H3C WA5330

802.11ac Wave2 Indoor IoT Access Point

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New H3C Technologies Co., Limited

H3C WA5330 Series 802.11ac Wave2 Indoor IoT AP

Overview

H3C WA5330 IoT AP

H3C 802.11ac Wave2 series Access Point (AP) is based on the new generation of self-developed Gigabit 802.11ac MIMO and 802.11ac Wave2 MU-MIMO technology. Compared with existing 802.11ac technology, Wave2 can support simultaneous data transmission to multiple users with increased overall throughput.

With triple-band, 6 streams and built-in antenna arrays, WA5330 AP is superior in performance, beautiful in appearance and flexible in installation. It is suitable for wall mounting, ceiling mounting and other installation methods. WA5330 supports IoT interface and increases the access of various wireless scenarios of IoT with the external T300 modules. The IoT deployment of WA5330 supports any combination of standard T300 series interface modules such as RFID, ZigBee and Bluetooth. Meanwhile, T300 modules can be deployed one by one through RJ45 interface.

Features

Smart cloud access and optimal WLAN TCO

H3C WA5330 complies with 802.11ac Wave2 standard and features 867Mbps wireless transfer rate for 5GHz and total 2.13Gbps speed of combining 2.4GHz and dual 5GHz. With the smart adaptive antenna array technology, it can increase the scope of coverage, improve access density and operation stability, and

provide a better mobile cloud access and wireless network total cost of ownership (TCO).

Dual uplinks

H3C WA5330 supports dual uplink ports, which remove any bottleneck that limits the upstream speed in wireless products with Fast Ethernet ports, and provide a smooth upgrade path that allows for faster transmission and diversified RF deployment strategies.

Dual GE ports also provide uplink transmission backup that will remove a single point of failure on the wired transmission.

Triple band access

H3C innovative triple band technology offers customers 5GHz+5GHz+2.4GHz unparalleled high density and extremely high performance access. The total speed combined 2.4GHz and 5GHz can reach 2.13Gbps on WA5330.

The triple band solution is more suitable for E-bag and high-density deployment scenarios, i.e. meeting room or big classroom.

Multiple clients' simultaneous communication

H3C 802.11ac Wave2 series AP supports Multi-user MIMO (MU-MIMO) technology, and MU-MIMO has become the quintessential feature for wave2 AP. MU-MIMO technology allows the AP to transmit data to multiple terminal devices simultaneously. According to terminal stream quantity, H3C 802.11ac Wave2 series AP can concurrently transmit data to multiple terminals with single stream. This improves data transmission efficiency, increases the number of user access and provides better experience.

Green design

H3C 802.11ac Wave2 series AP employs a green design which supports dynamic MIMO power saving (DMPS), enhanced automatic power save delivery (E-APSD), and smart identification of real terminal requirements. It can dynamically adjust the MIMO working mode and efficiently put terminals to sleep from time to time.

Green-AP mode supports single radio standby and allows for more precise control in power saving.

H3C WA5330 supports the innovative per-packet power control technology (PPC), which reduces standby power consumption and improves the battery lives of mobile devices without losing packets.

Dual IPv4/IPv6 protocol stacks (Native IPv6)

H3C 802.11ac Wave2 series AP is fully compliant with IPv6 and implements a dual IPv4/IPv6 protocol stacks. Existing IPv4 and IPv6 wired networks can work in parallel and seamlessly to register WLAN with WX series ACs, so that it never runs as an information silo.

Real Time Spectrum Guard (RTSG)

Real Time Spectrum Guard (RTSG) is the innovative H3C professional state-monitoring program for the wireless spectrum. H3C 802.11ac Wave2 series AP supports the internal RF data acquisition module to achieve deeply integrated monitoring and real time spectrum protection.

The RTSG Console is integrated into the iMC (intelligent Management Center), and performs data acquisition through the CAPWAP tunnel management and Sensor AP. It can achieve 24x7 wireless signal quality monitoring, trend assessment and unauthorized interference alert. Through active probe and 2.4GHz/5GHz RF interference source (WiFi or non-WiFi) in every band, it provides a graphic representation of real-time FFT plot of the spectral density plot, spectrum diagram, the duty cycle map, event spectrum diagram, channel gain and interference gain. It can also automatically identify the source of interference, to determine the location of rogue wireless equipment, to ensure the wireless network is always in great shape. Combined with H3C iMC IAR (Intelligent Analysis Report) module, it can maintain a complete history of RF quality in the coverage area, including its trace and playback, automatically generate customized trend, compliance and audit reports.

To cater for the different supervision demands in user's wireless environment, the RTSG solution can be deployed in either Local mode or Monitor mode. In Local Mode, you can maintain normal user access and data packet forwarding without compromising effective spectrum protection.

End-user Admission Domination (EAD)

End-user Admission Domination (EAD) integrates network access and endpoint security products, which ensure only complied wireless clients with mandated enterprise security policies to access network, reducing threat levels from infected wireless clients and raising the bar and improving the overall security of the wireless network. When working with a security policy server, it can remind users, isolate and boot them off the network when their systems are infected or not patched properly.

Remote probing and analysis

H3C WA5330 can work as a remote probing and analysis sensor device. It can intercept WiFi packets nearby and save to a local device in real-time for troubleshooting and optimization analysis. Remote probing can conduct a non-convergent image for working channels, or a polling of all channels to satisfy wireless network

monitoring and maintenance requirements.

RF Optimizing Engine (ROE)

H3C 802.11ac Wave2 series AP supports RF Optimizing Engine (ROE), which effectively increases the number of concurrent sessions in middle to high-density access, accomplishes streaming media application acceleration and QoS through character and protocol based RF optimization. Features include multi-user fairness, mixed access fairness, interference filtering, speed optimization, spectrum guide, IPv4/IPv6 multicast signal boost, per-packet power control and intelligent bandwidth guarantee.

Intelligent AP load balancing

H3C 802.11ac Wave2 series AP comes with intelligent load balancing, which spreads the workload according to the number of concurrent users and traffic. If a new incoming user breaks the preset loading limit, AP will check the location of the wireless client in real-time, determine if nearby APs with smaller workload can provide access, and deny the user access only when such AP exists. What sets H3C intelligent load balancing apart from existing load balancing schemes is that it kicks in only if the user is located in an area with overlapping AP coverage, and prevents loss of access when the workload limit is reached but no backup AP exists. This maximizes wireless network capacity while preventing any erratic behavior in load balancing.

IoT era for the future

The existing Internet of Things (IoT) business is becoming diversified. H3C WA5330 can be combined with H3C T300 modules to support different IoT protocols, including RFID, ZigBee, BLE, etc.

Unified management of wired and wireless networks

Wireless Service Manager (WSM) of iMC provides unified management of wired and wireless networks, adding network management functions into existing wired network management systems. All WSM based wireless products can be managed through the open management protocol.

WSM is SOA complied, modular based, fully expandable and evolving with the growing needs of network management. It offers a web-based management system and a simple and user-friendly management platform for wireless network administrators. When working in iMC and coupled with other modules, it also implements panel management wireless management, troubleshooting, performance monitoring, software version control, deployment configuration management and user access management.

Hardware specifications

Features	WA5330
Weight	0.73kg
Dimensions (excluding mounting accessories)	215 x 215 x 47.5mm
Speed	867Mbps (5G) 867Mbps (5G) 400Mbps (2.4G)
Fixed port	Two 10/100/1000Mbps Ethernet ports (GE#1 support PoE+, GE#2 support IoT) One console port
IoT Port	Maximize access to 10 IoT modules
PoE	802.3af/802.3at compatible power supply
Local power supply	54V DC Power Adaptor
Built-in antenna	Built-in antenna system (operating frequencies: 2.4GHz and 5GHz), gain up to 7dBi
Maximum transmit power(limited by local regulatory requirements)	2400-2483MHz: 16dBm 5150-5350MHz: 11dBm 5470-5725MHz: 20dBm 5725-5850MHz: 18dBm
Adjustable power	1dBm
Power consumption	<20W (non-IoT)
Radio Specifications: Max. number of users per radio	256
Radio Specifications: Max. number of SSIDs per radio	16
Operating temperature/storage temperature	-10ºC ~ 55ºC (0ºC ~ 45ºC Recommended) /-40ºC ~ 70ºC
Operating humidity/storage humidity	5% to 95% (non-condensing)
Protection level	IP41
Operating frequencies	802.11ac/n/a : 5.725GHz-5.850GHz ; 5.47～5.725GHz; 5.15~5.35GHz 802.11b/g/n : 2.4GHz-2.483GHz
Modulation	OFDM: BPSK@6/9Mbps, QPSK@12/18Mbps, 16-QAM@24Mbps, 64-QAM@48/54Mbps DSSS: DBPSK@1Mbps, DQPSK@2Mbps, CCK@5.5/11Mbps MIMO-OFDM (11n): MSC 0-15 MIMO-OFDM (11ac): MCS 0-9
Safety compliance	IEC 60950-1, EN 60950-1
EMC	EN 301489-1, EN 301489-17, EN 55032, EN 55024, EN 60601-1-2
Radio frequency certification	EN 300 328, EN 301 893
Health	EN 50385

Software specifications

Features		WA5330
Positioning		Indoor 802.11ac Wave2 AP, triple-band
11ac Supported	Streams	2+2
	Operating frequency	5GHz
	80MHz mode	✓
	MU-MIMO	✓
	867Mbps(PHY)	✓ (radio-1 and radio-2)
	A-MPDU	✓
	A-MSDU	✓
	Maximum likelihood demodulation (MLD)	✓
	Maximal ratio combining (MRC)	✓
	Spatial-Time block coding (STBC)	✓
	Low-density parity check (LDPC)	✓
11n	Streams	2/2/2
	Operating frequencies	5GHz/2.4GHz
	40MHz	✓ (Not recommended in 2.4GHz environments)
	400Mbps(PHY)	✓ (radio-3)
	A-MPDU	✓
	Maximum likelihood demodulation (MLD)	✓
	Transmit Beamforming (TxBF)	✓
	Maximal ratio combining (MRC)	✓
	Spatial-Time block coding (STBC)	✓
	Low-density parity check (LDPC)	✓
WLAN basics	Virtual APs	16/radio
	open system/shared key authentication	✓
	Broadcast Probe acknowledge control	✓
	Mixed connection for WPA, WPA2 and Pre-RSNA users	✓

	RTS/CTS	✓
	CTS-to-self	✓
	Concealed SSID	✓
WLAN extended	STA related	STA offline anomaly check, STA aging, statistics and status query
	Limit user access number	✓
	Link integrity check	✓
Security	Encryption	WEP-64/128bit, dynamic WEP, TKIP, CCMP (11n recommended)
		Multiple encryption key triggered dynamic unicast/multicast key update
	802.11i	✓
	Authentication	802.1X, MAC address authentication, PSK authentication, Portal (Working with H3C Access Controller depending on application)
	User Isolation	Layer 2 forwarding restriction Virtual AP (multiple SSIDs) isolation
	Forwarding security	Packet filtering, MAC address isolation, Broadcasting storm suppression
	SSID and VLAN binding	✓
	Wireless Intelligent Application Aware (wIAA)	✓
	wIDS/wIPS	✓
	RTSG	✓
	802.11w	✓
AAA	Radius Client	✓
	Multiple-domain authentication server	✓
	Backup authentication server	✓
Layer 2 and layer 3 features	IP address configuration	DHCP assigned IP (option 60)
	Native IPv6	✓
	IPv6 Portal	✓
	IPv6 SAVI	✓
	ACL	IPv4/IPv6
	Local forwarding	Local forwarding based on SSID+VLAN
	Multicast enhancement	IGMP Snooping/MLD Snooping
QoS	802.11e	Wi-Fi Multimedia (WMM)
	Priority	Ethernet port based 802.1p identification and marking priority
		Priority mapping for wired and wireless connection
	Strategic QoS mapping	Distinctive QoS strategies based on individual SSID/VLAN
	Layer 2 to Layer 4 packet filtering and traffic classification	✓

	CAR	✓
	User bandwidth management	Bandwidth allocation per STA, or all STAs sharing bandwidth with a common SSID
	Load balancing	User/traffic/radio (dual frequencies) based
	Spectrum Guide	✓
	Multicast enhancement	Multicast to Unicast (IPv4, IPv6)
	CAC(Call Admission Control)	User number/bandwidth based
	SVP Phone	Bandwidth allocation per STA, or all STAs sharing bandwidth with a common SSID
Green features	Per-packet power control (PPC)	✓
	Green AP mode	✓
	Dynamic MIMO power saving	✓
	Enhanced automatic power save delivery (E-APSD)	✓
	WMM Power Save	✓
Management and maintenance	Network Management	TR-069, SNMP v1/v2c/v3, Trap, HTTP(S), SSH, Telnet, FTP/TFTP
	Managed SSID	✓
	Log function	SYSLOG
	Remote probe analysis	✓
Wi-Fi Certified		IEEE 802.11a/b/g/n/ac, WMM

Ordering Information

Product ID	Product Description
EWP-WA5330-FIT	H3C WA5330 Internal Antennas 6 Streams Triple Radio 802.11ac/n Wave 2 Access Point, FIT
ADP040-54V-GL	H3C 54V 40W High Power Adapter Power Supply (optional)
ADP040-54V-PoE-GL	H3C 54V 40W High Power Adapter Power Supply (including PoE Injector, optional)

The Leader in Digital Solutions

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