H3C WA6528i New Generation Access Point

802.11ax Indoor Series Access Point

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New H3C Technologies Co., Limited

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Overview

H3C WA6528i series access point is the latest generation wireless access point developed based on 802.11ax standard. They are designed with dual-radio 802.11ax technology standard, and provide a transmission speed at least 2 times faster than 802.11ac products. This makes the series suitable for high-density access scenarios, such as hotel, retail stores and smart enterprise campus. It is compact in appearance and support both wall mounting and ceiling mounting.

H3C WA6528i Internal Antennas 8 Streams Dual Radio 802.11ax/ac/n Access Point

Features and benefits

New-generation Wi-Fi standard 802.11ax (Wi-Fi 6)

WA6528i dual-radio AP adopts 802.11ax technology can provide up to 5.95Gbps access rate, which is suitable for all high-density access scenarios and provides better access experience.

DL/UL MU-MIMO

H3C WA6528i series AP supports DL/UL MU-MIMO technology, which is the most important feature of 802.11ax. DL/UL MU-MIMO technology allows AP to send data to multiple stations simultaneously, breaking through the traditional wireless serial communication mechanism, increasing the utilization rate of wireless spectrum resources, improving the number of effective access users and access experience under high-density deployment.

Smart cloud access and optimal WLAN TCO

The WA6528i series complies with the 802.11ax standard. It works on triple radio and provides high-speed transmission that is at least 2 times faster than 802.11ac products under the same conditions. The WA6528i series is available for easy maintenance and management from the H3C Oasis platform. Through smart RF optimization technologies, the series provides mobile cloud access in coverage scope, access density, and operation stability, and achieves the optimal wireless network Total Cost of Ownership (TCO).

Orthogonal frequency division multiple access (OFDMA)

802.11ax uses OFDMA to allow multiple users to transmit data simultaneously. OFDMA splits a channel into sub-channels, known as resource units (RUs), with specific subcarriers, and assigns RUs to different users for simultaneous transmission. OFDMA enables simultaneous multi-user transmission and reduces latency caused by channel contention.

Spatial multiplexing

802.11ax assigns a different color per BSS to help WA6528i identify co-channel interference and stop transmission in time. If a radio detects 802.11ax signals from a BSS that has the same color as the radio's BSS, it determines that co-channel interference exists and stops data transmission. This optimizes frequency reuse and improves 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, WA6528i has 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. Those

APs can connect up to ten T300 modules by IoT port. Both this IoT port and network port support link aggregation (LACP) which increase availability and capacity.

Green design

WA6528i 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 can dynamically adjust the MIMO working mode and efficiently put terminals to sleep.

WA6528i supports green AP mode that enables single radio standby and allows for more precise power control.

WA6528i supports the innovative per-packet power control (PPC) technology, which reduces standby power consumption and improves mobile device standby time.

Local/Centralized forwarding

WA6528i supports both centralized forwarding and local forwarding. With centralized forwarding, APs tunnel incoming data frames to the AC and the AC forwards the data frames. With local forwarding, APs directly forward data frames. The local forwarding mode significantly saves wired bandwidth.

IPv4 and IPv6 dual stack (Native IPv6)

WA6528i 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.

Real Time Spectrum Guard (RTSG)

Real Time Spectrum Guard (RTSG) is the innovative H3C professional state-monitoring program for the wireless spectrum. H3C 802.11ax 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.

H3C Cellular Coexistence Feature (CCF)

H3C uses built-in hardware filtering to minimize the impact of interference from 3G/4G cellular networks.

Anchor AC mode

Anchor AC mode is designed for networks of all sizes, including SMB. In Anchor AC mode, AP will serve as a virtual controller for the entire network.

Could-based Management

H3C cloud-managed APs were developed based on the Cloudnet platform, on which network administrators can manage the cloud-managed APs directly, for example, view cloud-managed AP status in real time and deploy configurations from the cloud to cloud-managed APs. This greatly improves network efficiency and enhances security and stability.

End user Admission Defense (EAD)

As one of 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 working with a security policy server, it can remind users, isolate or log them off when their systems are infected or not patched correctly. Only wireless clients that are complied with security policies are admitted. This enhances overall wireless security.

Remote probing and analysis

WA6528i 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 feature- and protocol-based RF optimization, provides 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 which can support 5G radio priority to assign 5G radio-supported clients to 5G radio, prior to 2.4G, multicast optimization (IPv4/IPv6), per-packet power control, and intelligent bandwidth guarantee. RF Management automatically assigns channel and power settings, provides airtime fairness, and ensures AP stay clear of all source of RF interference to deliver reliable, high performance WLANs.

Intelligent load balancing

WA6528i supports session- and traffic-based load balancing. When the load 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. What sets H3C intelligent load balancing apart from existing load balancing solutions is that it starts load balancing only for clients that are in the 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 functions into 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 control, configuration management, and user access management of wireless devices. In addition, it can manage wired devices by cooperating with other components in IMC.

Technical specifications

Hardware specifications

Name	WA6528i

Weight(excluding mounting accessories)	1.05Kg
Dimensions(excluding mounting and accessories)	225mm X 225mm X 40mm
Ethernet ports	1×100/1000M/2.5G/5G RJ-45 1×10/100/1000M RJ-45，support IoT extension and Power out support LACP(support between both network ports for redundancy and increased capacity) 1×USB port
PoE	5GE: IEEE 802.3bt/at/af 1GE: IEEE 802.3af,PSE
Local Power supply	54V DC
Console port	One（RJ-45）
Built-in antenna	Built-in omni-directional antenna Radio 1 : 5dBi antenna gain @ 5G Radio 2 : 4dBi antenna gain @ 2.4G Radio 3 : Independent scan radio
Built-in Bluetooth	Built-in BLE5.1/RFID/ZigBee
IoT Extension	Support BLE、RFID、ZigBee, UWB, Lora etc.
Working frequencies	802.11ax/ac wave2/ac/n/a : 5.725GHz-5.850GHz ; 5.47～5.725GHz; 5.15~5.35GHz 802.11ax/b/g/n : 2.4GHz-2.483GHz
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 0-11 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	26 dBm (Transmit power is multi-chain combined power, no antenna gain is included. The actual transmit power depends on local laws and regulations)
Adjustable power granularity	1dBm
Reset/restoration to factory default	Supported
State LED	Alternating flashing mode, orange/green/blue for different working states, breathing mode
Working Temperature/ Storage Temperature	-10ºC～55ºC(32°F to 113°F)/-40ºC～70ºC(–40°F to +158°F)
Working Humidity/ Storage Humidity	5%~95%(non-condensing)
Protection class	IP42
Overall power consumption	≤25W（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
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	>250000H

Software specifications

Item		WA6528i
Compliance	802.11	Indoor, compliant with 802.11a/b/g/n/ac/ac wace2/ax
802.11ax	Working frequencies and MIMO	Radio 1: 5G, 802.11a/n/ac/ax, 4x4, 4.8Gbps, 4 MU-MIMO clients, bandwidth: 20/40/80/160M 4.8Gbps Radio 2: 2.4G, 802.11a/n/ac/ax, 4x4, 1.15Gbps, 4 MU-MIMO clients, bandwidth: 20/40/80M 1.15Gbps Radio 3: Independent scan radio @2.4GHz&5GHz (Support WIPS scan, rogue AP scan, packet sniffer scan, spectrum analysis scan etc.)
	20MHz/40MHz bandwidth	Supported
	80MHz bandwidth	Supported
	160MHz bandwidth	Supported
	Maximum transmission speed	5G: 4.8Gbps 2.4G: 1.15Gbps
	A-MPDU	Supported
	A-MSDU	Supported
	Maximum likelihood decoding (MLD)	Supported
	Maximum-ratio combining (MRC)	Supported
	Space-time block coding (STBC)	Supported
	Low-density parity-check (LDPC)	Supported

Item		WA6528i
	Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD)	Supported
	DFS(dynamic frequency selection)	Supported
	Transmit Beamforming	Supported
WLAN basics	Maximum number of clients per radio	512
	Maximum number of SSIDs for each radio	16
	Open system/shared key authentication	Supported
	Broadcast probe request acknowledge control	Supported
	Concurrent login of WPA, WPA2,WPA3 and Pre-RSNA users	Supported
	RTS/CTS	Supported
	CTS-to-self	Supported
	802.11k and 802.11v smart roaming	Supported
	802.11r fast transition roaming	Supported
	Hide SSID	Supported
	Advanced Traffic Management	Supported
	Hotspot 2.0	Supported
	Restrict low rate/sticky terminals access	Supported
	Channel reuse	Supported
	Receiver sensitivity adjustment	Supported

Item		WA6528i
	Automatic channel/power/bandwidth adjustment	Supported
WLAN extension	Station related	Abnormal offline check, station aging, statistics and status query
	Client number limit	Supported
	Link integrity check	Supported
	Repeater mode	Supported
	Mesh(802.11s)	Supported
Security policy	Encryption	WEP-64/128/152bit, dynamic WEP, TKIP, CCMP,AES,EAP,WPA3
		Multiple triggering conditions for unicast and broadcast key update
	802.11i	Supported
	Authentication	802.1X authentication, MAC authentication, PSK authentication, Portal authentication, PPSK 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	Supported
	WIDS/WIPS	Supported
	Rogue device detection and countermeasure	Supported
	Dynamic ARP Inspection (DAI)	Supported
	IP Source Guard (IPSG)	Supported
	Management frame protection (802.11w)	Supported
AAA	RADIUS client	Supported

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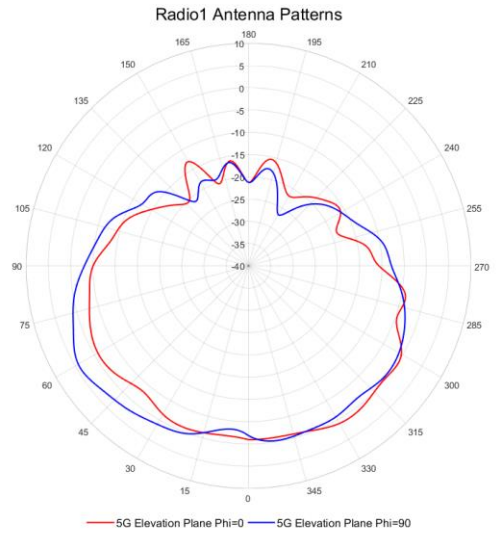
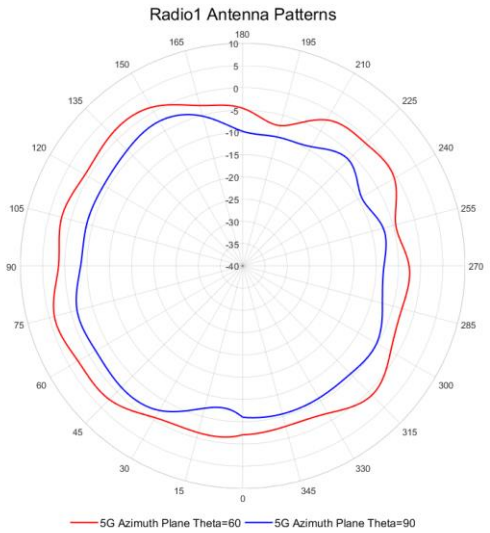
	Multiple-domain authentication server	Supported
	Backup authentication server	Supported
Layer 2 and Layer 3 features	IP address configuration	Static IP (available only in fat AP mode) DHCP assigned IP (Option 60)
	Native IPv6	Supported
	IPv6 Portal	Supported
	IPv6 SAVI	Supported
	ACL	IPv4/IPv6
	Local forwarding	Local forwarding based on SSID and VLAN
	Link Layer Discovery Protocol (LLDP)	Supported
	SSID-based VLAN assignment	Supported
	EoGRE Tunnel	Supported
	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	Supported
	CAR	Supported
	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(5G priority)	Supported
	Airtime optimization	Supported
	Airtime fairness	Supported

Item		WA6528i
	Layer 4-7 application identification	Coupled with H3C WLAN ACs, the APs can identify variety of applications and policy control can be implemented including priority adjustment, scheduling, blocking, and rate limiting on users
	Multicast optimization (IPv4/IPv6)	Supported
	Call Admission Control (CAC)	Session-based CAC Channel usage-based CAC
	SVP Phone	Supported
Power saving	PPC	Supported
	Green AP mode	Supported
	Dynamic MIMO power saving	Supported
	E-APSD	Supported
	WMM Power Save	Supported
Management and maintenance	Network management	Trap, HTTP(S), SSH, Telnet, FTP/TFTP, SNMP V1/V2/V3 only applicable in Cloud/Fat mode
	Management SSID	Supported
	Syslog	Supported
	AP Working Mode	Fit/Anchor/Cloud/Fat
	Remote probing and analysis	Supported
Wi-Fi Certified	IEEE 802.11a/b/g/n/ac/ax, WMM, WPA, WPA2 and WPA3 – Enterprise, Personal (SAE), Enhanced Open (OWE),Wi-Fi Alliance	

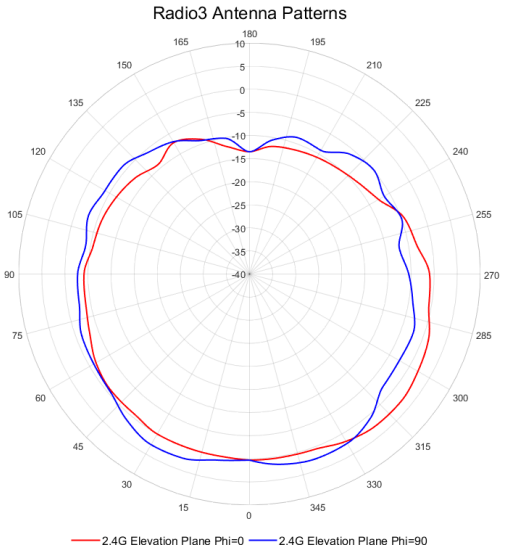
Antenna Patterns

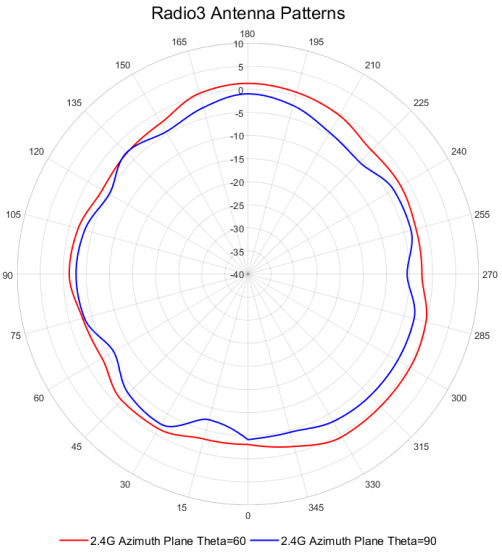
Radio1: 5GHz (AP front facing down)





Radio2: 2.4GHz (AP front facing down)





Ordering information

Product ID	Product Description
EWP-WA6528i-FIT	H3C WA6528i Internal Antennas 8 Streams Dual Radio 802.11ax/ac/n 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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