Cisco Catalyst 9105AX Series Access Points Datasheet

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CONTENT

Contact Us

Tel: +1-626-239-8066 (USA) +852-3050-1066 / +852-3174-6166 /

Fax: +852-3050-1066 (Hong Kong)

Email: cisco@router-switch.com (Sales Inquiries)

ccie-support@router-switch.com (CCIE Technical Support)

OVERVIEW

Cisco® Catalyst® 9105 Series Access Points are the most versatile next generation access point in enterprise grade. They are resilient, secure, and intelligent.

Catalyst 9105 come in different mounting options: the Catalyst 9105i which can be mounted to the ceiling using a specifically designed mounting bracket or can be placed on the desk. The Catalyst 9105w is specifically designed to be mounted to the wall and is ideal for hospitality, residence halls and other multi-dwelling units.

With the Catalyst 9105 Access Points, you can secure remote workers or the micro-office. The Catalyst 9105 access point is perfect for teleworker deployment because of its small form factor and low power consumption.

Figure 1. Cisco Catalyst 9105AX Series

FEATURES AND BENEFITS

Table 1. Features and benefits of Cisco Catalyst 9105AX Series

Feature	Benefits
Wi-Fi 6 (802.11ax)	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.
Uplink/downlink OFDMA	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.
Downlink MU-MIMO technology	Supporting two spatial streams, MU-MIMO enables access points to split spatial streams between client devices to maximize throughput.
BSS coloring	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.
Target Wake Time	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 3x to 4x the savings achieved by 802.11n and 802.11ac.
Intelligent Capture	Intelligent Capture probes the network and provides Cisco DNA Center with deep analysis. The software can track more than 240 anomalies and instantaneously review all packets on demand, emulating the onsite network administrator. Intelligent Capture allows for more informed decisions on your wireless networks.
Bluetooth 5	Integrated Bluetooth Low Energy (BLE) 5 radio enables location-based use cases such as asset tracking, way finding or analytics.
Container support for applications	Container support enables edge computing capabilities for IoT applications on the host access point.
Apple features	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 Apple iOS, 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. 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.

CISCO DNA SUPPORT

Pairing the Cisco Catalyst 9105 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 Cisco Catalyst 9105 Series Access Points support SD-Access, Cisco's leading enterprise architecture.

Working together, the Cisco Catalyst 9105 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.

PRODUCT SPECIFICATIONS

Table 2. Specifications

Item	Specification
Part numbers	Cisco Catalyst 9105AX Access Point: Indoor environments, with internal antennas

	● C9105AXI-x: Cisco Catalyst 9105 Series Cisco Catalyst 9105AX Access Point: Wall Plate, with internal antennas ● C9105AXW-x: Cisco Catalyst 9105 Series Cisco Catalyst 9105AX Teleworker Access Point: Indoor environments, with internal antennas ● C9105AXIT-x: Cisco Catalyst 9105 Series Regulatory domains: (x = regulatory domain) Customers are responsible for verifying approval for use in their individual countries. 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.
Software	Catalyst 9105 AXI ● Cisco Unified Wireless Network Software Release 8.10.MR3 or later ● Cisco IOS ® XE Software Release 17.3.1, or later Catalyst 9105AXW ● Cisco Unified Wireless Network Software Release 8.10MR3 or later ● Cisco IOS ® XE Software Release 17.3.1 or later
Supported wireless LAN controllers	● Cisco Catalyst 9800 Series Wireless Controllers ● Cisco 3504, 5520, and 8540 Wireless Controllers and Cisco Virtual Wireless Controller
802.11n version 2.0 (and related) capabilities	● 2x2 MIMO with two spatial streams ● Maximal Ratio Combining (MRC) ● 802.11n and 802.11a/g ● 20- and 40-MHz channels

	● PHY data rates up to 444.4 Mbps (40 MHz with 5 GHz and 20 MHz with 2.4 GHz) ● Packet aggregation: Aggregate MAC Protocol Data Unit (A-MPDU) (transmit and receive), Aggregate MAC Service Data Unit (A-MSDU) (transmit and receive) ● 802.11 Dynamic Frequency Selection (DFS) ● Cyclic Shift Diversity (CSD) support
802.11ac	● 2x2 downlink MU-MIMO with two spatial streams ● MRC ● 802.11ac beamforming ● 20-, 40-, 80- MHz channels ● PHY data rates up to 866.7 Mbps (80 MHz with 5GHz) ● Packet aggregation: A-MPDU (transmit and receive), A-MSDU (transmit and receive) ● 802.11 DFS ● CSD support ● WPA3 support
802.11ax	● 2x2 uplink/downlink MU-MIMO with two spatial streams ● Uplink/downlink OFDMA ● TWT ● BSS coloring ● MRC ● 802.11ax beamforming ● 20-, 40-, 80- channels

	● PHY data rates up to 1.488 Gbps (80 MHz with 5 GHz and 20 MHz with 2.4 GHz) ● Packet aggregation: A-MPDU (transmit and receive), A-MSDU (transmit and receive) ● 802.11 DFS ● CSD support ● WPA3 support
Integrated antenna	Catalyst 9105AXW ● 2.4 GHz: Peak gain 3 dBi, internal antenna ● 5 GHz: Peak gain 5 dBi, internal antenna Catalyst 9105AXI ● 2.4 GHz: Peak gain 4 dBi, internal antenna, omnidirectional in azimuth ● 5 GHz: Peak gain 5 dBi, internal antenna, omnidirectional in azimuth
Interfaces	Catalyst 9105AXW ● 1x 100/1000/2500 Base-T (Ethernet) Uplink Interface ● 3x 10/100/1000 Base-T (Ethernet) Downlink Interface (LAN1,LAN2 and LAN3, LAN1 supports 10.5W PSE Power Budget) ● Management console port (RJ-45) ● USB 2.0 at 4.5W ● Passthru Port Catalyst 9105AXI ● 1x 10/100/1000 Base-T (Ethernet) Uplink Interface ● Management console port (RJ-45)

<table>
<tr><td>Indicators</td><td>● Status LED indicates boot loader status, association status, operating status, boot loader warnings, and boot loader errors</td></tr>
<tr><td>Dimensions (W x L x H)</td><td>● Access point (without mounting brackets):
◦ C9105AXW: 3.54 x 6.3 x 1.3 in. (90 x 160 x 32.66 mm)
◦ C9105AXI: 5.9 x 5.9 x 1.18 in. (150 x 150 x 30 mm)</td></tr>
<tr><td>Weight</td><td>Cisco Catalyst 9105AXW
● 0.8 lb. (373.2g)
Cisco Catalyst 9105AXI
● 0.7 lb. (329.5g)</td></tr>
<tr><td>Input power requirements</td><td>● 802.3at Power over Ethernet Plus (PoE+), Cisco Universal PoE (Cisco UPOE ®)
● Cisco power injector, AIR-PWRINJ6=
● 802.3af PoE
● Cisco power injector, AIR-PWRINJ5= (Note: This injector supports only 802.3af)
<table>
<tr><td colspan="4">Catalyst 9105AXI</td></tr>
<tr><td>PoE power</td><td>2.4-GHz radio</td><td>5-GHz radio</td><td>Link speed</td></tr>
<tr><td>802.3af (PoE)</td><td>2x2</td><td>2x2</td><td>1G</td></tr>
<tr><td colspan="4">Catalyst 9105AXW</td></tr>
<tr><td>PoE power</td><td>2.4-GHz radio</td><td>5-GHz radio</td><td>Link speed</td><td>USB</td><td>LAN1 PSE</td></tr>
</table></td></tr>
</table>

<table>
<tr><td rowspan="2"></td><td>802.3af (PoE)</td><td>2x2</td><td>2x2</td><td>2.5G mGig</td><td>Disabled</td><td>Disabled</td></tr>
<tr><td>802.3at (PoE+)</td><td>2x2</td><td>2x2</td><td>2.5G mGig</td><td colspan="2">Either USB or LAN1 PSE enabled.</td></tr>
<tr><td>Environmental</td><td colspan="6">Cisco Catalyst 9105AXW
● Nonoperating (storage) temperature: -22° to 158°F (-30° to 70°C)
● Nonoperating (storage) altitude test: 25˚C, 15,000 ft (4600 m)
● Operating temperature: 32° to 122°F (0° to 50°C)
● Operating humidity: 10% to 90% (noncondensing)
● Operating altitude test: 40˚C, 9843 ft (3000 m)
Note: When the ambient operating temperature exceeds 40°C, the access point will shift from 2x2 to 1x1 on the 2.4 GHz radio and the USB interface and LAN1 PSE will be disabled.
Cisco Catalyst 9105AXI
● Nonoperating (storage) temperature: -22° to 158°F (-30° to 70°C)
● Nonoperating (storage) altitude test: 25˚C, 15,000 ft (4600 m)
● Operating temperature: 32° to 122°F (0° to 50°C)
● Operating humidity: 10% to 90% (noncondensing)
● Operating altitude test: 40˚C, 9843 ft.(3000 m)
Note: When the ambient operating temperature exceeds 40°C, the access point will shift from 2x2 to 1x1 on the 2.4 GHz radio.</td></tr>
<tr><td>Available transmit power settings (Max/Min)</td><td colspan="3">● 2.4 GHz
◦ 20 dBm (100 mW)
◦ -7 dBm (0.2 mW)</td><td colspan="3">● 5 GHz
◦ 20 dBm (100 mW)
◦ -7 dBm (0.2 mW)</td></tr>
</table>

Regulatory domains	Note: Customers are responsible for verifying approval for use in their individual countries.	
Compliance	● Safety: ◦ IEC 60950-1 ◦ EN 60950-1 ◦ UL 60950-1 ◦ IEC 62368-1 ◦ EN 62368-1 ◦ UL/CUL 62368 – 1 ◦ CAN/CSA-C22.2 No. 60950-1 ◦ AS/NZS60950.1 ◦ UL 2043 – Only for C9105AXI ◦ Class III equipment ● Emissions: ◦ CISPR 32 (rev. 2015) ◦ EN 55032 (rev. 2012/AC:2013) ◦ EN 55032 (rev. 2015) ◦ EN61000-3-2 (rev. 2014) ◦ EN61000-3-3 (rev. 2013) ◦ KN61000-3-2 ◦ KN61000-3-3	● Radio: ◦ EN 300 328 (v2.1.1) ◦ EN 301 893 (v2.1.1) ◦ AS/NZS 4268 (rev. 2017) ◦ 47 CFR FCC Part 15C, 15.247, 15.407 ◦ RSP-100 ◦ RSS-GEN ◦ RSS-247 ◦ China regulations SRRC ◦ LP0002 (rev 2018.1.10) ◦ Japan Std. 33a, Std. 66, and Std. 71 ● RF safety: ◦ EN 50385 (rev. Aug 2002) ◦ ARPANSA ◦ AS/NZS 2772 (rev. 2016) ◦ EN 62209-1 (rev. 2016) ◦ EN 62209-2 (rev. 2010) ◦ 47 CFR Part 1.1310 and 2.1091 ◦ RSS-102 ● IEEE standards: ◦ IEEE 802.3

	◦ AS/NZS CISPR 32 Class B (rev. 2015) ◦ 47 CFR FCC Part 15B ◦ ICES-003 (rev. 2016 Issue 6, Class B) ◦ VCCI-CISPR 32 ◦ CNS (rev. 13438) ◦ KN-32 ◦ QCVN 118:2018/BTTTT ● Immunity: ◦ CISPR 24 (rev. 2010) ◦ EN 55024 + AMD 1 (rev. 2010) ◦ EN 55035: 2017 ◦ KN35 ● Emissions and immunity: ◦ EN 301 489-1 (v2.1.1 2017-02) ◦ EN 301 489-17 (v3.1.1 2017-02) ◦ QCVN (18:2014) ◦ QCVN 112:2017/BTTTT ◦ KN 489-1 ◦ KN 489-17	◦ IEEE 802.3ab ◦ IEEE 802.3af/at ◦ IEEE 802.11a/b/g/n/ac/ax ◦ IEEE 802.11h, 802.11d ● Security: ◦ 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA3 ◦ 802.1X ◦ Advanced Encryption Standard (AES) ● Extensible Authentication Protocol (EAP) types: ◦ EAP-Transport Layer Security (TLS) ◦ EAP-Tunneled TLS (TTLS) or Microsoft Challenge Handshake Authentication Protocol (MSCHAP) v2 ◦ Protected EAP (PEAP) v0 or EAP-MSCHAP v2 ◦ EAP-Flexible Authentication via Secure Tunneling (EAP-FAST) ◦ PEAP v1 or EAP-Generic Token Card (GTC) ◦ EAP-Subscriber Identity Module (SIM)

	◦ EN 60601-1-2:2015 ◦ EN 61000-6-1: 2007					
Transmit power and receive sensitivity						
			5 GHz Radio		2.4 GHz Radio	
	Spatial streams	Number of active antennas	Total TX power (dBm)	RX sensitivity (dBm)	Total TX power (dBm)	RX sensitivity (dBm)
802.11/11b						
1 Mbps	1	2	–	–	20	-99
11 Mbps	1	2	–	–	20	-91
802.11a/g						
6 Mbps	1	2	20	-97	20	-93
24 Mbps	1	2	20	-89	20	-86
54 Mbps	1	2	20	-80	20	-78
802.11n HT20						
MCS0	1	2	20	-96	20	-93
MCS15	2	2	20	-75	20	-73
802.11n HT40						
MCS0	1	2	20	-93	–	–
MCS15	2	2	20	-72	–	–

802.11ac VHT20						
MCS0	1	2	20	-96	–	–
MCS8	1	2	20	-74	–	–
MCS0	2	2	20	-94	–	–
MCS8	2	2	20	-71	–	–
MCS9	2	2	-	-	–	–
802.11ac VHT40						
MCS0	1	2	20	-93	–	–
MCS9	1	2	20	-69	–	–
MCS0	2	2	20	-91	–	–
MCS9	2	2	20	-66	–	–
802.11ac VHT80						
MCS0	1	2	20	-90	–	–
MCS9	1	2	20	-66	–	–
MCS0	2	2	20	-88	–	–
MCS9	2	2	20	-63	–	–
802.11ax HE20						
MCS0	1	2	20	-96	20	-93
MCS11	1	2	19	-66	19	-64

MCS0	2	2	20	-95	20	-91
MCS11	2	2	19	-65	19	-63
802.11ax HE40						
MCS0	1	2	20	-93	–	–
MCS11	1	2	19	-63	–	–
MCS0	2	2	20	-92	–	–
MCS11	2	2	19	-62	–	–
802.11ax HE80						
MCS0	1	2	20	-90	–	–
MCS11	1	2	19	-60	–	–
MCS0	2	2	20	-89	–	–
MCS11	2	2	19	-59	–	–

ORDERING INFORMATION

Table 3. Ordering Information

Model	Description
C9105AXI-E	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, E Domain
C9105AXI-H	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, H Domain

C9105AXI-C	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, C Domain
C9105AXI-N	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, N Domain
C9105AXI-A	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, A Domain
C9105AXI-S	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, S Domain
C9105AXI-I	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, I Domain
C9105AXI-F	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, F Domain
C9105AXI-Q	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, Q Domain
C9105AXI-K	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, K Domain
C9105AXI-B	Cisco Catalyst 9105AX Indoor Access Point, Internal antenna; Wi-Fi 6; 2x2 MIMO with two spatial streams, B Domain
C9105AXW-E	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, E Domain
C9105AXW-Z	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, Z Domain
C9105AXW-H	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, H Domain

C9105AXW-C	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, C Domain
C9105AXW-N	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, N Domain
C9105AXW-A	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, A Domain
C9105AXW-S	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, S Domain
C9105AXW-I	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, I Domain
C9105AXW-F	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, F Domain
C9105AXW-Q	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, Q Domain
C9105AXW-K	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, K Domain
C9105AXW-T	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, T Domain
C9105AXW-B	Cisco Catalyst 9105AX Wall Plate, with internal antennas; Wi-Fi 6; 2x2 MIMO with two spatial streams, B Domain

WHERE TO BUY

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SOURCES

https://www.cisco.com/c/en/us/products/collateral/wireless/catalyst-9100ax-access-points/datasheet-c78-744062.html