Windbit WAP421-IBE

Wi-fi 7 access point model WAP421-IBE

Introduction

The WAP421-Ibe is a dual-radio Wi-Fi 7 wireless access point that delivers high performance with maximum data rates of up to 3.57 Gbps and enterprise-grade encryption technology, including WPA3.
Thanks to its hybrid cloud management mode and high-density access design, it is well-suited for flexible deployment in remote office environments such as educational institutions, government agencies, enterprise settings, and retail spaces, where high-capacity connected terminals and a next-generation user experience are required.

Highlight

- **High-speed combo port up to 2.5Gbps, copper or optical**
- **High performance thanks to 4096-QAM and OFDMA technologies**
- **Flexible management (Cloud/Controller/Standalone)**
- **High Security (WPA3) and Reliability**
- **Minimized interference and up to 256 connected clients**
- **Dynamic Frequency Selection (DFS)**
- **Dynamic 2.4 GHz/5 GHz radio management with spectral optimization**

Interfaces

LAN / WAN 1	1 × 100/1000/2.5GBASE-T (Poe IN)
LAN / WAN 2	1 × 2.5G SFP port (1G module compatible)
Radio 1	2.4 GHz 11b/g/n/ax/be : 2×2 MIMO
Radio 2	5 GHz 11a/n/ac/ax/be : 2×2 MIMO
Others	1 × RJ45 console, 1 × Bluetooth 5.3”

Competitive Advantages

High-performance Wi-Fi 7 technology	Corporate equipment with dual Wi-Fi 7 radios (2×2 MIMO) and OFDMA and 4096-QAM technologies, ideal for high-density scenarios
Automatic Wi-Fi network optimization	The device dynamically adjusts channels and transmission power, optimizing the radio environment and improving wireless efficiency.
Simple and efficient administration	Flexible for all scenarios: Web configuration in standalone access point mode, or cloud management, or ready for a wireless LAN controller
Captive portal and centralized managemen	The management platform incorporates a captive portal and integrated tools, avoiding external solutions and reducing operating costs.

Key Features

- **High-speed 1024-QAM radio access** With 4096-QAM modulation and 802.11be, the maximum access speed can reach 3.57 Gbps. With both radios activated simultaneously, a high-speed and highly efficient Wi-Fi 7 experience is achieved.
- **High security and reliability** Encryption and authentication technologies including WPA3, 802.1X and PPSK, ensuring secure communications, advanced access control and comprehensive data protection in corporate environments.
- **Channel width up to 160MHz** The channels can be 20 MHz, 40 MHz, 80 MHz and 160 MHz.
- **Wireless Intruder Detection System (WIDS)** And user isolation, detection and containment of unauthorized access points. CPU Protection Policy (CPP). Network Foundation Protection Policy (NFPP).
- **High user density thanks to OFDMA** OFDMA allows multiple users to simultaneously receive/send packets through the AP, minimizing user contention and data forwarding, thereby reducing latency and improving network efficiency.
- **Improved signal quality** It supports cyclic shift/delay diversity (CDD/CSD), maximum ratio combination (MRC), space-time block coding (STBC), and low-density parity checking (LDPC).
- **High number of BSSIDs** Network administrators can encrypt and isolate separate VLANs or subnets of the same SSID, with specific authentication methods for each SSID. Supports up to 32 (16 BSSIDs per radio).
- **IPv4/IPv6 Services** DHCPv4 server, NAT4, neighbor discovery (ND), ICMPv6, IPv6 DHCP client, static routing, PPPoE client, IPsec VPN

HARDWARE TECHNICAL FEATURE

Interfaces and connectors
1 × 100/1000/2.5GBASE-T (PoE IN)
1 × 2.5G SFP port (compatible 1G modules, auto-negotiation)
1 × RJ45 console port, 1 × Bluetooth 5.3

Dual radio modules
Radio 1 – 2.4 GHz 11b/g/n/ax/be : 2×2 MIMO
Radio 2 – 5 GHz 11a/n/ac/ax/be : 2×2 MIMO

Antennas
Integrated internal omnidirectional Wi-Fi 7 antennas
2× antennas 2.4 GHz (3 dBi)
2× antennas 5 GHz (3 dBi)

Dimensions, weight and mounting kit
Dimensions: 200 mm × 200 mm × 40 mm
Weight: Equipment 0.56 kg / Mounting kit 0.05 kg
Wall/ceiling kit included by default

Environmental specifications
Operating temperature: –10 °C to +50 °C
Storage: -40 °C to +70 °C
Operating humidity: 5%–95%

SOFTWARE TECHNICAL FEATURE

Wi-Fi interface
Maximum number of users per AP: 256 (128 per radio)
Hide SSID, 5GHz priority (Band Steering)
SSID: authentication modes, encryption mechanisms, and VLAN attributes

Security methods
PSK, Web y 802.1X, WPA (TKIP), WPA2 (AES), WPA2-PSK, WPA3 y WEP
User isolation, Rogue APs and containment, dynamic ACLs
Support for RADIUS, CPU Protection Policy (CPP), and Network Foundation Protection Policy (NFPP)

Filtering with ACLs
Standard IP ACL, MAC extended ACL, IP extended ACL, and expert-level ACL
IPv6 ACLs with time-based control and Layer 2 interface-based ACLs
Layer 3 interface-based ACLs and Ingress ACLs associated with Wi-Fi interface

Control y limitaciones de conexiones
Connection limitations by SSID or radio interface
Bandwidth limitation
Rate Limiting based on STA/SSID/AP

VLAN
Maximum number of SVIs (IPv4): 200
Maximum number of SVIs (IPv6): 200
Max. number of VLANs: 4,094, VLAN ID range: 1–4,094

IPv4 Services
Static addressing or DHCP Client
Maximum number of IPv4 addresses configured per L3 interface: 200
NAT, FTP ALG and DNS ALG

IPv6 Services
IPv6 addressing, Neighbor Discovery (ND), ICMPv6, IPv6 ping, IPv6 tracert
IPv6 DHCP client
Maximum number of IPv6 addresses configured per L3 interface: 400

Routing IP
Static IPv4/IPv6 routes
Maximum number of static IPv4 routes: 1,024
Maximum number of static IPv6 routes: 1,000

Multicast & VPN
Multicast-to-Unicast Conversion
Client PPPoE
VPN IPSec

Management and maintenance
Telnet, SSH, TFTP, Web, WLAN Controller, Cloud Controller
SNMPV1,V2c,V3,
Cloud management, Wireless Intelligent AI Optimization Service

ADDITIONAL TECHNICAL FEATURE

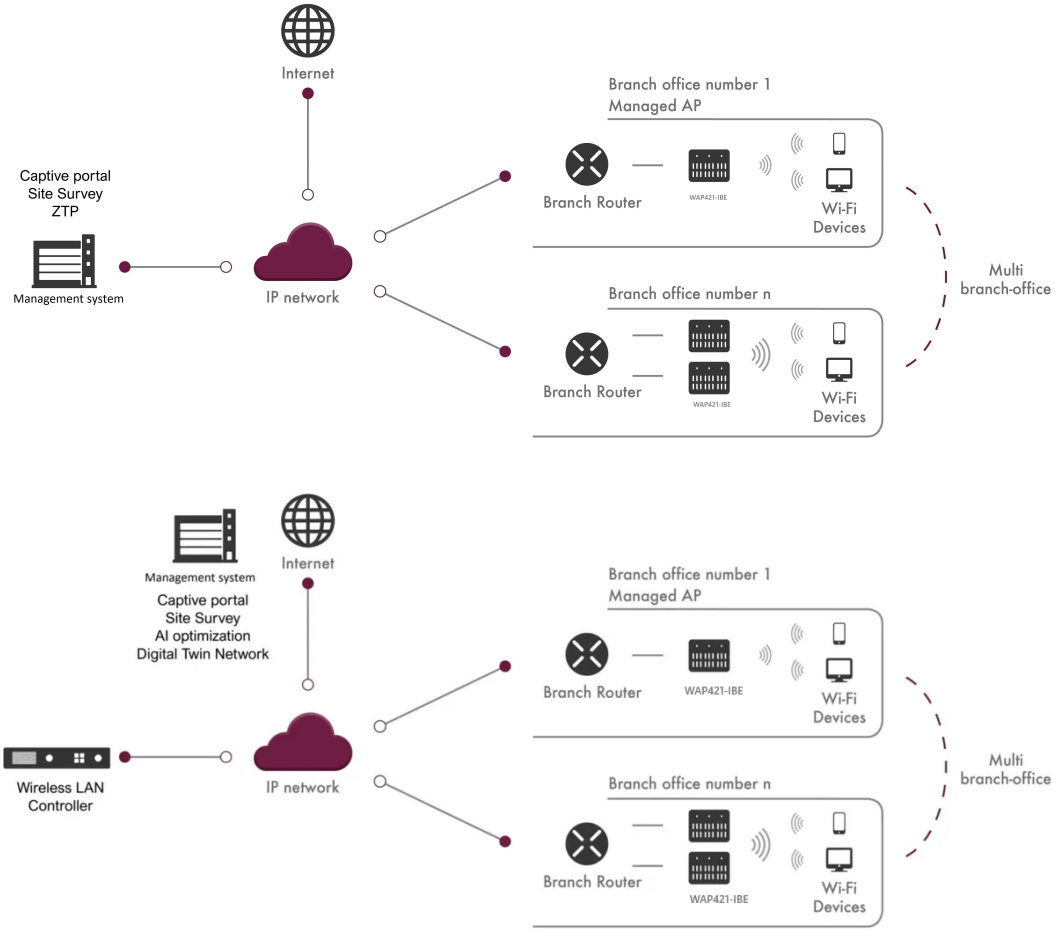
Certifications
EN 55032, EN 55035, EN 61000-3-3, EN IEC 61000-3-2, EN 301 489-1, EN 301 489-3,
EN 301 489-17, EN 300 328, EN 301 893, EN 300 440, FCC Part 15, EN IEC 62311, IEC 62368-1, and EN 62368-1

Device Memory
512 MB DRAM3 + 125 MB flash
Mean Time Between Failure (MTBF)
200,000 hours (22 years) at 25°C (77°F)

Security lock option
Kensington lock
Other buttons
1x reset button

1x Multicolor LED for system status
Estado del AP. Actualización de SW
AP status. SW update
CAPWAP management connection status.

Scenarios



Founded in 1985, Teldat is a Spanish company whose mission is to provide companies with valuable solutions for cloud access, remote office communications, cybersecurity and voice/data connectivity both in the office and in specific environments whether they are industrial, railway, vehicles or public services.

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