



Huawei

AP8130DN-W

Access Point

Datasheet



Product Overview

Huawei AP8130DN-W is the latest-generation 802.11ac outdoor access point (AP) that supports 3 x 3 MIMO and three spatial streams and offers high flexibility with IEEE 802.11a/b/g/n/ac compliance. It is physically hardened and features enhanced outdoor coverage performance. In addition, AP8130DN-W offers services simultaneously on 2.4 GHz, 4.9 GHz, and 5 GHz radios to connect more users, support wireless bridging, and provide gigabit access for wireless users. The AP8130DN-W provides comprehensive service support capabilities and features high reliability, high security, simple network deployment, automatic Access Controller (AC) discovery and configuration, and real-time management and maintenance, which meet outdoor network requirements. The AP8130DN-W is recommended for use in coverage scenarios (for example, high-density stadiums, squares, pedestrian streets, and amusement parks) and bridging scenarios (for example, wireless harbors, data backhaul, video surveillance, and train-to-ground backhaul).



AP8130DN-W

- Complies with 802.11ac Wave 1, delivers services simultaneously on two radios (one radio: 2.4 GHz/4.9 GHz/5 GHz; the other radio: 4.9 GHz/5 GHz) with a rate of 450 Mbit/s at 2.4 GHz, 1.3 Gbit/s at 5 GHz, and 1.75 Gbit/s for the device, and supports wireless bridge and backhaul at 4.9 GHz.
- Supports 2.4 GHz, 4.9 GHz, or 5 GHz on one radio and 4.9 GHz or 5 GHz on the other. When working at dual 5 GHz frequency bands simultaneously, the AP provides a system rate of 2.6 Gbit/s and can function as a relay AP to implement wireless bridging functions, which reduces costs and improves device installation efficiency.
- Has built-in 5 kA surge protectors, requiring no external surge protective devices. This design simplifies installation and saves costs.
- Adopts a metal shell and heat dissipation design, adapts to a wide temperature range from -40°C to +65°C, and provides 6 kA or 6 kV surge protection capability on an Ethernet interface, and IP67 protection level, meeting industry-level use requirements.
- Works in Fit AP mode.

Feature Description

4.9 GHz

- The AP8130DN-W supports the 4.9 GHz public safety frequency band, which is applicable to outdoor wireless bridging and data backhaul. Compared with 5 GHz, 4.9 GHz has less signal interference and provides better data transmission quality for users.

- **NOTE:**

- The 4.9 GHz is a public safety band. To use it, users must apply for a license from the local administrative dept.
- The AP8130DN-W supports WDS and Mesh but does not support common STA access at 4.9 GHz.

802.11ac GE access

- The AP8130DN-W supports the 80-MHz bandwidth mode. Frequency bandwidth increase brings extended channels and more sub-carriers for data transmission, and a 2.16 times higher rate.
- High Quadrature Amplitude Modulation (HQAM) — at 256-QAM — increases the 5 GHz radio rate to 1.3 Gbit/s. The throughput of 802.11ac APs is twice that of traditional APs.

Dual-5G radio technology

- The AP8130DN-W can switch from the 2.4 GHz frequency band to the 5 GHz frequency band. When working at dual 5 GHz frequency bands simultaneously, the AP provides a system rate of 2.6 Gbit/s and a 20% higher concurrency rate. In addition, it can function as a relay AP to implement wireless bridging functions, which reduces costs by 50%.

High-level protection

- The AP8130DN-W has built-in 5 kA feeder surge protectors and requires no external surge protective devices, which simplifies installation and lowers costs. They use a metal shell, waterproof connectors, and an overall heat dissipation design, and provide IP67 dustproof and waterproof protection to ensure stable and reliable operations.

High Density Boost technology

- Huawei uses the following technologies to address challenges in high-density scenarios, including access problems, data congestion, and poor roaming experience:

- **Interference suppression**

- In high-density scenarios, APs are usually densely placed. Huawei uses small-angle antennas that are purpose-built for high-density scenarios to mitigate interference. These antennas have good radiation angle control and can regulate AP coverage radius to within the appropriate range. Additionally, Huawei's Clear Channel Assessment (CCA) optimization technology reduces the possibility of air port resources shared by multiple devices, allows higher user access, and improves the throughput.

- **Air port performance optimization**

- In high-density scenarios where many users access the network, increased number of low-rate STAs consumes more resources on the air port, reduces the AP capacity, and lowers user experience. Therefore, Huawei APs will check the signal strength of STAs during access and rejects access from weak-signal STAs. At the same time, the APs monitor the rate of online STAs in real time and forcibly disconnect low-rate STAs so that the STAs can reassociate with APs that have stronger signals. The terminal access control technology can increase air port use efficiency and allow access from more users.

- **5G-prior access**

- The APs support both 2.4G and 5G frequency bands. The 5G-prior access function enables an AP to steer STAs to the 5 GHz frequency band first, which reduces load and interference on the 2.4 GHz frequency band, improving the user experience.

- **Load balancing between APs**

- After the load balancing function is enabled, the AC distributes users evenly to APs based on user quantity and traffic volume. Traffic load is therefore balanced among APs to ensure stable AP performance.

- **Smart roaming**

- The smart roaming technology is based on the 802.11k and 802.11v technologies and allows terminals to connect to APs with stronger signals, improving user experience and the overall performance of the wireless network.

Wired and wireless dual security guarantee

- To ensure data security, Huawei APs integrate wired and wireless security measures and provide comprehensive security protection.

- **Authentication and encryption for wireless access**

- The APs support WEP, WPA/WPA2-PSK, WPA/WPA2-802.1X, and WAPI authentication/encryption modes to ensure security of the wireless network. The authentication mechanism is used to authenticate user identities so that only authorized users can access network resources. The encryption mechanism is used to encrypt data transmitted over wireless links to ensure that the data can only be received and parsed by expected users.

- **Analysis on non-Wi-Fi interference sources**

- Huawei APs can analyze the spectrum of non-Wi-Fi interference sources and identify them, including baby monitors, Bluetooth devices, digital cordless phones (at 2.4 GHz frequency band only), wireless audio transmitters (at both the 2.4 GHz and 5 GHz frequency bands), wireless game controllers, and microwave ovens. Coupled with Huawei eSight, the precise locations of the interference sources can be detected, and the spectrum of them displayed, enabling the administrator to remove the interference in a timely manner.

- **Rogue device monitoring**

- Huawei APs support WIDS/WIPS, and can monitor, identify, defend, counter, and perform refined management on the rogue devices, to provide security guarantees for air interface environment and wireless data transmission.

- **AP access authentication and encryption**

- The AP access control ensures validity of APs. The CAPWAP link protection and DTLS encryption provide security assurance, improving data transmission security between the AP and the AC.

Automatic radio calibration

- Automatic radio calibration allows an AP to collect signal strength and channel parameters of surrounding APs and generate AP topology according to the collected data. Based on interference from authorized APs, rogue APs, and non-Wi-Fi interference sources, each AP automatically adjusts its transmit power and working channel to make the network operate at the optimal performance. In this way, network reliability and user experience are improved.

Automatic application identification

- Huawei APs support smart application control technology and can implement visualized control on Layer 4 to Layer 7 applications.

- Traffic identification
 - Coupled with Huawei ACs, the APs can identify over 800 common applications in various office scenarios. Based on the identification results, policy control can be implemented on user services, including priority adjustment, scheduling, blocking, and rate limiting to ensure efficient bandwidth resource use and improve quality of key services.
- Traffic statistics collection
 - Traffic statistics of each application can be collected globally, by SSID, or by user, enabling the network administrator to know application use status on the network. The network administrator or operator can implement visualized control on service applications on smart terminals to enhance security and ensure effective bandwidth control.

Basic Specifications

Hardware specifications

	Item	Description
Physical specifications	Dimensions (W x D x H)	290 mm x 260 mm x 100 mm
	Weight	4.0 kg
	Ethernet ports	2 x GE (RJ45) 1 x GE (eSFP)
Power specifications	Power input	PoE power supply: -48 V DC (in compliance with IEEE 802.3at) NOTE: The APs do not support AC power supply. If AC power supply is required, use a PoE adapter. Ensure that the installation position of the PoE adapter meets requirements.
	Maximum power consumption	22.4 W NOTE: The actual maximum power consumption depends on local laws and regulations.
Environmental specifications	Operating temperature	-40°C to +65°C
	Storage temperature	-40°C to +70°C
	Operating humidity	0% to 100% (non-condensing)
	Dustproof and waterproof grade	IP67
	Wind survivability	Up to 165 mph
	Altitude	-60 m to +5,000 m

	Item	Description
Radio specifications	Antenna type	External antennas
	Maximum number of users	≤ 256
	Maximum transmit power	2.4G: 28 dBm(combined power) 5G: 26dBm(combined power) NOTE: The actual transmit power depends on local laws and regulations.
	Power increment	1dBm
Radio specifications	Receiver sensitivity	2.4 GHz 802.11b: -100 dBm @ 1 Mbit/s; -90 dBm @ 11 Mbit/s
		2.4 GHz 802.11g: -95 dBm @ 6 Mbit/s; -82 dBm @ 54 Mbit/s
		2.4 GHz 802.11n (HT20): -95 dBm @ MCS0; -74 dBm @ MCS23
		2.4 GHz 802.11n(HT40): -92 dBm @ MCS0; -71 dBm @ MCS23
		5 GHz 802.11a: -96 dBm @ 6 Mbit/s; -80 dBm @ 54 Mbit/s
		5 GHz 802.11n (HT20): -95 dBm @ MCS0; -74 dBm @ MCS23
		5 GHz 802.11n (HT40): -92 dBm @ MCS0; -71 dBm @ MCS23
		5 GHz 802.11ac (VHT20): -95 dBm @ MCS0NSS1; -67 dBm @ MCS9NSS3
		5 GHz 802.11ac (VHT40): -92 dBm @ MCS0NSS1; -63 dBm @ MCS9NSS3
5 GHz 802.11ac (VHT80): -90 dBm @ MCS0NSS1; -59 dBm @ MCS9NSS3		

Software specifications

Item	Description
WLAN features	<ul style="list-style-type: none"> • Compliance with IEEE 802.11a/b/g/n/ac • Maximum rate: 2.6 Gbit/s • Maximum Ratio Combining (MRC) • Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD) • Maximum Likelihood Detection (MLD) • Data unit aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Rx only) • 802.11 Dynamic Frequency Selection (DFS) • Short Guard Interval (GI) in 20 MHz, 40 MHz, and 80 MHz modes • Priority mapping and packet scheduling based on a Wi-Fi Multimedia (WMM) profile to implement priority-based data processing and forwarding • Automatic and manual rate adjustment (the rate is adjusted automatically by default) • WLAN channel management and channel rate adjustment • Automatic channel scanning and interference avoidance • Service Set Identifier (SSID) hiding, support for SSIDs in Chinese • Signal Sustain Technology (SST) • Unscheduled Automatic Power Save Delivery (U-APSD) • Control and Provisioning of Wireless Access Points (CAPWAP) in Fit AP mode • Automatic access in Fit AP mode • WDS in Fit AP mode • Mesh networking in Fit AP mode • Dual-MPP Mesh networking in Fit AP mode • Hotspot2.0 in Fit AP mode • 802.11k and 802.11v smart roaming in Fit AP mode
Network features	<ul style="list-style-type: none"> • Compliance with IEEE 802.3u • Auto-negotiation of the rate and duplex mode; automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) • SSID-based VLAN assignment • VLAN trunk on uplink Ethernet ports • 4,094 VLAN IDs (1 to 4,094) and a maximum of 16 virtual APs (VAPs) for each radio • AP control channel in tagged and untagged mixed mode • DHCP client, obtaining IP addresses through DHCP • Tunnel forwarding and direct forwarding • STA isolation in the same VLAN • Multicast Domain Name Service (mDNS) gateway protocol: supports AirPlay and AirPrint service sharing between users of different VLANs • Access control lists (ACLs) • Link Layer Discovery Protocol (LLDP) • Service holding upon CAPWAP link disconnection in Fit AP mode • Unified authentication on the AC in Fit AP mode • AC dual-link backup in Fit AP mode • Soft GRE

Item	Description
QoS features	<ul style="list-style-type: none"> • Priority mapping and packet scheduling based on a WMM profile to implement priority-based data processing and forwarding • WMM parameter management for each radio • WMM power saving • Priority mapping for upstream packets and flow-based mapping for downstream packets • Queue mapping and scheduling • User-based bandwidth limiting • Adaptive bandwidth management (the system dynamically adjusts bandwidth based on the number of users and radio environment to improve user experience) • Airtime scheduling • Support for Microsoft Lync APIs and high voice call quality through Lync API identification and scheduling
Security features	<ul style="list-style-type: none"> • Open system authentication • WEP authentication/encryption • WPA/WPA2-PSK authentication and encryption • WPA/WPA2-802.1x authentication and encryption • WPA-WPA2 authentication • WAPI authentication and encryption • WIDS including rogue AP and STA detection, attack detection, and STA/AP blacklist and whitelist • 802.1x authentication, MAC address authentication, and Portal authentication • 802.11w Protected Management Frames (PMFs)
Maintenance features	<ul style="list-style-type: none"> • Unified management and maintenance on the AC in Fit AP mode • Plug-and-Play (PnP) in Fit AP mode: automatic ally going online and loading configurations • WDS zero-configuration deployment in Fit AP mode • WMN zero-configuration deployment in Fit AP mode • Batch upgrade • Local AP management through the serial port or using Telnet • Real-time configuration monitoring and fast fault location using the NMS • System status alarm • Dying Gasp
BYOD	<ul style="list-style-type: none"> • Identifies the device type according to the Organizationally Unique Identifier (OUI) in the MAC address. • Identifies the device type according to the User Agent (UA) information in an HTTP packet • Identifies the device type according to DHCP options. • The RADIUS server delivers packet forwarding, security, and QoS policies according to the device type carried in the RADIUS authentication and accounting packets.
Locating service	<ul style="list-style-type: none"> • Locates tags manufactured by AeroScout or Ekahau. • Locates Wi-Fi terminals.
Spectrum analysis	<ul style="list-style-type: none"> • Identifies interference sources such as baby monitors, Bluetooth devices, digital cordless phones (at 2.4 GHz frequency band only), wireless audio transmitters (at both the 2.4 GHz and 5 GHz frequency bands), wireless game controllers, and microwave ovens. • Works with Huawei eSight to locate and perform spectrum analysis on interference sources.

Standards compliance

Item	Description
Safety standards	UL 60950-1 UL 60950-22 CAN/CSA 22.2 No.60950-1 CAN/CSA 22.2 No.60950-22 IEC 60950-1 IEC 60950-22 EN 60950-1 EN 60950-22 GB 4943
Radio standards	ETSI EN 300 328 ETSI EN 301 893 FCC Part 15C: 15.247 FCC Part 15C: 15.407 RSS-210 AS/NZS 4268
EMC standards	EN 301 489-1 EN 301 489-17 ETSI EN 60601-1-2 FCC Part 15 ICES-003 YD/T 1312.2-2004 ITU k.21 GB 9254 GB 17625.1 AS/NZS CIPSR22 EN 55022 EN 55024 CISPR 22 CISPR 24 IEC61000-4-6 IEC61000-4-2

Item	Description
IEEE standards	IEEE 802.11a/b/g IEEE 802.11n IEEE 802.11ac IEEE 802.11h IEEE 802.11d IEEE 802.11e IEEE 802.11k IEEE 802.11u IEEE 802.11v IEEE 802.11w
Security standards	802.11i, Wi-Fi Protected Access 2(WPA2), WPA 802.1X Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP), and EAP Type (s)
Environmental standards	ETSI 300 019-2-1 ETSI 300 019-2-2 ETSI 300 019-2-4 IEC 60068-2-52 ETSI 300 019-1-1 ETSI 300 019-1-2 ETSI 300 019-1-4
EMF	CENELEC EN 62311 CENELEC EN 50385 OET65 RSS-102 FCC Part1&2 FCC KDB series
RoHS	Directive 2002/95/EC & 2011/65/EU
Reach	Regulation 1907/2006/EC
WEEE	Directive 2002/96/EC & 2012/19/EU

Professional Service and Support

Huawei WLAN planning tools deliver expert network design and optimization services using the most professional simulation platform in the industry. Backed by fifteen years of continuous investment in wireless technologies, extensive network planning and optimization experience, and rich expert resources, Huawei helps customers:

- Design, deploy, and operate a high-performance network that is reliable and secure.
- Maximize return on investment and reduce operating expenses.

More Information

For more information, please visit <http://e.huawei.com/en/> or contact your local Huawei office.



Enterprise Services



Product Overview



Marketing Documentation

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