



H3C WA6620X New Generation Access Point

802.11ax Outdoor Series Access Point

Release Date: March 2022



New H3C Technologies Co., Limited

H3C WA6620X Dual-radio Outdoor Access Point

Overview



WA6620X 802.11ax Outdoor AP

H3C WA6620X AP is new generation smart outdoor 802.11ax Access Point (AP) with dual-band, 4 streams and large RF radiated power. It provides up to 2.4Gbps throughput (dual 5G radio band mode) which are suitable for high-density outdoor scenarios and make wireless multimedia application reality.

Based on 802.11ax technology, H3C WA6620X is integrated with smart RF optimizing technology. It can address outdoor WLAN coverage problems and enhance accuracy and stability. Professional and beautiful design and wide-temperature-range resistance make it convenient for outdoor installation and debugging. It's widely deployed for professional smart coverage in outdoor scenarios such as wireless city, big stadium and scenic spot. With enhanced IoT interface, H3C WA6620X can be combined with H3C IoT solution and deployed for smart campus and other IoT applications.

Features

Gigabit SFP optical port

Sometimes, 100-meter-long cable is not enough to connect a remote outdoor AP. WA6620X series AP supports Gigabit SFP optical port and prevents from faulty of devices like optical modem.

Support OFDMA

WA6620X series wireless access point products support OFDMA technology, AP can further divide the wireless bandwidth, use different subcarriers to transmit data to multiple terminals at the same time,

reduce the delay caused by multi-user air interface resource conflict and back off in traditional protocols. Improve the user experience of low-latency applications such as voice and video in multi-user scenarios.

Spatial Reuse

The WA6620X series of wireless access point products support spatial reuse technology. The AP can simultaneously control and adjust the transmission power by identifying non-associated messages, which can co-channel interference problems during multi-user use, and also greatly improve the utilization of spectrum resources.

TWT (Target Wake up Time)

WA6620X series wireless access point products support TWT technology, allowing APs to make unified scheduling of terminal wake-up and sleep, which not only reduces the conflict between terminals, but also reduces the number of unnecessary wake-ups of the terminal, achieving the purpose of energy saving.

DL/UL MU-MIMO (Wi-Fi 6)

H3C WA6620X 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 STAs simultaneously, which can highly improve transmission efficiency and access experience.

Built-in Bluetooth

H3C WA6620X adopts built-in Bluetooth technology, which can support 10m long-distance Console function, avoid additional workload in the process of equipment installation and maintenance, reduce the difficulty of troubleshooting, and support iBeacon shaking.

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.

Cloud-based Management

H3C cloud-managed APs are 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.

Smart cloud access and optimal WLAN TCO

WA6620X AP complies with 802.11ax standard and features maximum 2.4Gbps wireless transfer rate for dual 5GHz. With the advanced 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).

Local forwarding

When WA6620X AP runs in Fit mode and forwards packets through a wide area network (WAN), they are usually deployed as data access devices in branch offices, while wireless Access Controllers (ACs) are deployed in headquarter. All user data is sent from APs to AC, and centrally forwarded by the AC. WA6620X AP can convert wireless packets to wired packets avoiding data packets sent through AC but forwarded locally, which significantly saves the WAN link bandwidth.

Dual IPv4/IPv6 protocol stacks (Native IPv6)

WA6620X AP is fully compliant with IPv6 and implements a dual IPv4/IPv6 protocol stacks. Existing IPv4 and IPv6 wired networks can run in parallel and work seamlessly to register WLAN with H3C WX series or Cloudnet, so that it never runs as an information silo.

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 the 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

WA6620X AP can work as a remote probing and analysis sensor device. It can intercept Wi-Fi 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 operating channels, or a polling of all channels to satisfy wireless network monitoring and maintenance requirements.

RF Optimizing Engine (ROE)

WA6620X 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, band navigation, IPv4/IPv6 multicast signal boost, per-packet power control and intelligent bandwidth guarantee.

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.

Intelligent AP load balancing

WA6620X 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 capabilities

The existing Internet of Things (IoT) business is becoming diversified. H3C WA6620X can be combined with H3C T300 modules to support different IoT protocols, including RFID, ZigBee, BLE, etc. It can manage the air sensor, PM2.5 sensor, garbage bin and other infrastructure in wireless city or scenic spots. The IoT terminals such as wristband and RFID cards can also be linked between IoT and WLAN data, so that we can customize the corresponding services according to user needs easily. WA6620X 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.

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	WA6620X
Weight (excluding mounting accessories)	1.8kg
Dimensions (H×W×D, excluding mounting accessories)	250mm x 250mm x 79.5mm
Fixed port	2×100M/1000M Ethernet port, one support IoT extension & PSE ,802.3af Network ports support link aggregation (LACP) for redundancy and increased capacity 1xSFP 1×Console port (RJ45)
Antenna	Internal directional antenna, antenna gain: 11dBi@2.4G/11dBi@5G/ Horizontal beamwidth (HBW): 65 degrees Vertical beamwidth (VBW): 30 degrees Support extended external antenna
Operating frequencies	802.11ax/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	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): 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 radio power	2.4GHz: 27dBm 5GHz: 24dBm (Transmit power is multi-chain combined power, no antenna gain is included. The actual transmit power depends on local laws and regulations)
Adjustable power	1dBm
Power Source	PoE Injector+55V DC Adapter (Optional) Adapted to 47~57V DC
Power consumption	≤25W (Not included PSE)
Operating temperature/storage temperature	Operating Tem: -30°C ~ 55°C (Recommended); -40 °C ~ 65°C; Storage Tem: -40°C ~ 85°C
Operating humidity/storage humidity	0% to 100% (non-condensing)
Safety compliance	IEC 60950-1, EN 60950-1, IEC 60950-22, EN 60950-22
EMC	EN 301489-1, EN 301489-17, EN 55032, EN 55024, EN 60601-1-2
Radio frequency certification	EN 300 328, EN 301 893, FCC Part 15
Health	FCC Bulletin OET-65C, EN 50385, IC Safety Code 6
Protection degree	IP68
MTBF	>500000 hours

Software specifications

Features		WA6620X
Positioning		Outdoor 802.11ax dual-radio AP
11ax Supported	Working frequencies and MIMO	5GHz 2×2:2 MU-MIMO 1.2Gbps 2.4GHz, 2×2:2 MU-MIMO 0.575Gbps or 5GHz(1) 2×2:2 MU-MIMO 1.2Gbps 5GHz(2) 2×2:2 MU-MIMO 1.2Gbps dual 5G mode
	20MHz/40MHz/80MHz bandwidth	✓
	Maximum transmission speed	2.4Gbps (1.2Gbps+1.2Gbps) or 1.775Gbps(1.2Gbps+0.575Gbps)

	A-MPDU	✓
	A-MSDU	✓
	Maximum likelihood demodulation (MLD)	✓
	Maximum-ratio combining (MRC)	✓
	Spatial-Time block coding (STBC)	✓
	Low-density parity check (LDPC)	✓
	Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD)	✓
	DFS (dynamic frequency selection)	✓
	Transmit Beamforming	✓
WLAN Basics	Maximum users per radio	512
	Maximum number of SSIDs for each radio	16
	Virtual APs	32 (As a best practice, configure a maximum of five virtual APs for each radio)
	open system/shared key authentication	✓
	Broadcast Probe acknowledge control	✓
	Mixed connection for WPA, WPA2, WPA3 and Pre-RSNA users	✓
	RTS/CTS	✓
	CTS-to-self	✓
	Concealed SSID	✓
	802.11k and 802.11v smart roaming	✓
	802.11r fast transition roaming	✓
	Advanced Traffic Management	Supported
	Hotspot 2.0	Supported
	Restrict low rate/sticky terminals access	Supported

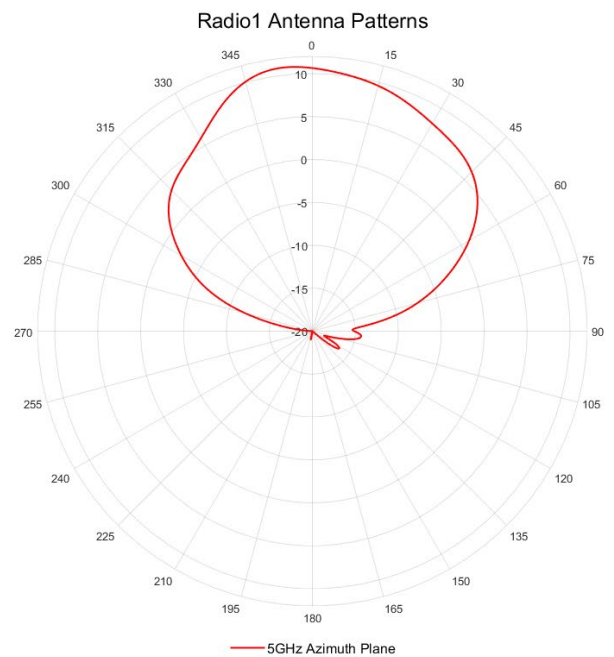
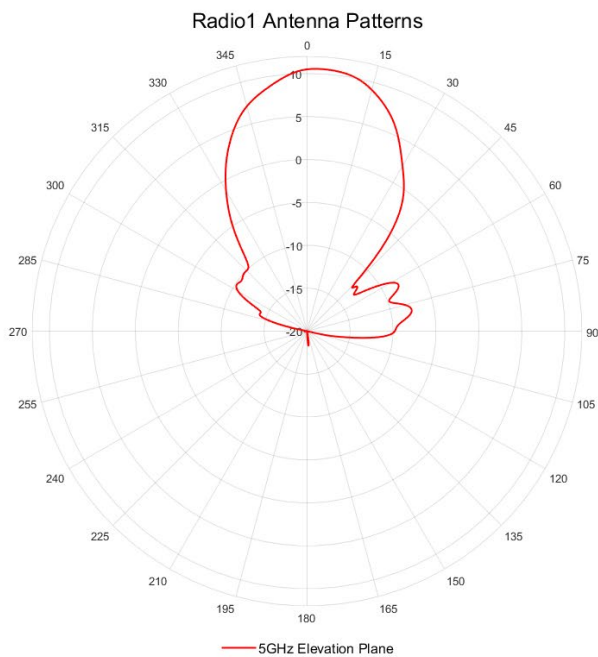
	Channel reuse	Supported
	Receiver sensitivity adjustment	Supported
	Automatic channel/power/bandwidth adjustment	Supported
WLAN extended	Limit user number	✓
	Station related	Abnormal offline check, station aging, statistics and status query
	Link integrity check	✓
	Repeater mode	✓
Security	Encryption	WEP-64/128/152bit, dynamic WEP, TKIP, AES, EAP, CCMP, WPA3, OWE
		Multiple encryption key triggered dynamic unicast/multicast key update
	802.11i	✓
	Authentication	802.1X, MAC address authentication, PSK authentication, Portal, PPSK (Need to work with H3C Access Controller depending on application)
	User Isolation	Supported: Layer 2 user isolation SSID-based user isolation
	Forwarding security	Packet filtering, MAC address filtering, Broadcast storm suppression
	SSID and VLAN binding	✓
	Rogue device detection and countermeasure	Supported
	Dynamic ARP Inspection (DAI)	Supported
	IP Source Guard (IPSG)	Supported
	WIPS/WIDS	✓
	802.11w	✓
AAA	Radius Client	✓
	Multiple-domain authentication server	✓
	Backup authentication server	✓
Layer 2	IP address configuration	Static IP (available only in fat AP mode)

and layer 3 features		DHCP assigned IP (option 60)
	Native IPv6	✓
	IPv6 Portal	✓
	IPv6 SAVI	✓
	ACL	IPv4/IPv6
	Local forwarding	Local forwarding based on SSID+VLAN
	Link Layer Discovery Protocol (LLDP)	Supported
	SSID-based VLAN assignment	Supported
	EoGRE Tunnel	Supported
	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
	Band navigation	✓
	Multicast enhancement	Multicast to Unicast (IPv4, IPv6)
	CAC (Call Admission Control)	Session-based CAC Channel usage-based CAC
	Airtime optimization	Supported
	Airtime fairness	Supported
	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
	SVP Phone	✓
Per-packet power control (PPC)	✓	
Green features	Green AP mode	✓
	Dynamic MIMO power	✓

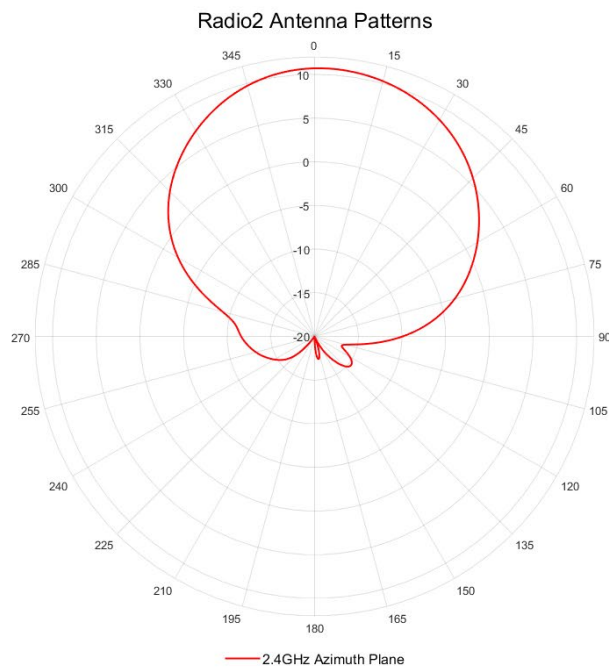
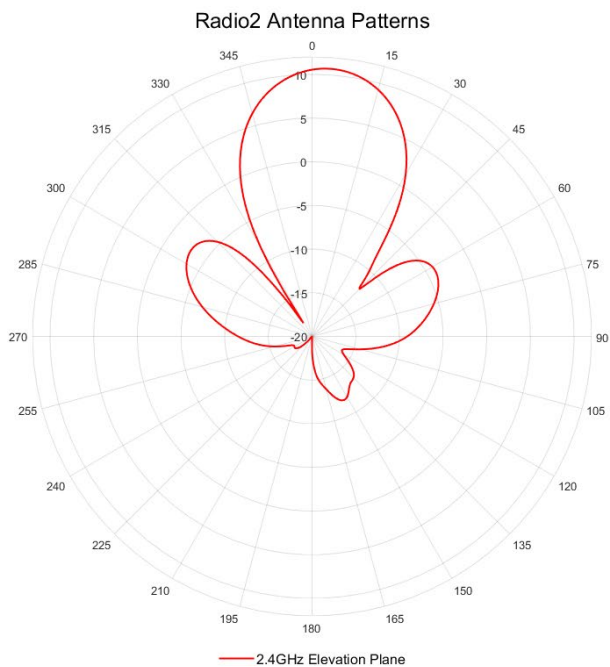
	saving	
	Enhanced automatic power save delivery (E-APSD)	✓
	WMM Power Save	✓
Management and maintenance	Managed SSID	✓
	Log function	SYSLOG
	Remote probe analysis	✓
	Web management	Trap, HTTP(S), SSH, Telnet, FTP/TFTP, SNMP V1/V2/V3 only applicable in Cloud/Fat mode
	AP Working Mode	Fit/Anchor/Cloud/Fat
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

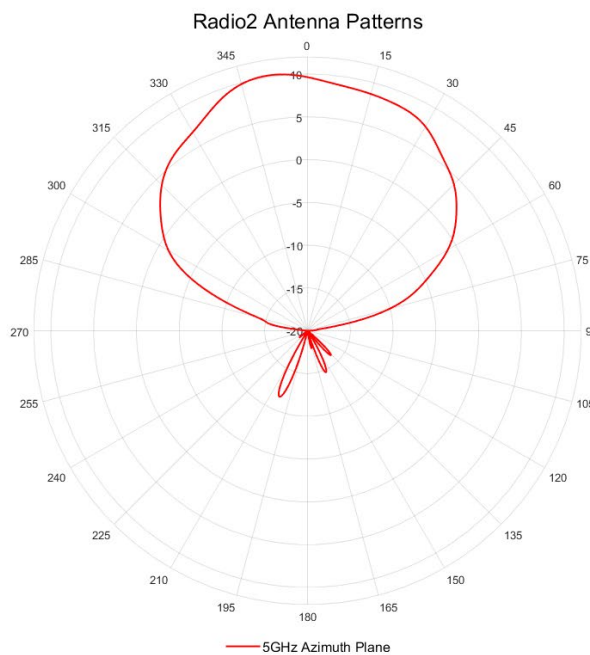
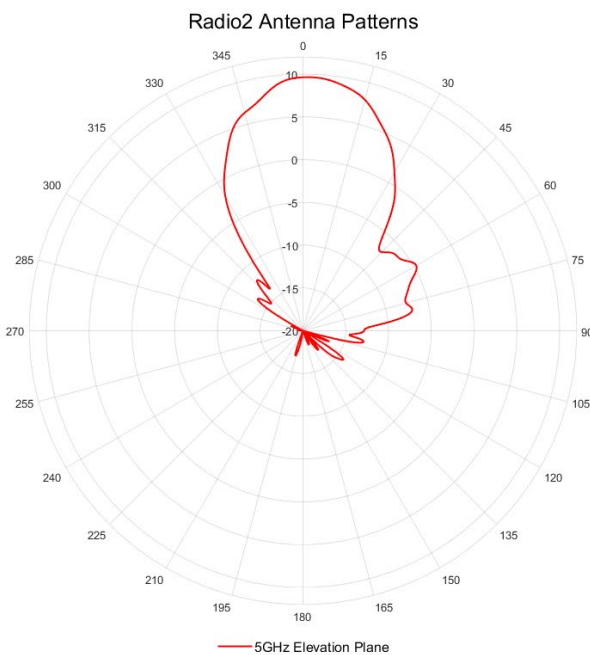
Radio 1



Radio 2 2.4GHz



Radio 2 5GHz



Ordering Information:

Product ID	Product Description
EWP-WA6620X- WW-FIT	H3C WA6620X Internal Antennas /External Antenna 4 Streams Dual Radio 802.11ax Outdoor Access Point, FIT, WW
ADP060-55V- PoE-GL	H3C 55V 60W PoE Adapter Power Supply (optional)



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