Cisco Aironet 2800 Series Access Points

The Cisco® Aironet® 2800 Series Wi-Fi access points are highly versatile and deliver the most functionality in the industry.

Product Overview

For organizations paving the way for the new 802.11ac Wave 2 standard, the Cisco Aironet 2800 Series is the perfect solution. The access points go beyond getting ready for the new standard, providing the ultimate in flexibility and versatility.

For large enterprise organizations that rely on Wi-Fi to engage with customers, the 2800 Series is a hands-off product that's intelligent enough to make decisions based on end-device activities and usage. This automation allows you to devote time to other pressing matters, secure in the knowledge that your Wi-Fi network is performing to its utmost potential.

The Aironet 2800 Series is packed with the features and capabilities that have made Cisco the industry leader, at a price point that is ideal for managing wireless growth, capacity, and coverage gaps in dense indoor environments.

Features and Benefits

Feature	Benefit
802.11ac Wave 2 support	Provides a theoretical connection rate of up to 2.6 Gbps per radio—roughly double the rates offered by today's high-end 802.11ac access points.
High Density Experience	Best-in-Class RF Architecture, which provides high performance coverage for a high density of client devices giving the end user a seamless wireless experience. HDX leverages features such as custom hardware in 802.11ac Wave 2 radios, CleanAir, ClientLink 4.0, Cross-access point noise reduction, and an optimized client roaming experience.
Multiuser Multiple-Input Multiple-Output (MU-MIMO) technology	Supporting three spatial streams, MU-MIMO enables access points to split spatial streams between client devices, to maximize throughput.
160 MHz Channel Support	Supporting Channels up to 160MHz wide, Dynamic Bandwidth Selection allows the access point to dynamically switch between 20, 40, 80, and 160MHz channels depending on the RF Channel conditions, providing the industry's best performing wireless network.
Cross-access point noise reduction	A Cisco innovation that enables access points to intelligently collaborate in real time about RF conditions so that users connect with optimized signal quality and performance.
Optimized access point roaming	Helps ensure that client devices associate with the access point in their coverage range that offers the fastest data rate available.
Zero Impact Application Visibility and Control	Leverages dedicated hardware acceleration to improve performance of line speed applications such as Application Visibility and Control.
Flexible Radio Assignment	Allows the access points to intelligently determine the operating mode of serving radios based the RF environment. The access points can operate in the following modes: • **2.4GHz and 5GHz Mode,** one radio will serve clients in 2.4GHz mode, while the other serves clients in 5GHz mode. • **Dual 5GHz Mode,** both radios inside the access point to operate on the 5GHz band, maximizing the benefits of 802.11ac wave 2 and increase client device capacity. • **Security Monitoring and 5GHz Mode,** One radio will serve 5GHz clients, while the other radio is scanning the full spectrum for wIPS attackers, cleanAir interferers, and rogue devices. • **Wireless Service Assurance Mode,** One radio will serve 5GHz clients, while the other radio is proactivity monitoring the wireless network to ensure the highest overall performance.
Dual 5GHz Radio Support	Enables both radios to operate in 5GHz client serving mode, allowing an industry leading 5.2Gbps (2 x 2.6Gbps) over the air speeds while increase client capacity.

Feature	Benefit
Auto LAG Support -	802.3ad (LACP) compliant allowing both Gigabit Ethernet interfaces to automatically LAG increasing overall throughput to the access point
ClientLink 4.0	Cisco ClientLink 4.0 technology to improve downlink performance to all mobile devices, including one-, two-, and three-spatial-stream devices on 802.11a/b/g/n/ac while improving battery life on mobile devices such as smartphones and tablets.
CleanAir 160MHz	Cisco CleanAir technology enhanced with 160MHz Channel Support, provides proactive, high-speed spectrum intelligence across 20-, 40-, 80-, or 160-MHz-wide channels to combat performance problems due to wireless interference.

802.11ac Wave 2 and Beyond

The Aironet 2800 Series extends 802.11ac speed and features to a new generation of smartphones, tablets, and high-performance laptops, providing a greater end-user experience. Whether your project involves wholesale changes to your current wireless network or upgrading your legacy Wi-Fi deployments (802.11a/b/g/n/ac wave 1 deployments), the 2800 Series can handle the job.

The 2800 Series supports 802.11ac Wave 2, providing a theoretical connection rate of up to 5.2 Gbps—that's roughly 4x the rates offered by today's high-end 802.11ac access points. The boost helps you stay ahead of the performance and bandwidth expectations of today's mobile worker, who usually uses multiple Wi-Fi devices instead of just one. As such, users are adding proportionally larger traffic loads to the wireless LAN, which has outpaced Ethernet as the default enterprise access network.

High Density Experience

Building on the Cisco Aironet heritage of RF excellence, the 2800 Series APs run on a purpose-built, innovative chipset with a best-in-class RF architecture. This chipset provides a high-density experience for enterprise networks designed for mission-critical, high-performance applications. The 2800 is a component of a Cisco series of flagship, 802.11ac-enabled APs that delivers a robust mobility experience based on the following product features:

- 802.11ac wave 2 with 4x4 multi-user multiple-input multiple-output (MU-MIMO) technology supporting three spatial streams. MU-MIMO enables APs to split spatial streams between client devices, to maximize throughput.

With two radios built into each access point, the 2800 Series is more versatile than any access point currently on the market. These radios are outfitted with Flexible Radio Assignment, which means that the access points automatically self-optimize to better serve the environment. For example, one of the radios broadcasts its signal on the 5-GHz channel and the other sends out a 2.4-GHz signal. When there is an increase in activity, the access point understands this potential rise in usage and will automatically switch the 2.4-GHz signal to a 5-GHz signal, increasing the reliability of your customers' Wi-Fi use. This setting automatically works in reverse too, so when there is a lull in Internet activity, the access point recognizes that the number of people using wireless devices has dropped and changes back to its original configuration.

The access point also dynamically changes the radio settings based on the wireless environment. The 2800 Series Wave 2 access point will allow one of the radios to operate in Wireless Security Monitoring mode. Allowing you to detect wireless security threats, interference, and combat rogue access. This valuable information can be culled in an easy-to-understand matrix to inform you about your customers. Flexible Radio Assignment also allows you to convert a radio into wireless service assurance mode, providing proactive health monitoring of the network.

- **Cross-AP Noise Reduction,** a Cisco innovation that enables APs to intelligently collaborate in real time about RF conditions so that users connect with optimized signal quality and performance.
- **Optimized AP Roaming** to ensure that client devices associate with the AP in their coverage range that offers the fastest data rate available.
- **Cisco ClientLink 4.0** technology to improve downlink performance to all mobile devices, including one-, two-, and three-spatial-stream devices on 802.11a/b/g/n/ac. At the same time, the technology improves battery life on mobile devices.
- **Cisco CleanAir** technology enhanced with 160MHz channel support. CleanAir delivers proactive, high-speed spectrum intelligence across 20-, 40-, and 80-, and 160-MHz-wide channels to combat performance problems due to wireless interference.
- **MIMO equalization** capabilities, which optimize uplink performance and reliability by reducing the impact of signal fade.

Product Specifications

Item	Specification
Part numbers	**Cisco Aironet 2800i Access Point: Indoor environments, with internal antennas** • AIR-AP2802I-x-K9: Dual-band, controller-based 802.11a/g/n/ac • AIR-AP2802I-xK910: Eco-pack (dual-band 802.11a/g/n/ac) 10 quantity access points **Cisco Aironet 2800e Access Point: Indoor, challenging environments, with external antennas** • AIR-AP2802E-**x**-K9: Dual-band controller-based 802.11a/g/n/ac • AIR-AP2802E-**x**K910: Eco-pack (dual-band 802.11a/g/n/ac), 10 quantity access points **Regulatory domains: (x = regulatory domain)** 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 http://www.cisco.com/go/aironet/compliance. Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List. **Cisco Wireless LAN Services** • 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
Software	Cisco Unified Wireless Network Software Release TBD or later
Supported wireless LAN controllers	• 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 Wireless LAN Controller, Cisco Catalyst 3850 Series Switches, Cisco Catalyst 3650 Series Switches
802.11n version 2.0 (and related) capabilities	• 4x4 MIMO with three spatial streams • Maximal ratio combining (MRC) • 802.11n and 802.11a/g beamforming • 20- and 40-MHz channels • PHY data rates up to 450 Mbps (40 MHz with 5 GHz) • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) • 802.11 dynamic frequency selection (DFS) • Cyclic shift diversity (CSD) support
802.11ac Wave 1 capabilities	• 4x4 MIMO with three spatial streams • MRC • 802.11ac beamforming • 20-, 40-, and 80-MHz channels • PHY data rates up to 1.3 Gbps (80 MHz in 5 GHz) • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) • 802.11 DFS • CSD support

Item	Specification
802.11ac Wave 2 capabilities	• 4x4 MU-MIMO with three spatial streams • MRC • 802.11ac beamforming • 20-, 40-, 80, 160-MHz channels • PHY data rates up to 5.2 Gbps • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) • 802.11 DFS • CSD support
Interfaces	• 2802I/E ◦ 2x10/100/1000BASE-T autosensing (RJ-45) • Management console port (RJ-45)
Indicators	• Status LED indicates boot loader status, association status, operating status, boot loader warnings, boot loader errors
Dimensions (W x L x H)	• Access point (without mounting brackets): 2802I: 8.66” x 8.68” x 2.17”, 2802E: 8.66” x 8.77” x 2.50”
Warranty	Limited lifetime hardware warranty

Warranty Information

The Cisco Aironet 2800 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.

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