

# Cisco Catalyst 9124AX Series Access Points

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The Cisco Catalyst 9124AX Series outdoor access points are next-generation Wi-Fi 6 access points encased in a rugged and robust design that service providers and enterprises can easily deploy.



**Figure 1.**  
Cisco Catalyst 9124AX Series Access points

With the emergence of high-density networks and the Internet of Things (IoT), we are more dependent on wireless networks than ever before. An increasing number of devices connect to the network every year, ranging from high-performance client devices to low-bandwidth IoT devices. The Cisco Catalyst 9124AX Series outdoor access points provide a seamless experience, with high scaling and unmatched performance in diverse network deployments. Going beyond the Wi-Fi 6 (802.11ax) standard, the Catalyst 9124AX Series provides integrated security, resiliency, and operational flexibility as well as increased network intelligence.

The Catalyst 9124AX 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 9124AX Series gives network operators the flexibility to balance their desired wireless coverage with their need for easy deployment.

The Catalyst 9124AX 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>Wi-Fi 6 (802.11ax)</b>	The IEEE 802.11ax emerging standard, also known as High-Efficiency Wireless (HEW) or Wi-Fi 6, builds on 802.11ac. It delivers a better experience in typical environments with more predictable performance for advanced applications such as 4K or 8K video, high-density, high-definition collaboration apps, all-wireless offices, and IoT. Wi-Fi 6 is designed to use both the 2.4-GHz and 5-GHz bands, unlike the 802.11ac standard.
<b>Uplink/downlink OFDMA</b>	Orthogonal Frequency-Division Multiple Access (OFDMA)-based scheduling splits the bandwidth into smaller frequency allocations called Resource Units (RUs), which can be assigned to individual clients in both the downlink and uplink directions to reduce overhead and latency.
<b>Uplink/downlink MU-MIMO technology</b>	Supporting two spatial streams, multiuser multiple-input multiple-output (MU-MIMO) enables access points to split spatial streams between client devices to maximize throughput.
<b>BSS coloring</b>	Spatial reuse (also known as Basic Service Set [BSS] coloring) allows the access points and their clients to differentiate between BSSs, thus permitting more simultaneous transmissions.
<b>Target Wake Time</b>	A new power-saving 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 access point. This offers significant energy savings for battery-operated devices, up to 3 to 4 times the savings achieved by 802.11n and 802.11ac.
<b>Cisco RF ASIC</b>	Cisco RF ASIC is a fully integrated Software-Defined Radio (SDR) that can perform advanced RF spectrum analysis and delivers features such as Cisco CleanAir®, Wireless Intrusion Prevention System (wIPS), FastLocate, and Dynamic Frequency Selection (DFS).
<b>Bluetooth® 5</b>	Integrated Bluetooth Low Energy (BLE) 5 radio enables location-based use cases such as asset tracking, wayfinding, and analytics.
<b>Multigigabit Ethernet support</b>	Provides uplink speeds of 2.5G, 1G, and 100M. All speeds are supported on Category 5e cabling for an industry first, as well as 10GBASE-T (IEEE 802.3bz) cabling.

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

For more details about Catalyst 9124AX Series feature support, see [Cisco's Feature Matrix](#) on Wi-Fi 6.

For product ordering instructions, see [The Wireless Ordering Guide with Cisco DNA Subscription Licenses](#) document.

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## 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 Software support

Pairing the Catalyst 9124AX Series Access Points with Cisco DNA Software allows for a total network transformation. Cisco DNA Software 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 9124AX Series supports SD-Access, Cisco's leading enterprise architecture.

Working together, the Catalyst 9124AX Series and Cisco DNA Software 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 Software, refer to [Cisco DNA Software for Wireless](#).

## Product specifications

**Table 2.** Specifications

Item	Specification
<b>Part numbers</b>	<p><b>Cisco Catalyst 9124AX Series Access Points: Outdoor environments</b></p> <ul style="list-style-type: none"> <li>• <b>C9124AXI-x:</b> Cisco Catalyst 9124AX Series (internal omnidirectional antenna)</li> <li>• <b>C9124AXI-EWC-X:</b> Cisco Catalyst 9124AX Series Access point with Embedded wireless controller (internal omnidirectional antenna)</li> <li>• <b>C9124AXD-x:</b> Cisco Catalyst 9124AX Series (internal directional antenna)</li> <li>• <b>C9124AXD-EWC-X:</b> Cisco Catalyst 9124AX Series Access point with Embedded wireless controller (internal directional antenna)</li> <li>• <b>C9124AXE-x:</b> Cisco Catalyst 9124AX Series (External antenna)</li> <li>• <b>C9124AXE-EWC-X:</b> Cisco Catalyst 9124AX Series Access point with Embedded wireless controller (External Antenna)</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 and/or regional price lists.</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>
<b>Software</b>	<p><b>Catalyst 9124AXI, 9124AXD</b></p> <ul style="list-style-type: none"> <li>• Cisco IOS® XE Software Release 17.5.1/17.3.4 (B Domain) or later</li> <li>• Cisco IOS® XE Software Release 17.6.2 or later (For all Regulatory Domains)</li> </ul> <p><b>Catalyst C9124AXE</b></p> <ul style="list-style-type: none"> <li>• Cisco IOS® XE Software Release 17.6.2 or later</li> </ul> <p><b>Catalyst C9124AXI/C9124AXD Embedded wireless Controller</b></p> <ul style="list-style-type: none"> <li>• Cisco IOS® XE Software Release 17.6.2 or later</li> </ul>
<b>Supported WLAN controllers</b>	<ul style="list-style-type: none"> <li>• Cisco Catalyst 9800 Series Wireless Controllers</li> </ul>

Item	Specification
<b>802.11n version 2.0 (and related) capabilities</b>	<p><b>C9124AXI,C9124AXD</b></p> <ul style="list-style-type: none"> <li>• 4x4:4 in both 2.4GHz and 5 GHz uplink/downlink MU-MIMO with four spatial streams</li> </ul> <p><b>C9124AXE</b></p> <ul style="list-style-type: none"> <li>• 4x4:4 in 2.4GHz + two 2x2:2 radios in 5 GHz uplink/downlink MU-MIMO</li> <li>• Maximal Ratio Combining (MRC)</li> <li>• 802.11n and 802.11a/g</li> <li>• 20- and 40-MHz channels</li> <li>• PHY data rates up to 890 Mbps (40 MHz with 5 GHz and 20 MHz with 2.4 GHz)</li> <li>• Packet aggregation: Aggregate MAC Protocol Data Unit (A-MPDU) (transmit and receive), Aggregate MAC Service Data Unit (A-MSDU) (transmit and receive)</li> <li>• 802.11 Dynamic Frequency Selection (DFS)</li> <li>• Cyclic Shift Diversity (CSD) support</li> </ul>
<b>802.11ac</b>	<p><b>C9124AXI,C9124AXD</b></p> <ul style="list-style-type: none"> <li>• 4x4:4 in both 2.4GHz and 5 GHz uplink/downlink MU-MIMO with four spatial streams</li> </ul> <p><b>C9124AXE</b></p> <ul style="list-style-type: none"> <li>• 4x4:4 in 2.4GHz + two 2x2:2 radios in 5 GHz uplink/downlink MU-MIMO</li> <li>• MRC</li> <li>• 802.11ac beamforming</li> <li>• 20-, 40-, 80- and 80+80-MHz channels</li> <li>• PHY data rates up to 3.47 Gbps (160 MHz with 5 GHz)</li> <li>• Packet aggregation: A-MPDU (transmit and receive), A-MSDU (transmit and receive)</li> <li>• 802.11 DFS</li> <li>• CSD support</li> <li>• WPA3 support</li> </ul>
<b>802.11ax</b>	<p><b>C9124AXI,C9124AXD</b></p> <ul style="list-style-type: none"> <li>• 4x4:4 in both 2.4GHz and 5 GHz uplink/downlink MU-MIMO with four spatial streams</li> </ul> <p><b>C9124AXE</b></p> <ul style="list-style-type: none"> <li>• 4x4:4 in 2.4GHz + two 2x2:2 radios in 5 GHz uplink/downlink MU-MIMO Uplink/downlink OFDMA</li> <li>• TWT</li> <li>• BSS coloring</li> <li>• MRC</li> <li>• 802.11ax beamforming</li> <li>• 20-, 40-, 80-, and 80+80-MHz channels</li> <li>• PHY data rates up to 5.38 Gbps (160 MHz with 5 GHz and 20 MHz with 2.4 GHz)</li> <li>• Packet aggregation: A-MPDU (transmit and receive), A-MSDU (transmit and receive)</li> <li>• 802.11 DFS</li> <li>• CSD support</li> <li>• WPA3 support</li> <li>• WPA3-Enterprise 192 support</li> </ul>

Item	Specification
<b>Integrated antenna</b>	<p><b>Catalyst 9124AXI</b></p> <ul style="list-style-type: none"> <li>• 2.4 GHz: Peak gain 7 dBi, internal antenna, Vertical Polarization, omnidirectional</li> <li>• 5 GHz: Peak gain 7 dBi, internal antenna, Vertical Polarization, omnidirectional</li> <li>• BLE Antenna Gain: 5 dBi, internal antenna, Vertical Polarization, omnidirectional</li> </ul> <p><b>Catalyst 9124AXD</b></p> <ul style="list-style-type: none"> <li>• 2.4 GHz: Peak gain 9 dBi, internal antenna, Dual Polarization, directional, Azimuth beamwidth 70 deg, elevation beamwidth 65 deg</li> <li>• 5 GHz: Peak gain 9 dBi, internal antenna, Dual Polarization, directional, Azimuth beamwidth 55 deg, elevation beamwidth 50 deg</li> <li>• BLE Antenna Gain: 4 dBi, internal antenna, Vertical Polarization, omnidirectional</li> <li>• For more details, see Catalyst 9124AX Series Getting Started Guide.</li> </ul>
<b>External antenna</b>	<p><b>Catalyst 9124AXE</b></p> <ul style="list-style-type: none"> <li>• The Catalyst 9124AXE Access Point is certified for use with antenna gains up to 13 dBi (2.4 GHz and 5GHz)</li> <li>• Cisco offers the industry's broadest selection of antennas, delivering optimal coverage for a variety of deployment scenarios.</li> <li>• Supports Self-Identifiable Antennas (SIA)</li> </ul> <p>For more details, see <a href="#">Catalyst 9124AX Series Getting Started Guide</a>.</p>
<b>Interfaces</b>	<p><b>Catalyst 9124AXI, 9124AXD, 9124AXE</b></p> <ul style="list-style-type: none"> <li>• 1x 100/1000/2500 BASE-T (Ethernet) uplink interface</li> <li>• 1x Gigabit Ethernet SFP</li> <li>• Supports PoE output (802.3af compliant PSE) on the 1x 10/100/1000 BASE-T (Ethernet) downlink interface if C9124AX powered from one of the following: <ul style="list-style-type: none"> <li>◦ UPOE or 802.3bt inline power source (Switch or Power Injector)</li> <li>◦ DC input (with external power supply rated <math>\geq</math> 60W)</li> </ul> </li> <li>• Management console port (RJ-45)</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</li> </ul>
<b>Dimensions (W x L x H)</b>	<ul style="list-style-type: none"> <li>• Access point (without mounting brackets): <ul style="list-style-type: none"> <li>◦ <b>9124AXI, 9124AXD, 9124AXE:</b> 10.2 x 9.2 x 3.2 in. (25.9 x 23.3 x 8.1 cm)</li> </ul> </li> </ul>
<b>Weight</b>	<p><b>9124AXI, 9124AXD</b></p> <ul style="list-style-type: none"> <li>• 6.5 lb. (2.9 kg)</li> </ul> <p><b>9124AXE</b></p> <ul style="list-style-type: none"> <li>• 7 lb. (3.1 kg)</li> </ul>



Item	Specification							
<b>Input power requirements</b>	<ul style="list-style-type: none"> <li>• 802.3af Power over Ethernet (PoE), 802.3at PoE+, 802.3bt PoE++, Cisco Universal PoE (Cisco UPOE®)</li> <li>• Cisco power injector, AIR-PWRINJ-60RGD1= and AIR-PWRINJ-60RGD2=</li> <li>• Cisco power injector, AIR-PWRINJ6= (Note: This injector supports 802.3at)</li> <li>• DC power source: Auxiliary DC input, 24V to 56V</li> </ul>							
	PoE	Radio 0 SS	Radio 1 SS	Radio 2 SS (C9124AXE)	MGIG	SFP	1G	POE O/P
	.3af	Disabled	Disabled	n/a	1G	N	N	N
	.3at	2x2	2x2	n/a	1G	N	Y	N
.3bt/UPOE/ DC	4x4	4x4 or 2X2	2x2	2.5G	Y	Y	Y	
<b>Environmental</b>	<b>Catalyst 9124AXI, 9124AXD, 9124AXE</b> <ul style="list-style-type: none"> <li>• Nonoperating (storage) temperature: -40° to 185°F (-40° to 85°C)</li> <li>• Nonoperating altitude test: 17,000 ft (5182 m)</li> <li>• Operating temperature: -40° to 149°F (-40° to 65°C) with no solar loading, -40° to 131°F (-40° to 55°C) with solar loading</li> <li>• Operating altitude test: 17,000 ft (5182 m)</li> <li>• Operating humidity: 0% to 100% (condensing)</li> <li>• IEC 60529 Ingress Rating: IP66/IP67</li> <li>• Wind resistance up to 100 mph (161 km/h) sustained winds and 165 mph (266 km/h) wind gusts</li> <li>• Icing protection: MIL-STD-810F, 13mm 13mm (0.5 in.)</li> <li>• Corrosion: NEMA 250-2008 (600 hrs. salt, 1200 hrs. mixed gas)</li> <li>• Solar radiation: EN 60068-2-5 (1120 W/m2)</li> <li>• Vibration: MIL-STD-810, Method 514.4</li> </ul>							
<b>Available Tx power settings (max/min)</b>	<b>2.4 GHz</b> <ul style="list-style-type: none"> <li>• 30 dBm (1W)</li> <li>• -4 dBm (0.4 mW)</li> </ul>			<b>5 GHz</b> <ul style="list-style-type: none"> <li>• 30 dBm (1W)</li> <li>• -4 dBm(0.4 mW)</li> </ul>				
<b>Regulatory domains</b>	<p>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></b></p> <p>For information about regulatory domain support, refer to the <a href="#">Cisco Regulatory Domain White Paper</a>.</p>							

Item	Specification	
<b>Compliance</b>	<ul style="list-style-type: none"> <li>• <b>Safety:</b> <ul style="list-style-type: none"> <li>◦ IEC 60950-1/IEC 60950-22</li> <li>◦ IEC 62368-1</li> <li>◦ EN 60950-1/EN 60950-22</li> <li>◦ EN 62368-1</li> <li>◦ AS/NZS 60950.1/AS/NZS 62368.1</li> <li>◦ UL 60950-1/ UL 60950-22</li> <li>◦ UL 62368-1</li> <li>◦ CAN/CSA-C22.2 No. 60950-1/ 60950-22</li> <li>◦ CAN/CSA-C22.2 No. 62368-1</li> </ul> </li> <li>• <b>Emissions:</b> <ul style="list-style-type: none"> <li>◦ CISPR 32 (rev. 2015)</li> <li>◦ EN 55032 (rev. 2015+A11:2020)</li> <li>◦ EN61000-3-2 (rev. 2019)</li> <li>◦ EN61000-3-3 (rev. 2013+A1:2019)</li> <li>◦ KS C 9610-3-2:2020</li> <li>◦ KS C 9610-3-3:2020</li> <li>◦ AS/NZS CISPR 32 Class B (rev. 2015)</li> <li>◦ 47 CFR FCC Part 15B</li> <li>◦ ICES-003, Issue 7</li> <li>◦ VCCI-CISPR 32: 2016</li> <li>◦ CNS (rev. 13438)</li> <li>◦ KS C 9832:2019</li> <li>◦ QCVN 118:2018/BTTTT</li> </ul> </li> <li>• <b>Immunity:</b> <ul style="list-style-type: none"> <li>◦ CISPR 24 (rev. 2010)</li> <li>◦ EN 55024 + AMD 1(rev. 2010)</li> <li>◦ EN 55035: 2017</li> <li>◦ QCVN (TCVN 7317:2003)</li> <li>◦ KS C 9835:2019</li> </ul> </li> <li>• <b>Emissions and immunity:</b> <ul style="list-style-type: none"> <li>◦ EN 301 489-1 (v2.2.3 2019-11)</li> <li>◦ EN 301 489-17 (v3.2.4 2020-09)</li> <li>◦ QCVN 18:2014/BTTTT</li> <li>◦ QCVN 112:2017/BTTTT</li> <li>◦ KS X 3124:2020</li> <li>◦ KS X 3126:2020</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Radio:</b> <ul style="list-style-type: none"> <li>◦ EN 300 328 (v2.2.2 2019-07)</li> <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 2020)</li> <li>◦ Japan Std. 33a, Std. 66, and Std. 71</li> <li>◦ QCVN (54:2020/BTTTT)</li> <li>◦ QCVN (65:2013/BTTTT)</li> </ul> </li> <li>• <b>RF safety:</b> <ul style="list-style-type: none"> <li>◦ EN 50385 (rev. Aug 2017)</li> <li>◦ ARPANSA</li> <li>◦ AS/NZS 2772 (rev. 2016)</li> <li>◦ 47 CFR Part 1.1310 and 2.1091</li> <li>◦ RSS-102 (2015)</li> </ul> </li> <li>• <b>IEEE standards:</b> <ul style="list-style-type: none"> <li>◦ IEEE 802.3</li> <li>◦ IEEE 802.3ae</li> <li>◦ IEEE 802.11a/b/g/n/ac/ax/h/d/u/k/v/r</li> <li>◦ IEEE 802.15.1/802.15.4</li> </ul> </li> <li>• <b>Multimedia:</b> <ul style="list-style-type: none"> <li>◦ Wi-Fi Multimedia (WMM)</li> </ul> </li> <li>• <b>Security:</b> <ul style="list-style-type: none"> <li>◦ 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA, WPA3</li> <li>◦ 802.1X/AES/TKIP</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 (MSCHAP) v2</li> <li>◦ Protected EAP (PEAP) v0 or EAP-MSCHAP v2</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>
<b>Tx Power, RSSI</b>	<ul style="list-style-type: none"> <li>• For information about data rate, transmit power, and receive sensitivity, refer to <a href="#">Cisco RF details (WIP)</a></li> </ul>	

Item	Specification											
Transmit power and receive sensitivity												
	Spatial streams	2.4-GHz radio				5-GHz radio				5-GHz radio		
		Total TX power (dBm)	RX sensitivity (dBm)		Total TX power (dBm)	RX sensitivity (dBm)		Total TX power (dBm)	RX sensitivity (dBm)			
<b>802.11/11b</b>												
		AXI/ AXD	AXE	AXI/ AXD	AXE	AXI/ AXD	AXE	AXI/ AXD	AXE		AXE	AXE
<b>1 Mbps</b>	1	30	29	-102	-100	-	-	-	-	-	-	-
<b>11 Mbps</b>	1	30	29	-94	-92	-	-	-	-	-	-	-
<b>802.11a/g</b>												
<b>6 Mbps</b>	1	30	29	-97	-94	30	29	-99	-97	2	25	-94
<b>24 Mbps</b>	1	30	26	-89	-86	30	25	-90	-88	2	22	-86
<b>54 Mbps</b>	1	30	24	-81	-78	30	24	-83	-80	2	20	-78
<b>802.11n HT20</b>												
<b>MCS0</b>	1	30	29	-97	-95	30	29	-99	-97	2	25	-94
<b>MCS7</b>	1	29	27	-79	-83	29	26	-80	-78	2	23	-75
<b>MCS8</b>	2	30	29	-95	-94	30	29	-97	-96	2	25	-92
<b>MCS15</b>	2	29	27	-77	-75	29	26	-78	-77	2	23	-73
<b>MCS16</b>	3	30	29	-93	-93	30	29	-95	-95	-	-	-
<b>MCS23</b>	3	29	27	-75	-74	29	26	-76	-75	-	-	-
<b>MCS24</b>	4	30	29	-92	-91	30	29	-94	-93	-	-	-
<b>MCS31</b>	4	29	27	-74	-72	29	26	-75	-74	-	-	-

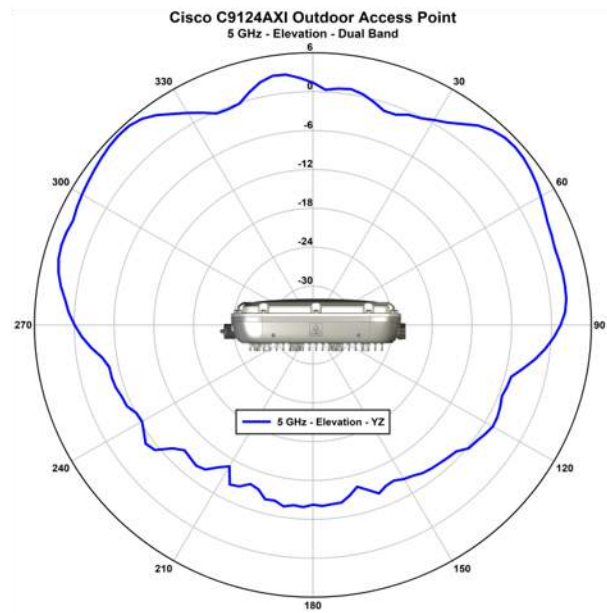
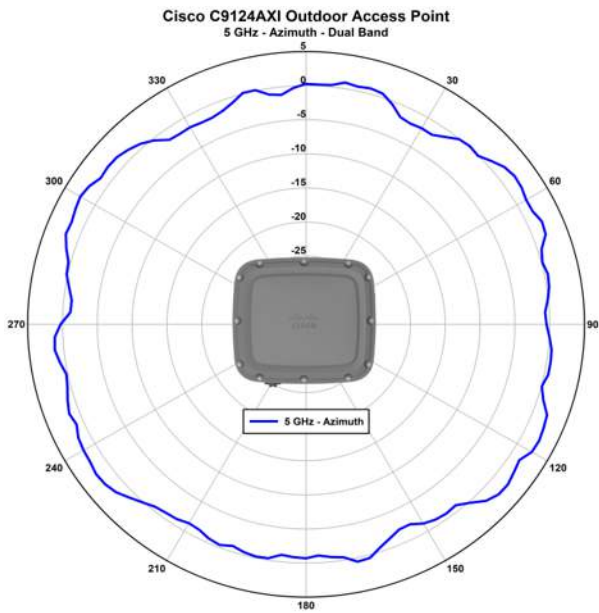
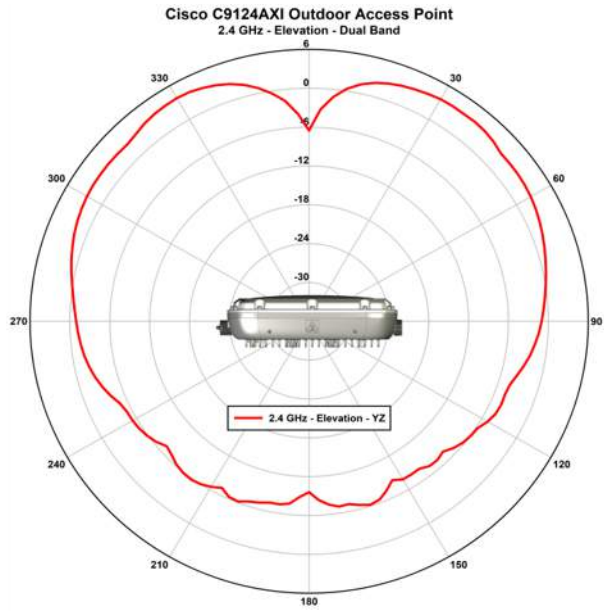
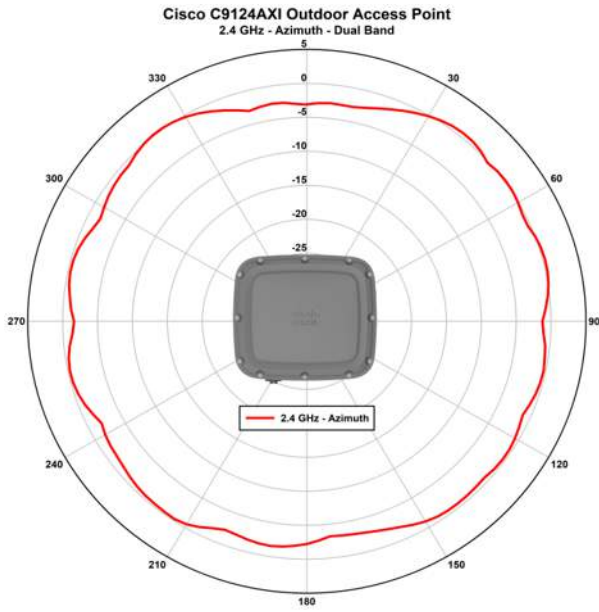
Item	Specification									
<b>802.11n HT40</b>										
MCS0	1	-	-	30	29	-97	-94	2	25	-91
MCS7	1	-	-	30	26	-79	-75	2	23	-72
MCS8	2	-	-	30	29	-95	-93	2	25	-89
MCS15	2	-	-	30	26	-77	-74	2	23	-70
MCS16	3	-	-	30	29	-93	-92	-	-	-
MCS23	3	-	-	30	26	-75	-73	-	-	-
MCS24	4	-	-	30	29	-92	-90	-	-	-
MCS31	4	-	-	30	26	-74	-71	-	-	-
<b>802.11ac VHT20</b>										
MCS0	1	-	-	30	29	-99	-97	2	25	-94
MCS8	1	-	-	28	25	-76	-74	2	22	-71
MCS0	2	-	-	30	29	-97	-96	2	25	-92
MCS8	2	-	-	28	25	-74	-73	2	22	-69
MCS9	2	-	-	-	-	-	-	-	-	-
MCS0	3	-	-	30	29	-	-	-	-	-
MCS8	3	-	-	28	25	-72	-72	-	-	-
MCS9	3	-	-	-	-	-	-	-	-	-
MCS0	4	-	-	30	29	-94	-93	-	-	-
MCS8	4	-	-	28	25	-71	-70	-	-	-
MCS9	4	-	-	-	-	-	-	-	-	-

Item	Specification									
<b>802.11ac VHT40</b>										
MCS0	1	-	-	30	29	-96	-94	2	25	-91
MCS8	1	-	-	29	25	-74	-71	2	22	-68
MCS0	2	-	-	30	29	-94	-93	2	25	-89
MCS8	2	-	-	29	25	-72	-70	2	22	-66
MCS9	2	-	-	28	25	-70	-68	-	-	-
MCS0	3	-	-	30	29	-92	-92	-	-	-
MCS8	3	-	-	29	25	-70	-69	-	-	-
MCS9	3	-	-	28	25	-68	-67	-	-	-
MCS0	4	-	-	30	29	-91	-90	-	-	-
MCS8	4	-	-	29	25	-69	-67	-	-	-
MCS9	4	-	-	28	25	-67	-65	-	-	-
<b>802.11ac VHT80</b>										
MCS0	1	-	-	30	29	-94	-91	2	25	-88
MCS8	1	-	-	29	25	-72	-67	2	23	-65
MCS0	2	-	-	30	29	-92	-90	2	25	-86
MCS8	2	-	-	29	25	-70	-66	2	22	-63
MCS9	2	-	-	28	25	-69	-65	-	-	-
MCS0	3	-	-	30	29	-90	-89	-	-	-
MCS8	3	-	-	29	25	-68	-65	-	-	-
MCS9	3	-	-	28	25	-67	-64	-	-	-
MCS0	4	-	-	30	29	-89	-87	-	-	-
MCS8	4	-	-	29	25	-67	-63	-	-	-
MCS9	4	-	-	28	25	-66	-62	-	-	-

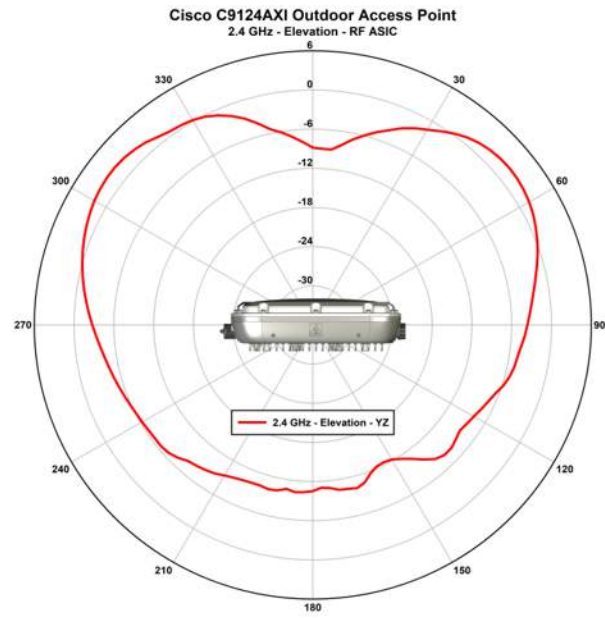
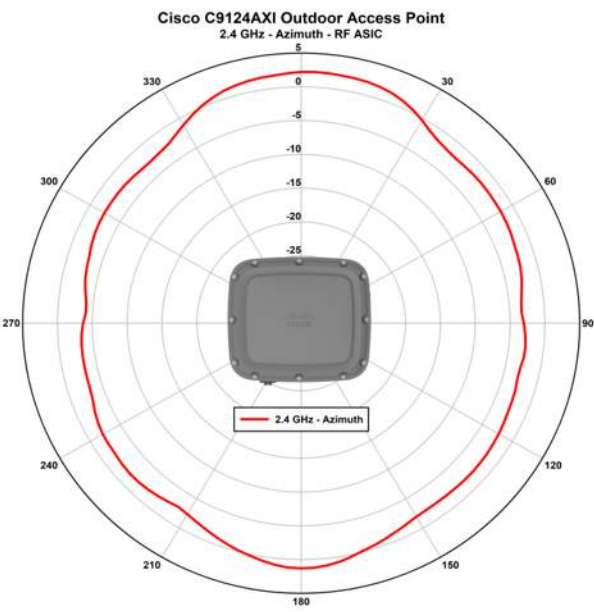
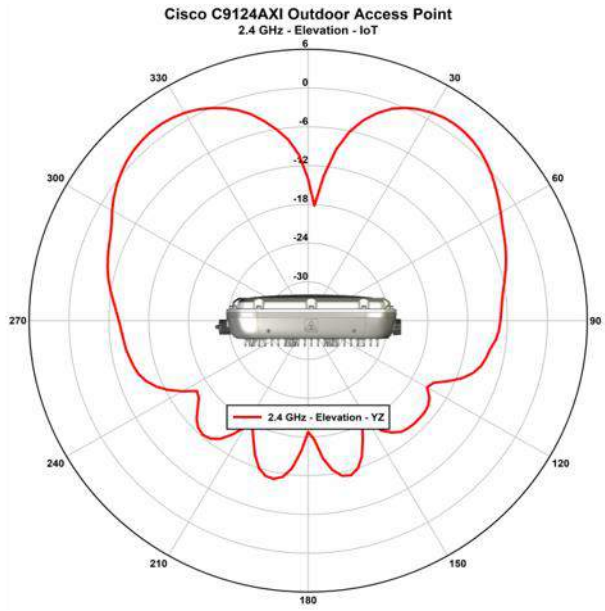
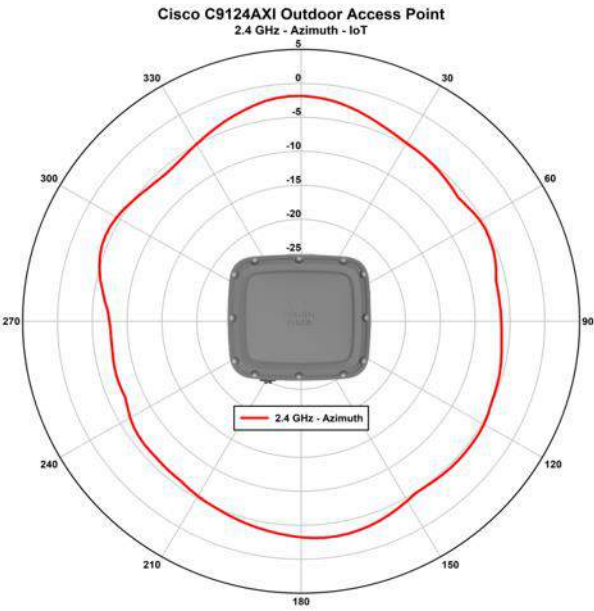
Item	Specification												
<b>802.11ac VHT160</b>													
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MCS8	1	-	-			26	19	-69	-65	1	19	-61	
MCS9	1	-	-			-	-	-	-	1	17	-55	
MCS0	2	-	-			30	-	-89	-	-	-	-	
MCS8	2	-	-			26	-	-67	-	-	-	-	
MCS9	2	-	-			25	-	-66	-	-	-	-	
<b>802.11ax HE20</b>													
MCS0	1		30	29	-97	-95	30	29	-98	-97	2	25	-94
MCS11	1		26	24	-69	-66	27	24	-70	-68	2	20	-65
MCS0	2		30	29	-95	-94	30	29	-96	-96	2	25	-92
MCS11	2		26	24	-67	-65	27	24	-68	-67	2	20	-63
MCS0	3		30	29	-93	-93	30	29	-94	-95	-	-	-
MCS11	3		26	24	-65	-64	27	24	-66	-66	-	-	-
MCS0	4		30	29	-92	-91	30	29	-93	-93	-	-	-
MCS11	4		26	24	-64	-62	27	24	-65	-64	-	-	-
<b>802.11ax HE40</b>													
MCS0	1		-	-			30	29	-95	-94	2	25	-92
MCS11	1		-	-			26	24	-67	-65	2	20	-63
MCS0	2		-	-			30	29	-93	-93	2	25	-90
MCS11	2		-	-			26	24	-65	-64	2	20	-61
MCS0	3		-	-			30	29	-91	-92	-	-	-
MCS11	3		-	-			26	24	-63	-63	-	-	-
MCS0	4		-	-			30	29	-90	-90	-	-	-
MCS11	4		-	-			26	24	-62	-61	-	-	-

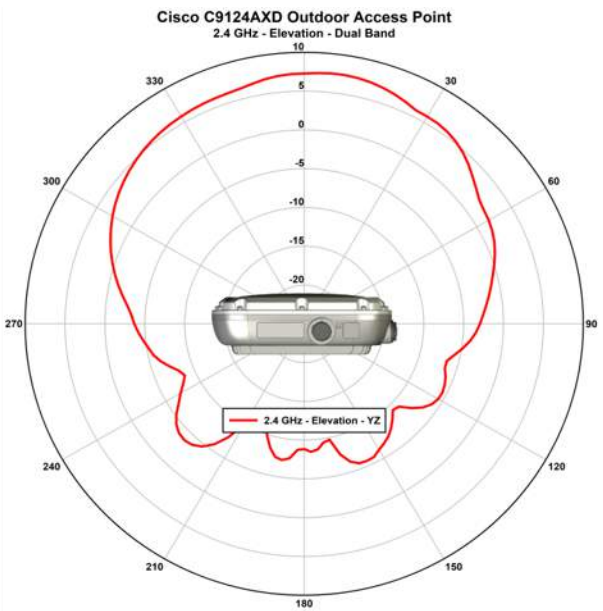
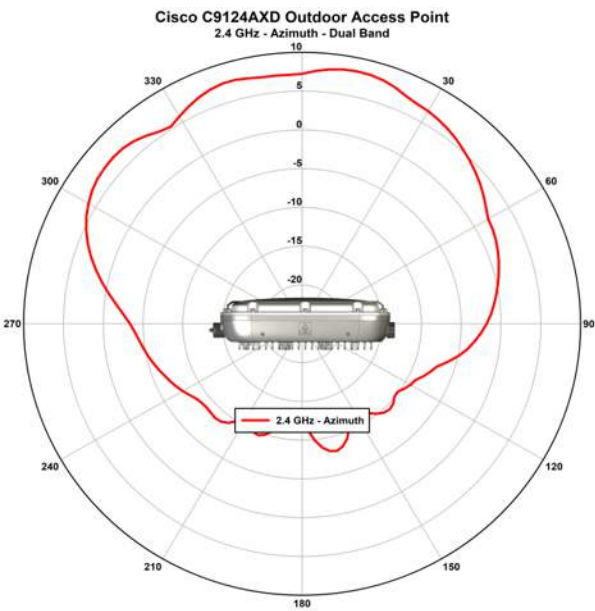
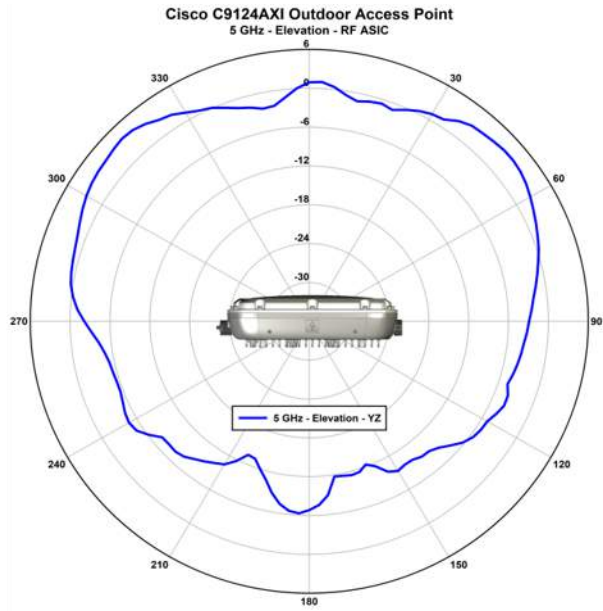
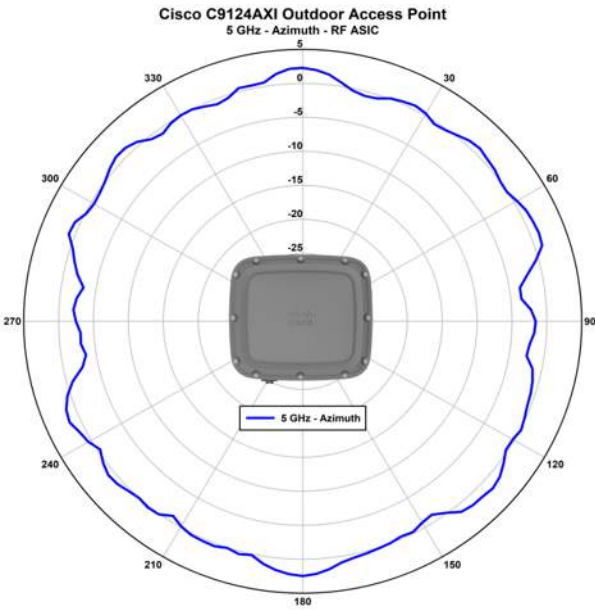
Item	Specification									
<b>802.11ax HE80</b>										
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MCS11	1	-	-	26	24	-64	-63	2	20	-60
MCS0	2	-	-	30	29	-90	-91	2	25	-87
MCS11	2	-	-	26	24	-62	-62	2	20	-58
MCS0	3	-	-	30	29	-88	-90	-	-	-
MCS11	3	-	-	26	24	-60	-61	-	-	-
MCS0	4	-	-	30	29	-87	-88	-	-	-
MCS11	4	-	-	26	24	-59	-59	-	-	-
<b>802.11ax HE160</b>										
MCS0	1	-	-	30	19	-89	-78	1	21	-81
MCS11	1	-	-	25	19	-61	-68	1	16	-52
MCS0	2	-	-	30	-	-87	-	-	-	-
MCS11	2	-	-	25	-	-59	-	-	-	-

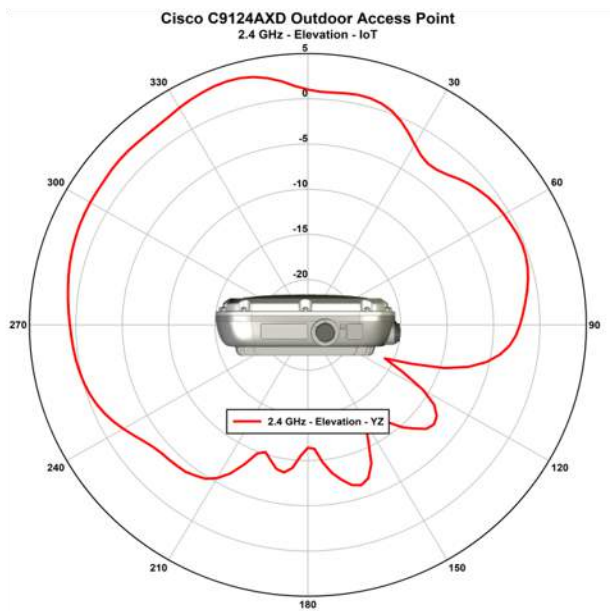
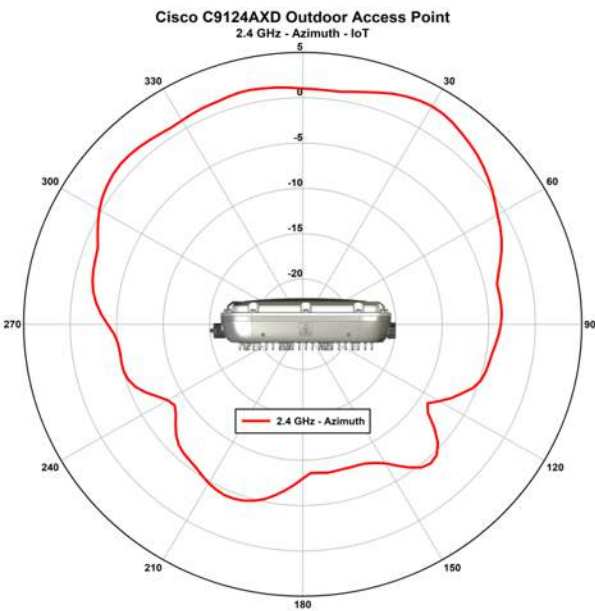
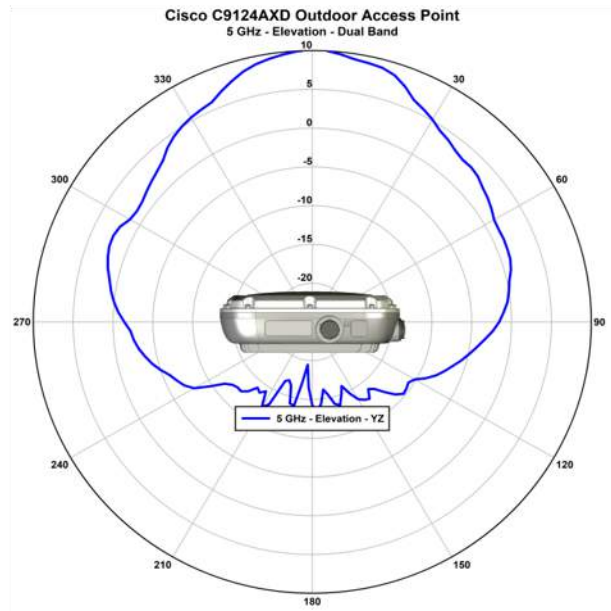
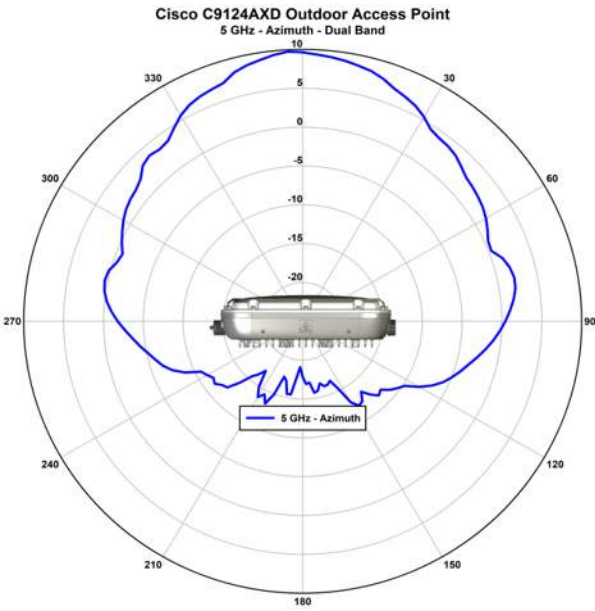
## Antenna Pattern

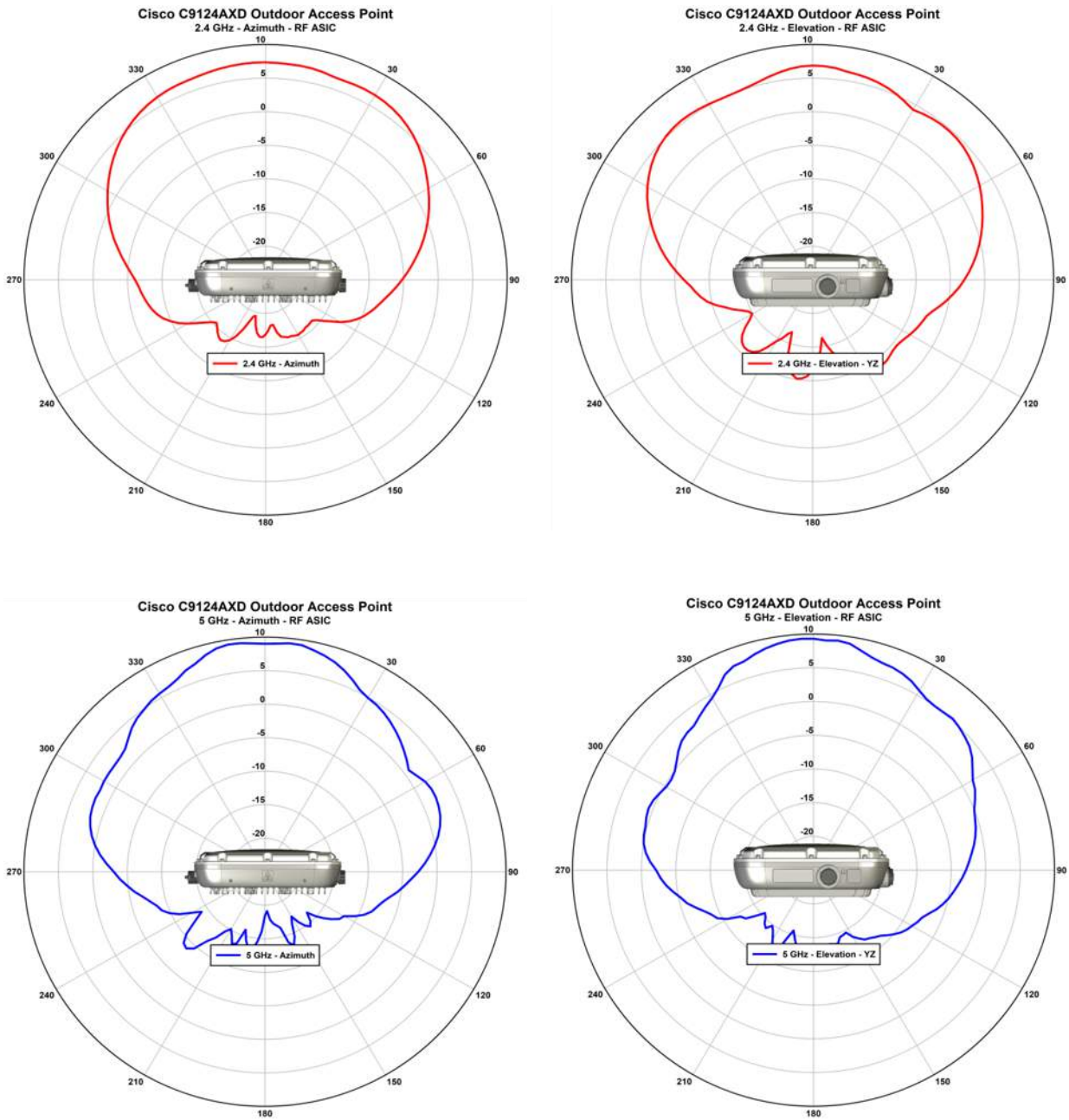












**Figure 2.**  
Antenna profiles

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

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## Licensing

For information about licensing, refer to [Cisco DNA Software for Wireless](#).

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