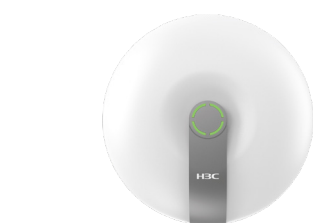# H3C

The Leader in Digital Solutions

H3C WA6600 Series Wi-Fi 6 Indoor Access Points

H3C WA6622 Internal Antennas 6 Streams Dual Radio Wi-Fi 6/ac/n AP

H3C WA6628 Internal Antennas 12 Streams
Dual Radio Wi-Fi 6/ac/n AP

H3C WA6638 Internal Antennas 12 Streams
Triple Radio Wi-Fi 6/ac/n AP

Overview

The H3C WA6600 Series Access Point (AP) is the latest generation of wireless access points based on the Wi-Fi 6 standard. They are designed with dual radio or Creative Triple Radio Wi-Fi 6 technology standards and transmit at least 2 times faster than 802.11ac products. This makes the series suitable for high-density access required environments, such as in hotel, stadium, and enterprise campus, and e-schoolbag applications.

The WA6600 series AP includes three indoor models - WA6622, WA6628 and WA6638. With their built-in antennas, both WA6622 and WA6628 support dual radio, and WA6638 supports triple radio. All models support multi-rate uplink ports with the maximum speed of 5Gbps or 10Gbps. They are compact in appearance and support both wall-mounting and ceiling mounting.

Features

New-generation Wi-Fi standard Wi-Fi 6

- 802.11ac is the fifth generation of wireless technology with a transmission rate of up to 1733 Mbps per radio. Wi-Fi 6 is the sixth generation of wireless technology that provides up to eight spatial streams per 5 GHz radio with a transmission rate of up to 4.8 Gbps. For example, the WA6628 dual-radio AP provides access rates up to 5.95 Gbps (4.8 Gbps at 5 GHz and 1.15 Gbps at 2.4 GHz) for all high-density access scenarios and provides a better access experience.

DL/UL MU-MIMO

- The H3C WA6600 series AP supports Downlink/Uplink MU-MIMO technology, which is the most important feature of Wi-Fi 6. Downlink/Uplink MU-MIMO technology allows an AP to simultaneously transmit data to multiple stations. For example, the WA6628 can communicate with up to 8 stations at the same time, breaking through the traditional wireless serial communication mechanism, improving the utilization of wireless spectrum resources, and improving the number of effective access users and access experience in high-density deployments.

Smart cloud access and optimal WLAN TCO

- The WA6600 series AP is compliant with the Wi-Fi 6 standard. It is suitable for dual radio or triple radio and provides high speed transmission, which is at least 2 times faster than 802.11ac products under the same conditions. The WA6600 Series AP is easily maintained and managed via the H3C Oasis platform. With intelligent RF optimization technology, the series provides mobile cloud access in terms of coverage, access density and operational stability, and achieves the best wireless network total cost of ownership (TCO).

High-efficiency uplink ports with support of multiple rates

- The uplink ports on the WA6600 support auto-negotiation of various transmit rates, including 100Mbps, 1000Mbps, 2.5Gbps, and 5Gbps. Both WA6628 and WA6638 support 10Gbps multi-rate uplink.

Orthogonal frequency division multiple access (OFDMA)

- Wi-Fi 6 uses OFDMA to allow multiple users to simultaneously transmit data. OFDMA divides a channel into subchannels (referred to as resource elements (RUs)) having a specific subcarrier, and assigns the RUs to different users for simultaneous transmission. OFDMA supports simultaneous multi-user transmissions and reduces the delay caused by channel contention.

Spatial multiplexing

- Wi-Fi 6 assigns different colors to each BSS to help the WA6600 series AP recognize co-channel interference and stop transmission in time. If the radio detects an Wi-Fi 6 signal from a BSS having the same color as the radio BSS, it determines that there is co-channel interference and stops the data transmission. This optimizes frequency reuse and increases network capacity.

Target Wake Time (TWT)

- TWT improves power efficiency and reduces contention by increasing client sleep time and allowing negotiation of the times that clients can access the medium.

Support for IoT services

- For the various application in IoT era, WA6622 and WA6638 have been designed IoT port for H3C T300 IoT modules to provide short-distance and low-power consumption IoT services, such as BLE, RFID, ZigBee, and UWB. WA6622 and WA6638 APs can connect up to ten T300 modules by IoT port.

Green design

- The WA6600 series AP employs a green design that supports dynamic MIMO power saving (DMPS), enhanced automatic power save delivery (E-APSD), and smart identification of terminal network requirements. It dynamically adjusts the MIMO mode of operation to effectively put the terminal into sleep.

- The WA6600 series AP supports a green AP mode for single radio standby and more precise power control.

- The WA6600 series AP supports innovative per-packet power control (PPC) technology to reduce standby power consumption and reduce mobile device standby time.

Local forwarding

- The WA6600 series AP supports centralized forwarding and local forwarding. Through centralized forwarding, the AP tunnels the input data frame to the AC, and the AC forwards the data frame. Through local forwarding, the AP forwards data frames directly. Local forwarding mode significantly saves wired bandwidth.

IPv4 and IPv6 dual stack (Native IPv6)

- The WA6600 series AP is fully compliant with IPv6 and implements dual IPv4/IPv6 protocol stacks. It can automatically associate with an AC to provide wireless services no matter in an IPv4 or IPv6 network, so that it never runs as an information silo.

End user Admission Domination (EAD)

- As one of the components of H3C iMC, EAD integrates network access and endpoint security products, and helps ensure that only wireless clients that comply with enterprise security policies can access the network. When using a Security Policy Server, it can alert users to quarantine or log out if the system is infected or not properly patched. Only wireless clients that comply with security policies are allowed. This enhances overall wireless security.

Remote probing and analysis

- The WA6600 series AP can act as a remote probing and analysis sensor to monitor a WLAN, collect channel information, and report the information to the local device for further analysis. This can satisfy wireless network monitoring and maintenance requirements.

RF Optimizing Engine (ROE)

- ROE, through features and protocol-based RF optimization, which provide greater speed and QoS in middle to high-density access and streaming media transmission scenarios. It provides features such as multi-user fairness, mixed access fairness, interference filtering, speed optimization, band navigation, multicast optimization (IPv4/IPv6), per-packet power control, and intelligent bandwidth guarantee.

Intelligent load balancing

- The WA6600 series AP supports session and traffic-based load balancing. When the loading of the AP reaches the upper limit, the AC rejects the association requests of new clients and directs the clients to another AP with smaller load. H3C Smart Load Balancing differs from existing load balancing solutions in that it only initiates load balancing for clients that are within overlapping AP coverage. This maximizes wireless network capacity.

Intelligent unified wired and wireless management

- The whole series of H3C wireless products can be managed by the Wireless Service Manager (WSM) component of H3C intelligent Management Center (iMC). WSM provides unified management of wired and wireless networks, adding wireless network management capabilities to existing wired network management systems.

- WSM offers a simple and user-friendly management platform for wireless network administrators. It implements panel management, troubleshooting, performance monitoring, software version controlling, configuration management, and user access management of wireless devices. In addition, it can manage wired devices by collaborating with other components in the iMC.

Hardware Specifications

Items	WA6622	WA6628	WA6638
Weight	0.3 kg (0.66 lb)	0.4 kg (0.88 lb)	0.4 kg (0.88 lb)
Dimensions (H × W × D)	43 × 210 × 210 mm (1.69 × 8.27 × 8.27 in)	52 × 239 × 236 mm (2.05 × 9.41 × 9.29 in)	52 × 239 × 236 mm (2.05 × 9.41 × 9.29 in)
Uplink Ethernet ports	Port 1: 100M/1000M/2.5G/5G, RJ-45	Port 1: 100/1000M/2.5G/5G/10G, RJ-45	Port 1: 100/1000M/2.5G/5G/10G, RJ-45
	Port 2: 10/100/1000M, RJ-45, IoT	Port 2: 10/100/1000M, RJ-45	Port 2: 10/100/1000M, RJ-45, IoT
PoE+	Port 1: 802.3at	Port 1: 802.3bt	Port 1: 802.3bt
		Port 2: 802.3at	
Local power supply	54 VDC	54 VDC	54 VDC
PoE power out	Port 2 (GE)	Not supported	Port 2 (GE)
Console port	One (RJ-45)		
USB port	One		
Built-in antenna	Built-in omni-directional antenna		
Built-in Bluetooth	√		
IoT Extension	BLE, RFID, ZigBee, etc.	Not supported	BLE, RFID, ZigBee, etc.
Working frequencies	Wi-Fi 6/ac/n/a: 5.725 to 5.850 GHz; 5.47 to 5.725 GHz; 5.15 to 5.35 GHz		
	Wi-Fi 6/b/g/n: 2.4 to 2.483 GHz		
Modulation technology	OFDM: BPSK@6/9Mbps, QPSK@12/18Mbps, 16-QAM@24Mbps, 64-QAM@48/54Mbps		
	DSSS: DBPSK@1Mbps, DQPSK@2Mbps, CCK@5.5/11Mbps (file://dbpsk@1mbps, dqpsk@2mbps, cck@5.5/11Mbps)		
	MIMO-OFDM (11n): MCS 0-31		
	MIMO-OFDM (11ac): MCS 0-9		
	MIMO-OFDM (11ax): MCS 0-11		
Modulation mode	11b: DSS: CCK@5.5/11Mbps, DQPSK@2Mbps, DBPSK@1Mbps		
	11a/g: OFDM: 64QAM@48/54Mbps, 16QAM@24Mbps, QPSK@12/18Mbps, BPSK@6/9Mbps		
	11n: MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM		
	11ac: MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM		
	11ax: MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM		
Maximum transmit power	20 dBm		
Adjustable power granularity	1 dBm		
Reset/restoration to factory default	√		
State LED	Alternating flashing mode, orange/green/blue for different working states, breathing mode		
Temperature	Operating temperature: 0°C to +45°C (32°F to 113°F)		
	Storage temperature: −40°C to +70°C (−40°F to +158°F)		
Humidity	Operating: 5% to 95% (non-condensing)		
	Storage: 5% to 95% (non-condensing)		
Protection class	IP42		
Overall power consumption	< 25 W (excluding IoT modules)		
Safety compliance	GB4943, EN60601-1-2 (medical electrical equipment), UL/CSA 60950-1, EN/IEC 60950-1, EN/IEC 60950-22		
EMC	GB9254, EN301 489, EN55022, FCC Part 15, RSS-210		

Hardware Specifications (continued)

Features	WA6622	WA6628	WA6638
Radio frequency certification	FCC Part 15, EN 300 328, EN 301 893, and MIIT SRRC		
Health	FCC Bulletin OET-65C, EN 50385, IC Safety Code 6		
MTBF	> 250000 hours		

Software Specifications

Features		WA6622	WA6628	WA6638
Compliance	802.11	Indoor, compliant with 802.11a/b/g/n/ac/ax		
Wi-Fi 6	Working frequencies and MIMO	5GHz, 4×4:4 MU-MIMO	5GHz, 8×8:8 MU-MIMO	5GHz (1), 4×4:4 MU-MIMO
		2.4GHz, 2×2:2 MU-MIMO	2.4GHz, 4×4:4 MU-MIMO	5GHz (2), 4×4:4 MU-MIMO
				2.4GHz, 4×4:4 MU-MIMO
	20MHz/40MHz/80MHz bandwidth	√		
	80MHz+80MHz/160MHz bandwidth	Not Supported	√	Not Supported
	Maximum transmission speed	2.975 Gbps	5.95 Gbps	5.95 Gbps
	A-MPDU	√		
	A-MSDU	√		
	Maximum likelihood decoding (MLD)	√		
	Maximum-ratio combining (MRC)	√		
	Space-time block coding (STBC)	√		
	Low-density parity-check (LDPC)	√		
WLAN basics	Maximum number of clients per radio	512		
	Virtual APs	32 As a best practice, configure a maximum of five virtual APs for each radio.		
	Open system/shared key authentication	√		
	Broadcast probe request acknowledge control	√		
	Concurrent login of WPA, WPA2, and Pre-RSNA users	√		
	RTS/CTS	√		
	CTS-to-self	√		
	802.11k and 802.11v smart roaming	√		
	802.11r fast transition roaming	√		
	Hide SSID	√		
WLAN extension	Station related	Abnormal offline check, station aging, statistics and status query		
	Client number limit	√		
	Link integrity check	√		

Software Specifications (continued)

Features		WA6622	WA6628	WA6638
	Repeater mode	√		
Security policy	Encryption	WEP 64/WEP 128, dynamic WEP, TKIP, CCMP (recommended for 802.11n/ac/ax)		
		Multiple triggering conditions for unicast and broadcast key update		
	802.11i	√		
	Authentication	802.1X authentication, MAC authentication, PSK authentication, Portal authentication		
		H3C WX series access controllers might be required for authentication.		
	User isolation	Layer 2 user isolation		
		SSID-based user isolation		
	Forwarding security	Packet filtering		
		MAC address filtering		
		Broadcast storm suppression		
	Wireless terminal access	Wireless EAD		
	SSID and VLAN binding	√		
	WIDS/WIPS	√		
	Management frame protection (802.11w)	√		
AAA	RADIUS client	√		
	Multiple-domain authentication server	√		
	Backup authentication server	√		
Layer 2 and Layer 3 features	IP address configuration	Static IP (available only in fat AP mode)		
		DHCP assigned IP (Option 60)		
	Native IPv6	√		
	IPv6 Portal	√		
	IPv6 SAVI	√		
	ACL	IPv4/IPv6		
	Local forwarding	Local forwarding based on SSID and VLAN		
	Multicast	IGMP Snooping/MLD Snooping		
QoS	802.11e	Wi-Fi Multimedia (WMM)		
	Priority	802.1p priority and marking on Ethernet ports		
		Priority mapping for wired and wireless packets		
	QoS policy mapping	SSID/VLAN and QoS policy mapping		
	Layer 2 to Layer 4 packet filtering and traffic classification	√		
	CAR	√		
	Client bandwidth management	Station-based bandwidth allocation		
		SSID-based bandwidth allocation		
	Load balancing	Traffic-based load balancing		
		Session-based load balancing		
		Frequency-based load balancing (supports dual-band)		
	Band navigation	√		
	Multicast optimization (IPv4/IPv6)	√		

Software Specifications (continued)

Features		WA6622	WA6628	WA6638
	Call Admission Control (CAC)	Session-based CAC		
		Channel usage-based CAC		
	SVP Phone	√		
Power saving	PPC	√		
	Green AP mode	√		
	Dynamic MIMO power saving	√		
	E-APSD	√		
	WMM Power Save	√		
Management and maintenance	Network management	Trap, HTTP(S), SSH, Telnet, FTP/TFTP		
	Management SSID	√		
	Syslog	√		
	Remote probing and analysis	√		

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