Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN

Contents

High-Performance, Easy-to-Deploy, Highly Secure Wireless Connectivity for Indoor Spaces

Highlights

- Provides cost-effective 802.11ac Wave 2 connectivity with speeds up to 2.8 Gbps.

- Supports 4 x 4 Multi-User Multiple-Input, Multiple-Output (MU-MIMO) technology on 5.0-GHz radio and 3 x 3 MIMO technology on 2.4-GHz radio for maximum performance.

- Supports Dual Gigabit Ethernet (2.5G and 1G) LAN with Energy Efficient Ethernet and link aggregation.

- Supports both Power over Ethernet (PoE) and AC power with external power adapter.

- Provides Integrated Wireless Spectrum Analysis tool, which allows detection of the nearby Radio Frequencies interference for easy troubleshooting.

- Secure guest WiFi access with 3rd party cloud managed guest WiFi services support.

- Cisco Umbrella integration to protect wireless devices from malware and phishing.

- Offers Single Point Setup, which requires no controller, for easy, cost-effective deployment of multiple access points.

- Works with Cisco® FindIT Management platform a software for managing and monitoring your Cisco 100-500 series products.

- Works right out of the box with easy installation and mobile friendly web-based configuration and wizard.

- Provides peace of mind with a limited lifetime hardware warranty.

Product overview

Today Wi-Fi is the primary way for mobile access; small to medium-sized businesses are now looking for simple, yet easy-to-deploy Wi-Fi networks where they can provide the best experience to their employees and customers. Businesses are now depending on cloud applications like Office 365 or Gmail. To stay productive, they need reliable, and fast wireless network to access mission critical applications with no delays.

The Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN provides a simple, cost-effective way to extend highly secure, high-performance mobile networking to your employees and guests, so they can stay connected anywhere in the office, regardless of what mobile devices they use.

The Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN uses concurrent dual-band radio for improved coverage and user capacity. The 4 x 4 MU-MIMO technology on the 5.0-GHz radio and 3 x 3 MIMO on the 2.4-GHz radio allow the access point to run at maximum performance and deliver better user experience. Two Gigabit Ethernet LAN interfaces, one with 2.5 Gigabit Ethernet and the second with 1 Gigabit Ethernet with PoE facilitate flexible installation and reduce cabling and wiring costs. Intelligent Quality-of-Service (QoS) features let you prioritize bandwidth-sensitive traffic for Voice-over-IP (VoIP) and video applications.

To provide highly secure guest WiFi access to visitors and other users, Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN supports a captive portal with multiple authentication options and the ability to configure rights, roles, and bandwidth. A customized guest login page lets you present a welcome message and access details, and reinforces your brand with company logos.

The WAP581 access point also offers support for 3rd party cloud managed guest WiFi services allowing you to control Internet access for guests and give your customers a better guest WiFi experience.

The access points are easy to set up and use, with an intuitive wizard-based configuration to get you operational in minutes. An attractive design with flexible mounting options allows the access points to smoothly blend into any small or medium-sized business environment.

To enhance reliability and safeguard sensitive business information, the WAP581 supports both Wi-Fi Protected Access (WPA) Personal and Enterprise, encoding all your wireless transmissions with powerful encryption. In addition, 802.1X RADIUS authentication helps keep unauthorized users out. The WAP581 access point is now integrated with Cisco Umbrella to protect employee and guest WiFi against web threats such as malware, ransomware and more.

Designed to scale smoothly as your organization grows, the access points feature controller-less Single Point Setup, which simplifies the deployment of multiple access points without additional hardware. With the Cisco WAP581 you can extend business-class wireless networking to employees and guests anywhere in the office, with the flexibility to meet new business needs for years to come.

Figure 1 shows a typical wireless access point configuration. Figures 2 and 3 show the front and back panels of the access point, respectively.
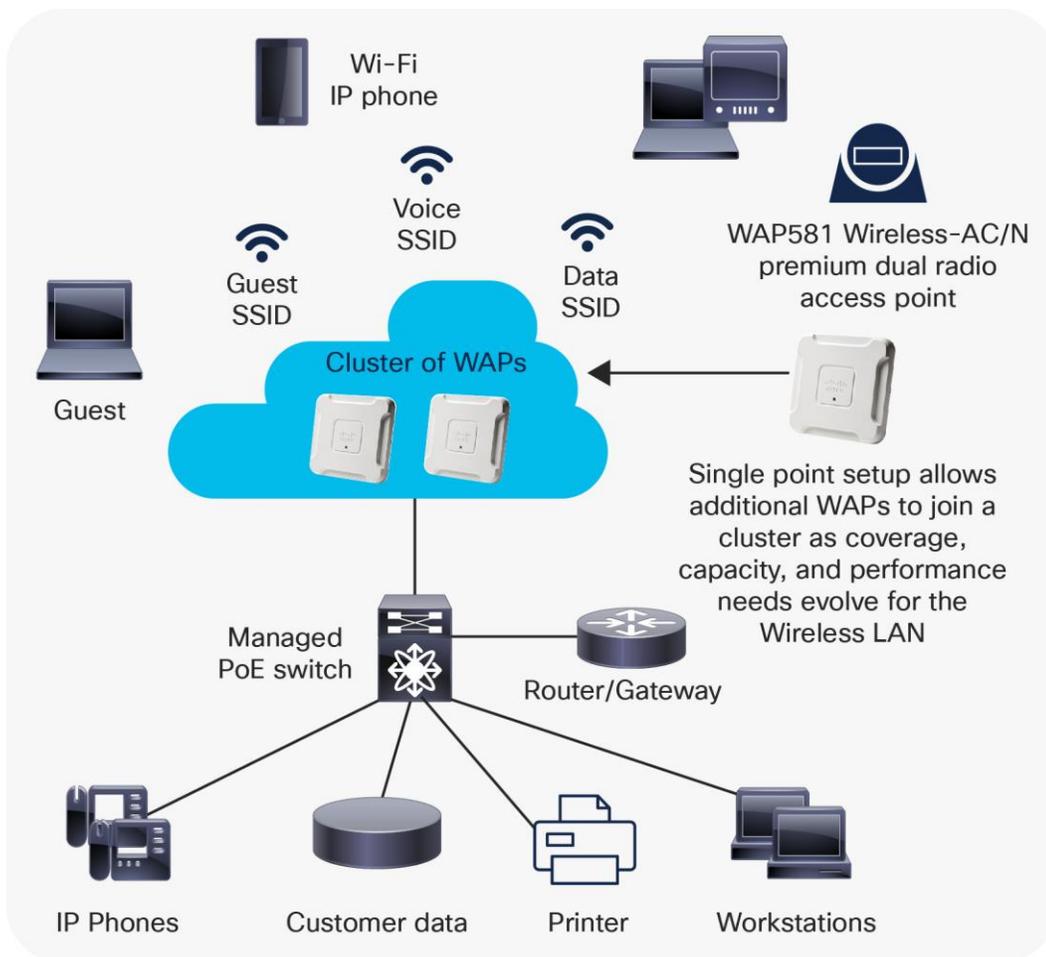

Figure 1.
Typical configuration

Figure 2.
Front Panel of the WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN

Figure 3.
Back Panel of the WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN

Additional features

- Concurrent dual-band radio support offers up to 2.1 Gbps on a 5.0-GHz radio and 600 Mbps on a 2.4-GHz radio to use capacity and coverage most efficiently.

- Robust security, including WPA2, 802.1X with RADIUS secure authentication, and rogue access point detection, help protect sensitive business information.

- Wi-Fi Scheduler allows you to control your Wi-Fi network access during business and non-business hours.

- Simple installation and an intuitive web-based configuration and wizard facilitate fast, simple deployment and setup in minutes.

- Support Plug and Play feature for mass deployments, when using FindIT network management platform.

- An integrated Wireless Packet Capture tool assists tech support in troubleshooting.

- Intelligent QoS prioritizes network traffic to help keep critical network applications running at top performance.

- Support for power-saving sleep mode and port control features help increase energy efficiency.

- Workgroup Bridge mode lets you expand your network by wirelessly connecting to a second Ethernet network.
- Sleek design with multiple internal antennas and a versatile mounting kit allows for installation on a ceiling, wall or desktop.

Specifications

Table 1 lists the specifications, package contents, and minimum requirements for the Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN.

Table 1.   WAP581 Wireless-AC/N Dual Radio Wave 2 Access Point with 2.5GbE LAN specifications

Specifications	Description
Standards	IEEE 802.11ac, 802.11a, 802.11n, 802.11g, 802.11b, 802.3af, 802.3u, 802.1X (security authentication), 802.1Q (VLAN), 802.1D (spanning tree), 802.11i (WPA2 security), 802.11e (wireless QoS), IPv4 (RFC 791), and IPv6 (RFC 2460)
Cabling type	Category 5e or better
Antennas	Internal antennas optimized for installation on a wall or ceiling
Operating system	Linux Software
Physical Interfaces	
Ports	2 GE ports - one 2.5G and second one 10/100/1000 Ethernet, with support for 802.3at at PoE; support is only for port 1
Buttons	Reset button
Lock slot	Slot for Kensington lock
LEDs	One multifunction LED
Physical Specifications	
Physical dimensions (H x W x D)	1.5 x 9.0 x 9.0 in. (38x 229 x 229 mm)
Weight	3 lb (1.4kg)
Network Capabilities	
VLAN support	Yes
Number of VLANs	1 management VLAN plus 32 VLANs for SSIDs
802.1X supplicant	Yes
Service Set Identifier (SSID)-to-VLAN mapping	Yes
Auto-channel selection	Yes
Spanning tree	Yes

Specifications	Description
Load balancing	Yes
IPv6	Yes • IPv6 host support • IPv6 RADIUS, syslog, and Network Time Protocol (NTP)
Layer 2	802.1Q-based VLANS, 32 active VLANS plus 1 management VLAN
Security	
W-Fi Protected Access (WPA) and WPA2	Yes, including enterprise authentication
Access control	Yes, management Access Control List (ACL) plus MAC ACL
Secure management	Secure HTTP (HTTPS)
SSID broadcast	Yes
Rogue access point detection	Yes
Mounting and Physical Security	
Multiple mounting options	Mounting bracket included for easy ceiling or wall mounting
Physical security lock	Kensington lock slot
Quality of Service	
QoS	Wi-Fi Multimedia and Traffic Specification (WMM TSPEC) and client QoS
Performance	
Wireless throughput	Up to 2.8-Gbps data rate (real-world throughput varies)
Recommended user support	Up to 200 connective users; 50 active users per radio
Multiple Access Point Management	
Single Point Setup	Yes
Number of access points per cluster	16
Active clients per cluster	960
Configuration	
Web user interface	Built-in web user interface for easy browser-based configuration (HTTP and HTTPS)

Specifications	Description
Management	
Management protocols	Web browser, Simple Network Management Protocol (SNMP) v3, and Bonjour
Remote management	Yes
Event logging	Local, remote syslog, and email alerts
Network diagnostics	Logging and packet capture
Web firmware upgrade	Firmware upgradable through web browser; imported or exported configuration file
Dynamic Host Configuration Protocol (DHCP)	DHCP client
IPv6 host	Yes
HTTP redirect	Yes
Wireless	
Frequency	Dual concurrent radios (2.4 and 5 GHz)
Radio and modulation type	Dual radio, Orthogonal Frequency Division Multiplexing (OFDM) IEEE 802.11a/n: OFDM (BPSK/QPSK/16QAM/64QAM/256QAM) IEEE 802.11ac: OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)
WLAN	802.11n/ac 4 x 4 MU-MIMO at 5 GHz and 3 x 3 MIMO on 2.4 GHz 21 for 20-MHz bandwidth; 9 for 40-MHz bandwidth; 4 for 80-MHz bandwidth 11 for 20-MHz bandwidth; 7 for 40-MHz bandwidth 802.11 Dynamic Frequency Selection (DFS)
Data rates supported	IEEE 802.11b: DSSS (1/2/5.5/11) IEEE 802.11g: OFDM (6/9/12/18/24/36/48/54) IEEE 802.11n: Refer to the entries for this standard later in this list) IEEE 802.11b: 12.94 MHz IEEE 802.11g: 24.49 MHz EEE 802.11n MCS0 (HT20): 27.44 MHz IEEE 802.11n MCS0 (HT40): 36.18 MHz IEEE 802.11b: 29.76 dBm IEEE 802.11g: 29.24 dBm IEEE 802.11n MCS0 (HT20): 29.25 dBm IEEE 802.11n MCS0 (HT40): 23.81 dBm

Specifications	Description				
Frequency band and operating channels	**Frequency Band**	**Channel No.**	**Frequency**	**Channel No.**	**Frequency**
	2400~2483.5MHz	1	2412 MHz	7	2442 MHz
		2	2417 MHz	8	2447 MHz
		3	2422 MHz	9	2452 MHz
		4	2427 MHz	10	2457 MHz
		5	2432 MHz	11	2462 MHz
		6	2437 MHz	-	-
	Frequency Band	**Channel No.**	**Frequency**	**Channel No.**	
	5150- to 5250- MHz Band 1	36	5180 MHz	44	
		38	5190 MHz	46	
		40	5200 MHz	48	
		42	5210 MHz	-	
		52	5260 MHz	60	
		54	5270 MHz	62	
	5250- to 5350- MHz Band 2	56	5280 MHz	64	
		58	5290 MHz	-	
		100	5500 MHz	112	
		102	5510 MHz	116	
		104	5520 MHz	132	
	5470- to 5725- MHz Band 3	106	5530 MHz	134	
		108	5540 MHz	136	
		110	5550 MHz	140	
		149	5745 MHz	157	
		151	5755 MHz	159	
	5725- to 5850- MHz Band 4	153	5765 MHz	161	
		155	5775 MHz	165	

Specifications	Description
Transmitted output power	Transmitted Output Power:
	2.4 GHz
	• 802.11b: 20.0 +/– 1.5 dBm @ CH6, all rates
	• 802.11g: 20.0 +/– 1.5 dBm@ CH6, 6 Mbps
	• 802.11g: 17.0 +/– 1.5 dBm@ CH6, 54 Mbps
	• 802.11n(HT20): 20.0 +/– 1.5 dBm@ CH6, MCS0
	• 802.11n(HT20): 17.0 +/– 1.5 dBm@ CH6, MCS7
	• 802.11n(HT40): 16.0 +/– 1.5 dBm@ CH6, MCS7
	5-GHz UNII-1 (5150~5250 MHz)
	• 802.11a: 22.0 +/– 2 dBm @ 6 Mbps
	• 802.11a: 20.0 +/– 2 dBm @ 54 Mbps
	• 802.11ac(VHT20): 22.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT20): 14.0 +/– 2 dBm @ MCS8
	• 802.11ac(VHT40): 21.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT40): 14.0 +/– 2 dBm @ MCS9
	• 802.11ac(VHT80): 20.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT80): 14.0 +/– 2 dBm @ MCS9
	5-GHz UNII-2 (5250–5350 MHz)/UNII-2 Extended (5470–5725 MHz)
	• 802.11a: 22.0 +/– 2 dBm @ 6 Mbps
	• 802.11a: 20.0 +/– 2 dBm @ 54 Mbps
	• 802.11ac(VHT20): 22.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT20): 14.0 +/– 2 dBm @ MCS8
	• 802.11ac(VHT40): 21.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT40): 14.0 +/– 2 dBm @ MCS9
	• 802.11ac(VHT80): 20.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT80): 14.0 +/– 2 dBm @ MCS9
	5GHz UNII-3 (5725~5850MHz)
	• 802.11a: 22.0 +/– 2 dBm @ 6 Mbps
	• 802.11a: 20.0 +/– 12 dBm @ 54 Mbps
	• 802.11ac(VHT20): 22.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT20): 14.0 +/– 2 dBm @ MCS8
	• 802.11ac(VHT40): 21.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT40): 14.0 +/– 2 dBm @ MCS9
	• 802.11ac(VHT80): 20.0 +/– 2 dBm @ MCS0
	• 802.11ac(VHT80): 14.0 +/– 2 dBm @ MCS9
Wireless isolation	Wireless isolation between clients
External antennas	None
Internal antennas	4 Internal fixed PIFA antenna
Antenna gain in dBi	3.61 dBi @2.4 GHz; 6.23 dBi @5 GHz

Specifications	Description
Receiver sensitivity	**2.4 GHz** • 802.11b: –86 dBm @ 11Mbps • 802.11g: –73 dBm @ 54 Mbps • 802.11n(HT20): –71 dBm @ MCS7 • 802.11n(HT40): –67 dBm @ MCS7 **5GHz** • 802.11a: –90 dBm @ 6 Mbps • 802.11a: –74 dBm @ 54 Mbps • 802.11ac(VHT20): –66 dBm @ MCS8 • 802.11ac(VHT40): –62 dBm @ MCS9 • 802.11ac(VHT80): –58 dBm @ MCS9
Wireless Distribution System (WDS)	Yes
Fast roaming	Yes
Multiple SSIDs	16 per radio
Wireless VLAN map	Yes
WLAN security	Yes
Wi-Fi Multimedia (WMM)	Yes, with unscheduled automatic power save
Operating Modes	
Access point	Access point mode, Wireless Domain Services (WDS) bridging, and Workgroup Bridge mode
Environmental	
Power options	IEEE 802.3at/af Ethernet switch Cisco power injector: SB-PWR-INJ2-xx Cisco power adapter: SB-PWR-48v-xx Peak power: 18 watts
Compliance	Safety: • UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • IEC 60950-1 • EN 60950-1 Radio approvals: • FCC Part 15.247, 15.407 • RSS-210 (Canada) • EN 300.328, EN 301.893 (Europe) • AS/NZS 4268.2003 (Australia and New Zealand) EMI and susceptibility (Class B): • FCC Part 15.107 and 15.109 • ICES-003 (Canada) • EN 301.489-1 and -17 (Europe)

Specifications	Description
Operating temperature	32 to 104°F) (0 to 40°C)
Storage temperature	–4 to 158°F (–20 to 70°C)
Operating humidity	10 to 85% noncondensing
Storage humidity	5 to 90% noncondensing
System memory	256-MB RAM 128-MB flash

Package Contents

- WAP581 Wireless-AC/N Dual Radio Wave 2 Access Point with 2.5GbE LAN
- Ceiling and wall-mounting kit
- Quick-start guide
- Ethernet network cable

Minimum Requirements

- Switch or router with PoE support, PoE injector, or 48V/1.25A AC power adapter
- Web-based configuration: web browser and FindIT Network Management Software

Warranty

Access point	Limited lifetime
Data rates supported	**802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps**

802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps

802.11n data rates (2.4 GHz and 5 GHz):

MCS Index[1]	GI[2] = 800 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
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

| Specifications	Description				
	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

Note: Depending on the part number (refer to Table 2), one or more of the bands in this table may not be available in the product because of national regulations.
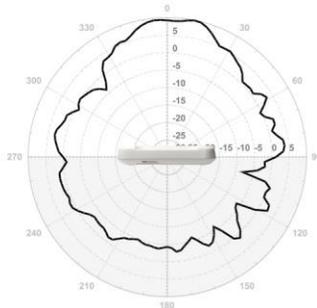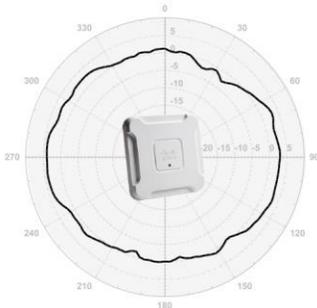
Note: Table 1 shows the maximum capability of the hardware. The transmit power may be reduced to comply with local regulatory requirements.

Signal coverage patterns

Radiation Pattern for 2.4GHz Antennas
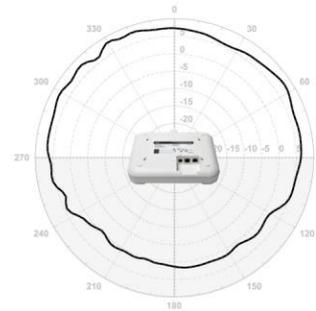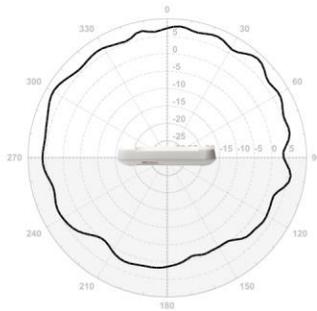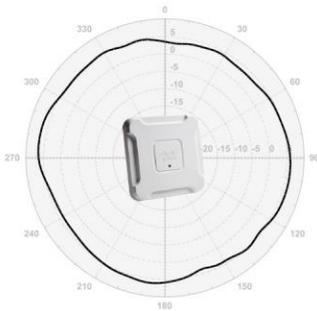
Radiation Pattern for 5GHz Antennas
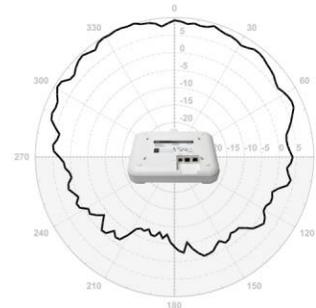
Ordering information

Table 2 shows the product part numbers and descriptions to make ordering easier.

Table 2.   Product ordering information

Part Number	Description
WAP581-A-K9	Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN (United States)
WAP581-C-K9	Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN (China)
WAP581-E-K9	Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN (Europe, EU region, United Kingdom, HK, Thailand, UAE, Turkey, South Africa, Vietnam, Saudi Arabia)
WAP581-K-K9	Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN (Korea)
WAP581-B-K9	Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN (Canada, Argentina, Colombia, Mexico)
WAP581-I-K9	Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN (India, Chile, Malaysia, Singapore, Philippines, Brazil)
WAP581-N-K9	Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN (Australia/New Zealand)
WAP581-J-K9	Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point with 2.5GbE LAN (Japan)

Cisco limited lifetime warranty for Cisco small business products

This Cisco Small Business product comes with a limited lifetime hardware warranty. Product warranty terms and other information applicable to Cisco products are available on the Cisco Product Warranties webpage.

Cisco Small Business support service

This optional service offers affordable, 3-year, peace-of-mind coverage. This subscription-based, device-level service helps you protect your investment and derive maximum value from Cisco Small Business products. Delivered by Cisco and backed by your trusted partner, this comprehensive service includes software updates, extended access to the Cisco Small Business Support Center, and expedited hardware replacement, if you need it.

Cisco Capital

Flexible payment solutions to help you achieve your objectives

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.

For more information

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Printed in USA

C78-738872-02 07/19