Huawei

AP2030DN

Access Point

Datasheet

Product Overview

Huawei AP2030DN is the latest-generation gigabit wall plate access point (AP) that complies with 802.11ac Wave 1 standards. It uses an 86 mm x 86 mm plate design and can be easily installed in a standard 86-type junction box. The AP2030DN's innovative design boasts built-in antennas, a hidden indicator, and a sliding panel, applicable to environments with densely distributed small rooms, such as hotels, dormitories, hospitals, and offices. It provides enhanced service support capabilities and features high security, simple network deployment, automatic AC discovery and configuration, and real-time management and maintenance. The AP2030DN can connect to wireless terminals through wireless connections or to wired terminals using wired cables. This makes it the ideal choice of customers to construct indoor distributed networks.

AP2030DN

- High-speed wireless access services: supports 2.4 GHz and 5 GHz frequency bands, 2 x 2 MIMO, 300 Mbit/s at 2.4 GHz, 867 Mbit/s at 5 GHz, and a rate of up to 1.167 Gbit/s.
- Multiple ports: includes one uplink GE port, four downlink FE ports, and one RJ11 phone port, particularly suited to hotels, apartments, and offices.
- Easy to install: uses an 86 mm plate design and can be easily installed in an 86-type box, reducing costs by making full use of existing network cable resources.
- Flexible mounting options: can be mounted to a ceiling or wall using the special mounting bracket.
- Pass-through wired port: users can connect to a wired port to access the Internet when wireless connections are unavailable.

Product Features

High-speed, reliable wireless access

- 802.11ac GE access
  - Huawei AP uses the latest-generation 802.11ac chip with the highest performance and strongest coverage capability. It 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. With 2 x 2 MIMO support, the AP makes a major leap in Wi-Fi access from 100M to GE.
- Air port performance optimization
  - In high-density scenarios where many users access the network, the 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 reject 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. 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 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
  - Smart roaming technology is based on the 802.11k and 802.11v technologies and allows STAs to connect to APs with stronger signals, improving user experience and the overall performance of the wireless network.

High level of security

- 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.

Flexible networking and strong environmental adaptability

- 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.
- Adaptive bandwidth management
  - The AP can automatically adjust bandwidth allocation based on the user quantity and environments to improve user experience.

Easy to manage and maintain

- Plug-and-Play (PnP)
  - In Fit AP mode, the AP is plug-and-play and can automatically go online and load the configuration without manual intervention, facilitating network deployment.
- Easy to maintain
  - The AP supports Link Layer Discovery Protocol (LLDP) and can quickly identify new devices and generate network topology. The AP can be monitored on the Network Management System (NMS), implementing fast fault location. It also supports remote configuration delivery and one-click batch upgrade.

Basic Specifications

Hardware specifications

Item		Description
Technical specifications	Dimensions (H x W x D)	41.5 mm x 86 mm x 140 mm
	Weight	0.2 kg
	Interface type	Uplink: 1 x GE interface (RJ45, PoE) Downlink: 4 x FE interface (RJ45) Pass-through: 2 x RJ11 interface
	LED indicator	Hidden LED indicator: turns on after the powered on and indicates the power-on, startup, running, alarm, and fault status of the system.
Power specifications	Power input	• 12 V DC ± 10% • PoE power supply: –48 V DC (in compliance with IEEE 802.3af/at)
	Maximum power consumption	8.7 W NOTE The actual maximum power consumption depends on local laws and regulations.
Environmental specifications	Operating temperature	0°C to 40°C
	Storage temperature	–40°C to +70°C
	Operating humidity	5% to 95% (non-condensing)
	Altitude	–60 m to +5000 m
	Atmospheric pressure	70 kPa to 106 kPa

Item		Description
Radio specifications	Antenna type	Built-in antennas (horizontal beamwidth 360°)
	Antenna gain	2 dBi (2.4 GHz); 3 dBi (5 GHz)
	Maximum number of VAPs for each radio	8
	Maximum number of users	≤ 64
	Maximum transmit power	20 dBm NOTE The actual transmit power depends on local laws and regulations.
	Power increment	1 dBm
	Receiver sensitivity	2.4 GHz 802.11b (CCK): –101dBm @ 1 Mb/s; –90dBm @ 11 Mb/s
		2.4 GHz 802.11g (non-HT20): –95dBm @ 6 Mb/s; –79dBm @ 54 Mb/s
		2.4 GHz 802.11n (HT20): –95 dBm @ MCS0; –77 dBm @ MCS7
		2.4 GHz 802.11n (HT40): –93 dBm @ MCS0; –74 dBm @ MCS7
		5 GHz 802.11a (non-HT20): –94 dBm @ 6 Mb/s; –78dBm @ 54 Mb/s
		5 GHz 802.11n (HT20): –94 dBm @ MCS0; –76 dBm @ MCS7
		5 GHz 802.11n (HT40): –91 dBm @ MCS0; –73dBm @ MCS7
		5 GHz 802.11ac (VTH20): –95 dBm @ MCS0NSS1; –71 dBm @ MCS8NSS1
		5 GHz 802.11ac (VTH40): –91 dBm @ MCS0NSS1; –66 dBm @ MCS9NSS1
		5 GHz 802.11ac (VTH80): –88 dBm @ MCS0NSS1; –63 dBm @ MCS9NSS1

Software specifications

Item	Description
WLAN features	• Compliance with IEEE 802.11a/b/g/n/ac • Maximum rate: 1.167 Gbit/s • Maximum Ratio Combining (MRC) • 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) • Automatic access • Hotspot2.0 • 802.11k and 802.11v smart roaming • Fast roaming (≤ 50 ms)
Network features	• 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 • 4094 VLAN IDs (1 to 4094) and a maximum of 8 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 • Unified authentication on the AC • AC dual-link backup • Soft Generic Routing Encapsulation (GRE) • IPv6 Portal • IPv6 Source Address Validation Improvements (SAVI) • IPv4/IPv6 ACL

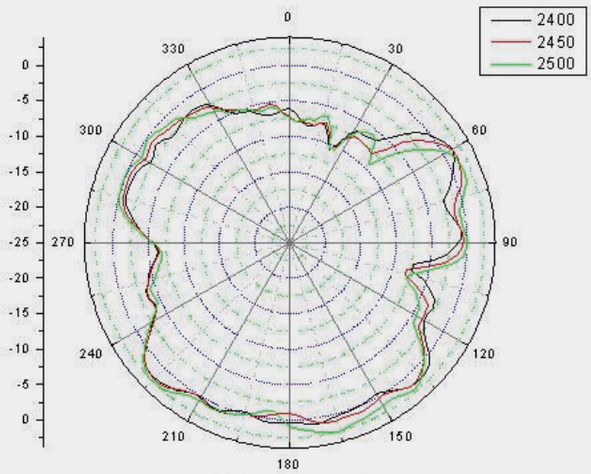
Item	Description
QoS features	• Priority mapping and packet scheduling based on a WMM profile to implement priority-based data processing and forwarding • WMM parameter management for each radio • WMM power saving • Priority mapping for upstream packets and flow-based mapping for downstream packets • 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	• 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, STA/AP blacklist and whitelist • 802.1x authentication, MAC address authentication, and Portal authentication • 802.11w Protected Management Frames (PMFs)
Maintenance features	• Unified management and maintenance on the AC • Plug-and-Play (PnP): automatic ally going online and loading configurations • 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 • STelnet using SSH v2
BYOD	• 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.
Spectrum analysis	• 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 IEC 60950–1 EN 60950–1 GB 4943
Radio standards	ETSI EN 300 328 ETSI EN 301 893 RSS-210 AS/NZS 4268
EMC standards	EN 301 489–1 EN 301 489–17 ETSI EN 60601-1-2 ICES-003 YD/T 1312.2-2004 ITU k.21 GB 9254 GB 17625.1 EN 55022 EN 55024IEC61000-4-6 IEC61000-4-2
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

Item	Description
Security standards	802.11i, Wi-Fi Protected Access 2 (WPA2), WPA 802.1x Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP), and Extensible Authentication Protocol (EAP) types: • EAP-Transport Layer Security (TLS) • EAP-Tunneled TLS (TTLS) or Microsoft Challenge Handshake Authentication Protocol Version 2 (MSCHAPv2) • Protected EAP (PEAP) v0 or EAP-MSCHAPv2 • EAP-Flexible Authentication via Secure Tunneling (FAST) • PEAP v1 or EAP-Generic Token Card (GTC) • EAP-Subscriber Identity Module (SIM)
Environmental standards	ETSI 300 019-2-1 ETSI 300 019-2-2 ETSI 300 019-2-3 ETSI 300 019-1-1 ETSI 300 019-1-2 ETSI 300 019-1-3
EMF	CENELEC EN 62311 CENELEC EN 50385 RSS-102
RoHS	Directive 2002/95/EC & 2011/65/EU
Reach	Regulation 1907/2006/EC
WEEE	Directive 2002/96/EC & 2012/19/EU
Certifications	Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac

AP2030DN Antenna Pattern Plots



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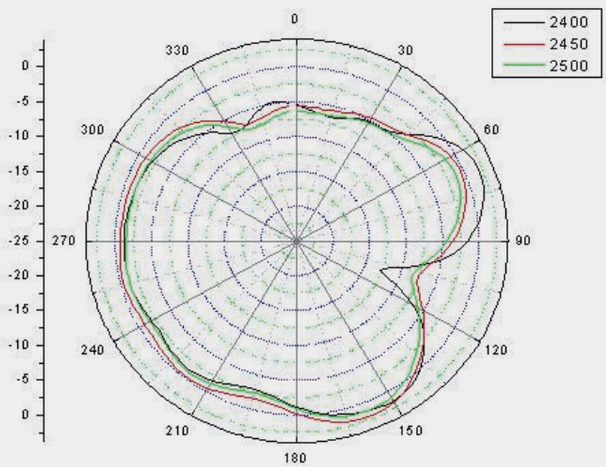

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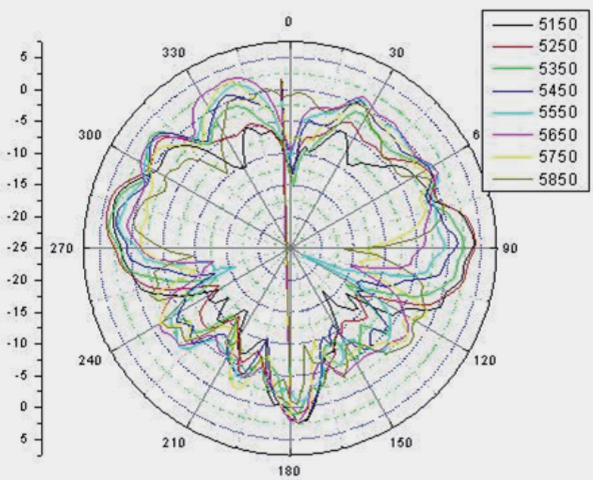
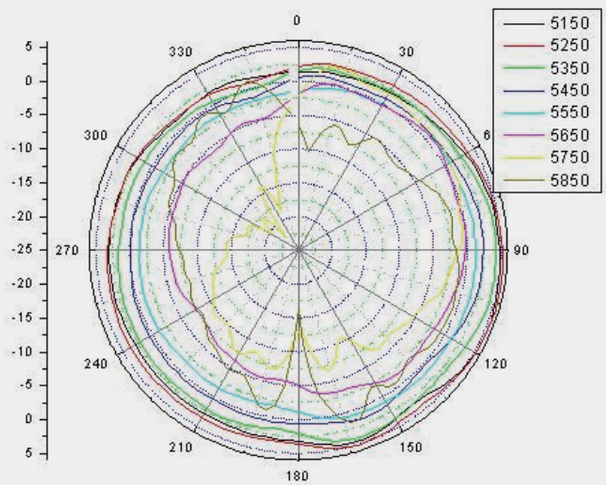


5G (PHI=0)



5G (PHI=90)

Ordering Information

Component	Part Description	Configuration Description	Remarks
AP			
AP2030DN	Broadband Network Terminal,AP2030DN,5*RJ45, 2*RJ11,11ac, 2*2 Double Frequency	The mounting bracket is included in the standard configuration.	The standard configuration does not include the network cable and power supply.
Power Adapter			
220 V to 12 V power adapter	AC/DC Adapter--5degC-45degC-90V-270V-12V/2A-Europe Standard-DC inlet	European standard	Sold only on markets outside China.
220 V to 12 V power adapter	AC/DC Adapter--5degC-45degC-90V-270V-12V/2A-UK Standard-DC inlet	UK standard	Sold only on markets outside China.
220 V to 12 V power adapter	AC/DC Adapter--5degC-45degC-90V-270V-12V/2A-Australia Standard-DC inlet	Australian standard	Sold only on markets outside China.
220 V to 12 V power adapter	Adapter--5degC-45degC-90V-270V-12V/2A-Brazil Standard-DC inlet	Brazilian standard	Sold only on markets outside China.
220 V to 12 V power adapter	Adapter,-5degC,45degC,90V,270V,12V/2A,US Standard/DC inlet	US standard	Sold only on markets outside China.

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 or contact your local Huawei office.

Enterprise Services

Product Overview

Marketing Documentation

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