0° 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>2048 MB DRAM</li> <li>1024 MB flash</li> </ul>																																																
<b>Warranty</b>	Limited lifetime hardware warranty																																																
<b>Available transmit power settings</b>	<b>2.4 GHz</b> <ul style="list-style-type: none"> <li>23 dBm (200 mW)</li> <li>-6 dBm (0.25 mW)</li> </ul>			<b>5 GHz</b> <ul style="list-style-type: none"> <li>26 dBm (400 mW)</li> <li>-4 dBm (0.4 mW)</li> </ul>																																													

Item	Specification	
Regulatory domains	<p><b>Note:</b> 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 <a href="https://www.cisco.com/go/aironet/compliance">https://www.cisco.com/go/aironet/compliance</a>.</p> <p>For information about Regulatory Domain support, refer to the <a href="#">Cisco Regulatory Domain White Paper</a></p>	
Compliance standards	<ul style="list-style-type: none"> <li>• <b>Safety:</b> <ul style="list-style-type: none"> <li>◦ IEC 60950-1</li> <li>◦ EN 60950-1</li> <li>◦ AS/NZS 60950.1</li> <li>◦ UL 60950-1</li> <li>◦ CAN/CSA-C22.2 No. 60950-1</li> <li>◦ UL 2043</li> <li>◦ Class III equipment</li> </ul> </li> <li>• <b>Emissions:</b> <ul style="list-style-type: none"> <li>◦ CISPR 32 (rev. 2015)</li> <li>◦ EN 55032 (rev. 2012/AC:2013)</li> <li>◦ EN 55032 (rev. 2015)</li> <li>◦ EN61000-3-2 (rev. 2014)</li> <li>◦ EN61000-3-3 (rev. 2013)</li> <li>◦ KN61000-3-2</li> <li>◦ KN61000-3-3</li> <li>◦ AS/NZS CISPR 32 Class B (rev. 2015)</li> <li>◦ 47 CFR FCC Part 15B</li> <li>◦ ICES-003 (rev. 2016 Issue 6, Class B)</li> <li>◦ VCCI (V3)</li> <li>◦ CNS (rev. 13438)</li> <li>◦ KN-32</li> <li>◦ TCVN 7189 (rev. 2009)</li> </ul> </li> <li>• <b>Immunity:</b> <ul style="list-style-type: none"> <li>◦ CISPR 24 (rev. 2010)</li> <li>◦ EN 55024/EN 55035 (rev. 2010)</li> </ul> </li> <li>• <b>Emissions and immunity:</b> <ul style="list-style-type: none"> <li>◦ EN 301 489-1 (v2.1.1 2017-02)</li> <li>◦ EN 301 489-17 (v3.1.1 2017-02)</li> <li>◦ QCVN (18:2014)</li> <li>◦ KN 489-1</li> <li>◦ KN 489-17</li> <li>◦ EN 60601 (1-1:2015)</li> </ul> </li> <li>• <b>Radio:</b> <ul style="list-style-type: none"> <li>◦ EN 300 328 (v2.1.1)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>◦ EN 301 893 (v2.1.1)</li> <li>◦ AS/NZS 4268 (rev. 2017)</li> <li>◦ 47 CFR FCC Part 15C, 15.247, 15.407</li> <li>◦ RSP-100</li> <li>◦ RSS-GEN</li> <li>◦ RSS-247</li> <li>◦ China regulations SRRC</li> <li>◦ LP0002 (rev 2018.1.10)</li> <li>◦ Japan Std. 33a, Std. 66, and Std. 71</li> <li>◦ EMI and susceptibility (Class B)</li> <li>• <b>RF safety:</b> <ul style="list-style-type: none"> <li>◦ EN 50385 (rev. Aug 2002)</li> <li>◦ ARPANSA</li> <li>◦ AS/NZS 2772 (rev. 2016)</li> <li>◦ EN 62209-1 (rev. 2016)</li> <li>◦ EN 62209-2 (rev. 2010)</li> <li>◦ 47 CFR Part 1.1310 and 2.1091</li> <li>◦ RSS-102</li> </ul> </li> <li>• <b>IEEE standards:</b> <ul style="list-style-type: none"> <li>◦ IEEE 802.3</li> <li>◦ IEEE 802.3ab</li> <li>◦ IEEE 802.3af/at/bt</li> <li>◦ IEEE 802.11 a/b/g/n/ac/ax</li> <li>◦ IEEE 802.11h, 802.11d</li> </ul> </li> <li>• <b>Security:</b> <ul style="list-style-type: none"> <li>◦ 802.11i, Wi-Fi Protected Access 3 (WPA3), WPA2, WPA</li> <li>◦ 802.1X</li> <li>◦ Advanced Encryption Standard (AES)</li> </ul> </li> <li>• <b>Extensible Authentication Protocol (EAP) types:</b> <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 (EAP-FAST)</li> <li>◦ PEAP v1 or EAP-Generic Token Card (GTC)</li> <li>◦ EAP-Subscriber Identity Module (SIM)</li> </ul> </li> </ul>

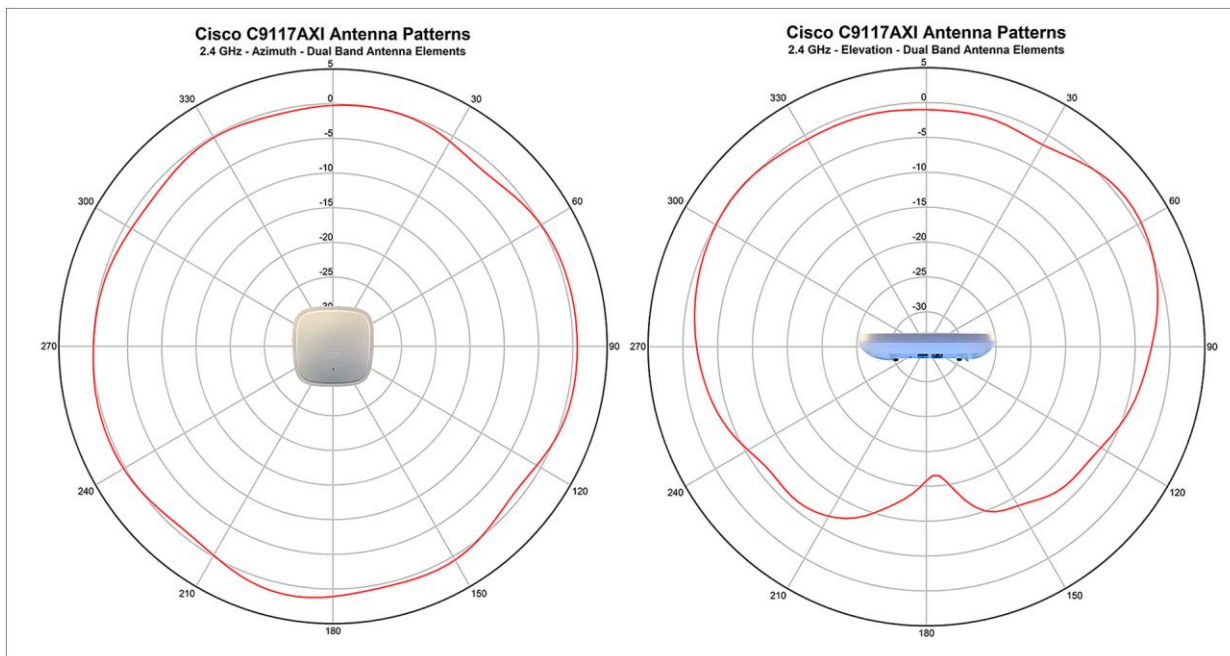


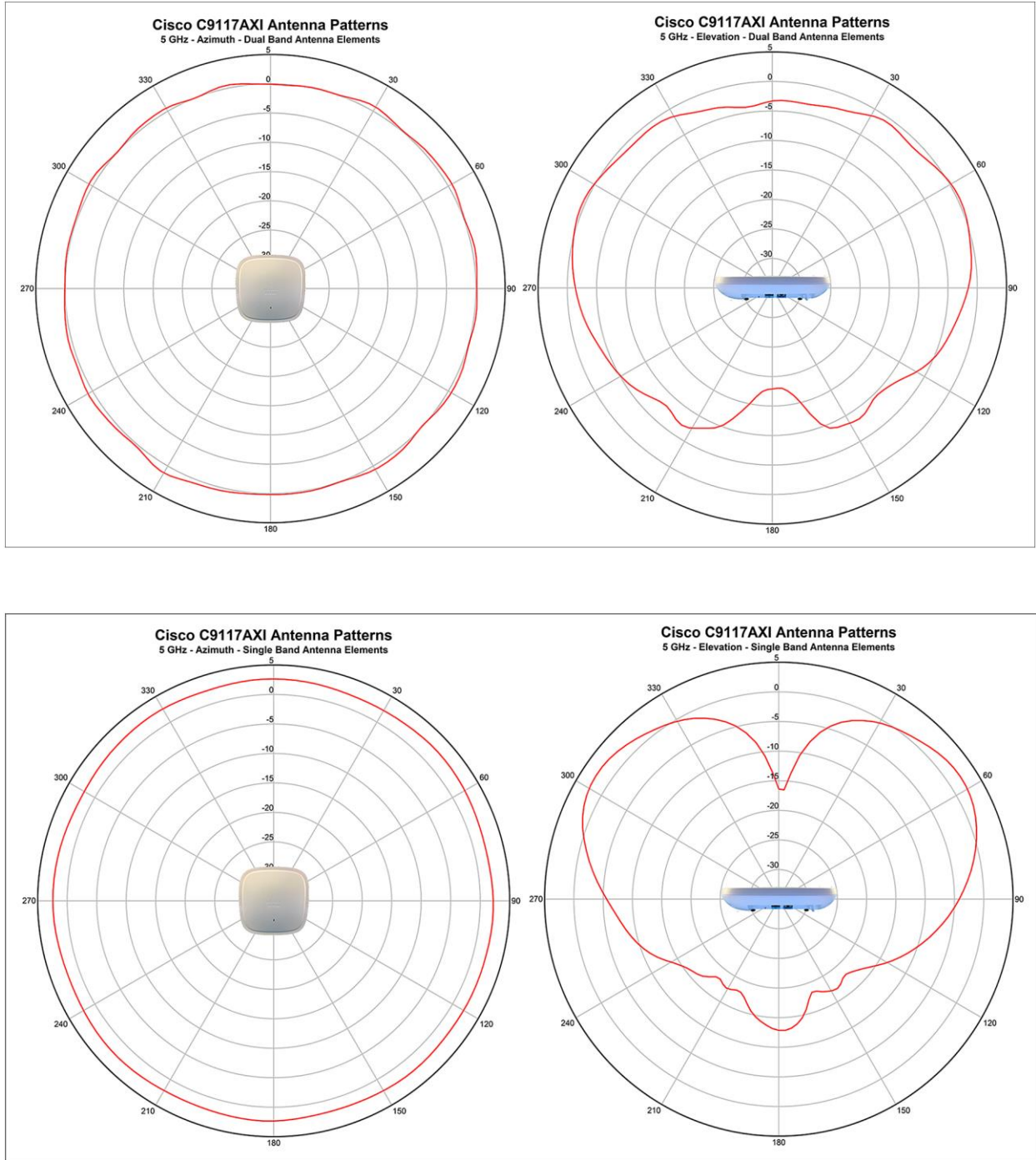
Item		Specification			
<b>Datarate/Transmit Power/ Receive sensitivity</b>		For more detailed information about Datarate/TX Power/Receive sensitivity, Please refer <a href="#">Cisco RF Details</a>			
<b>Transmit power and receive sensitivity</b>					
		<b>5-GHz radio</b>		<b>2.4-GHz radio</b>	
	<b>Spatial streams</b>	<b>Total transmit power (dBm)</b>	<b>Receive sensitivity (dBm)</b>	<b>Total transmit power (dBm)</b>	<b>Receive sensitivity (dBm)</b>
<b>802.11/11b</b>					
<b>1 Mbps</b>	1	-	-	23	-98
<b>11 Mbps</b>	1	-	-	23	-89
<b>802.11a/g</b>					
<b>6 Mbps</b>	1	23	-95	23	-94
<b>24 Mbps</b>	1	22	-88	22	-87
<b>54 Mbps</b>	1	21	-79	20	-78
<b>802.11n HT20</b>					
<b>MCS0</b>	1	23	-95	23	-94
<b>MCS31</b>	4	20	-74	20	-73
<b>802.11n HT40</b>					
<b>MCS0</b>	1	23	-93	-	-
<b>MCS31</b>	4	20	-72	-	-
<b>802.11ac VHT20</b>					
<b>MCS0</b>	1	23	-95	-	-
<b>MCS8</b>	1	20	-75	-	-
<b>MCS9</b>	1	NA	NA	-	-
<b>MCS0</b>	2	23	-95	-	-
<b>MCS8</b>	2	20	-74	-	-
<b>MCS9</b>	2	NA	NA	-	-
<b>MCS0</b>	3	23	-95	-	-
<b>MCS9</b>	3	19	-72	-	-

Item		Specification			
MCS0	4	23	-94	-	-
MCS9	4	19	-71	-	-
<b>802.11ac VHT40</b>					
MCS0	1	23	-94	-	-
MCS9	1	19	-71	-	-
MCS0	2	23	-93	-	-
MCS9	2	19	-70	-	-
MCS0	3	23	-92	-	-
MCS9	3	19	-69	-	-
MCS0	4	23	-91	-	-
MCS9	4	19	-68	-	-
<b>802.11ac VHT80</b>					
MCS0	1	23	-91	-	-
MCS9	1	19	-67	-	-
MCS0	2	23	-90	-	-
MCS9	2	19	-66	-	-
MCS0	3	23	-89	-	-
MCS9	3	19	-65	-	-
MCS0	4	23	-88	-	-
MCS9	4	19	-64	-	-
<b>802.11ac VHT160</b>					
MCS0	1	23	-88	-	-
MCS9	1	18	-65	-	-
MCS0	2	23	-87	-	-
MCS9	2	18	-64	-	-
MCS0	3	23	-86	-	-
MCS9	3	18	-63	-	-

Item		Specification			
MCS0	4	23	-85	-	-
MCS9	4	18	-62	-	-
<b>802.11ax HE20</b>					
MCS0	1	23	-95	23	-94
MCS11	1	18	-68	16	-67
MCS0	2	23	-95	23	-94
MCS11	2	18	-67	16	-66
MCS0	3	23	-95	23	-94
MCS11	3	18	-66	16	-65
MCS0	4	23	-94	23	-93
MCS11	4	18	-65	16	-64
<b>802.11ax HE40</b>					
MCS0	1	23	-94		
MCS11	1	18	-65		
MCS0	2	23	-93		
MCS11	2	18	-64		
MCS0	3	23	-92		
MCS11	3	18	-63		
MCS0	4	23	-91		
MCS11	4	18	-62		
<b>802.11ax HE80</b>					
MCS0	1	23	-91	-	-
MCS11	1	17	-63	-	-
MCS0	2	23	-90	-	-
MCS11	2	17	-62	-	-
MCS0	3	23	-89	-	-
MCS11	3	17	-61	-	-

Item		Specification			
MCS0	4	23	-88	-	-
MCS11	4	17	-60	-	-
<b>802.11ax HE160</b>					
MCS0	1	23	-88	-	-
MCS11	1	16	-59	-	-
MCS0	2	23	-87	-	-
MCS11	2	16	-58	-	-
MCS0	3	23	-86	-	-
MCS11	3	16	-57	-	-
MCS0	4	23	-85	-	-
MCS11	4	16	-56	-	-





**Figure 1.**  
Antenna radiation patterns for the 9117I

**Note:** For information about feature support, refer to the Cisco Catalyst 9100 Release Notes.

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## Licensing

For information about Licensing and packaging, refer to [Cisco Licensing](#)

## Warranty information

The Cisco Catalyst 9117 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 <https://www.cisco.com/go/warranty>.

## Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's [Corporate Social Responsibility](#) (CSR) Report. Reference links to information are below.

Information on product material content laws and regulations - [Materials](#).

Information on electronic waste laws and regulations, including products, batteries, and packaging - [WEEE compliance](#).

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## Cisco Services

With Cisco Services, you can achieve infrastructure excellence faster with less risk. From an initial WLAN readiness assessment to implementation, full solution support, and in-depth training, our services for the Cisco Catalyst 9117 Series provide expert guidance to help you successfully plan, deploy, manage, and support your new access points. With unmatched networking expertise, best practices, and innovative tools, Cisco Services can help you reduce overall upgrade, refresh, and migration costs as you introduce new hardware, software, and protocols into the network. With a comprehensive lifecycle of services, Cisco experts will help you minimize disruption and improve operational efficiency to extract maximum value from your Cisco DNA-ready infrastructure.

## Cisco Capital

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. [Learn more](#).

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## Smart Account

Creating Smart Accounts by using the Cisco Smart Software Manager (SSM) enables you to order devices and licensing packages and also manage your software licenses from a centralized website. For more information on Smart Accounts, refer to <https://www.cisco.com/go/smartaccounts>.

**Americas Headquarters**  
Cisco Systems, Inc.  
San Jose, CA

**Asia Pacific Headquarters**  
Cisco Systems (USA) Pte. Ltd.  
Singapore

**Europe Headquarters**  
Cisco Systems International BV Amsterdam,  
The Netherlands

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