

intelbras

# Intelbras AP 5620

## New Generation

## Access Point

802.11ax Indoor Series Access Point



## Intelbras AP 5620 Wi-Fi 6 (802.11ax) Indoor Wireless Access Point

### Overview

Intelbras AP 5620 is a Wi-Fi 6 (802.11ax) access point (AP) individually developed by Intelbras S.A. The AP adopts a dual-band and six-stream design with a maximum access rate of 5.375 Gbps. For 5 GHz radio 4 spatial streams, the maximum negotiation rate is 4.8 Gbps. For 2.4 GHz radio 2 spatial streams, the maximum negotiation rate is 0.575 Gbps. It meets the high bandwidth and high concurrency requirements of common high-density indoor scenarios.

The installation of Intelbras AP 5620 wireless AP is flexible, with panel mounting, wall mounting, and ceiling mounting available. The dual network port design enables link aggregation and internal and external network isolation.



AP 5620 Wi-Fi 6 (802.11ax) wireless AP

### Product features

### Operating mode

#### Fit AP mode

The AP 5620 supports the Fit AP mode and can be managed by the wireless. In this networking mode, the user can locally manage the APs in batches.

## **Cloud AP mode**

AP 5620 supports INC Cloud solution that enables wireless networking without hardware WC and authentication server. It can perform authentications via PPSK, PSK. Customized development is implemented for multi-branch scenarios such as hotel chains and supermarkets, enabling features such as easy deployment, hierarchical and decentralized management, smart large screen at headquarters, and customized configuration templates. The Cloud smart O&M platform enables users to grasp the status of wireless devices, networks, and terminal devices, and allows for simple management and O&M. This helps to reduce customer capital investment and O&M labor costs, and increase efficiency.

## **Security protection of wired and wireless networks**

### **Terminal device access and admission security**

With the wireless controller, wireless switches, and authentication system self-developed by Intelbras, AP 5620 can support authentication and encryption via 802.1x, PSK, MAC address, PPPoE. This ensures network security.

### **Wireless intrusion prevention system (WIPS)**

AP 5620 supports WIPS. In combination with the wireless controller/wireless switch, it supports WIPS features such as detection, intrusion detection, as well as blacklist and whitelist of rogue devices at the same time. The WIPS features enable the device to detect, identify, take countermeasures against, and effectively intercept rogue devices.

### **Wired network security**

AP 5620 supports wired access and control of APs. The wireless port of APs can be authenticated as an 802.1X client of the wired access network to ensure the legality of the AP. It guarantees the security of the wireless tunnel through encryption methods such as CAPWAP tunnel and DTLS.

Wired network security can be enhanced with the Intelbras Security Situational Awareness. When the wired terminal detects a security issue in the wireless terminal, a linkage mechanism will be triggered to notify the wireless controller to block the wireless access of the terminal, thereby ensuring network security.

## Radio resource optimization and station access control policy

AP 5620 supports the radio resource optimization policy (RROP). RROP is a collection of multiple wireless radio optimization methods. It is used to reduce or control the consumption of radio media resources caused by management packets, broadcast packets, and invalid packets. It helps to set aside more resources to provide the users with better wireless application services. RROP mainly contains radio resource optimization policies such as layer 2 isolation for wireless services, disabling low data rate, adjusting the Beacon interval, and disabling the broadcast probe function.

## Radio resource management (RRM)

RRM monitors in real time the environmental conditions such as the utilization rate of radio channels, channel interference, and signal conflict through systematic intelligent radio management. Moreover, it adjusts in real time the radio parameters such as the working channel, bandwidth, and power to maintain optimal radio resource status. In this way, it enables auto network planning and auto network repair.

## Roaming optimization

The wireless AP supports the fast BSS transition feature defined in the 802.11r standard that helps to facilitate the roaming of wireless users, reduce the possibility of network interruptions, and enhance roaming quality.

Through the 802.11k mechanism, the AP and the wireless client perform interactive detection and perceive multi-dimensional network topologies. The WC identifies and comprehensively calculates the roaming timing and access location of the wireless client from a full perspective and negotiates switching with the client via the 802.11v and 802.11r mechanisms. During the switching period, the WC will ensure the traffic of the downlink service, to achieve seamless switching and improve user experience.

## Only 11ax access

AP 5620 supports the only 11ax access feature. The Wi-Fi 6 (802.11ax) is backward-compatible with 802.11a/b/g/n/ac standard, so the users of the 802.11a/b/g/n/ac standard can access a Wi-Fi 6 (802.11ax) wireless access device. However, its compatibility causes a decline in the actual performance of devices with high access capabilities such as Wi-Fi 6 (802.11ax) to some extent. Intelbras devices enable the user to set the access mode of a certain radio frequency to only 11ax (only users using Wi-Fi 6 (802.11ax) can access). This ensures bandwidth transmission and device performance.

## Orthogonal frequency division multiple access (OFDMA)

AP 5620 supports OFDMA technology. An AP can divide wireless bandwidth and transmit data to multiple terminals simultaneously via different subcarriers. This reduces transmission latency caused by multi-user radio resource contention and backoffs and improves the user experience of low-latency applications such as speech output and video in multi-user scenarios.

## Spatial reuse (SR)

AP 5620 supports spatial reuse technology and basic service set (BSS) coloring technology. With these technologies, it identifies the color of the packets at the link layer to control the terminal device and adjusts transmit power to improve the reuse rate of channels in high-density deployment and avoid co-channel interference in case of simultaneous multi-user operation. This greatly improves the utilization rate of spectrum resources.

## Orthogonal frequency division multiple access (TWT)

AP 5620 supports the target wake times (TWT) technology. It allows the AP to uniformly schedule the wake-up and sleep time of the terminal, reducing contention and improving power efficiency by decreasing unnecessary wake-up times of the terminal.

## Flexible forwarding

When the AP 5620 AP is connected via a wide area network (WAN), the wireless access points (AP) are deployed in branch offices, while wireless access controllers (AC) are deployed in headquarters. In the traditional forwarding mode, all packets are sent from APs to ACs, and centrally forwarded by the AC. However, for AP 5620, the packets can be converted to wired packets on the wireless access device directly avoiding data packets sent through WC but forwarded locally, which significantly saves wired network bandwidth. Besides, AP 5620 supports flexible policy-based forwarding and allows terminal devices of the same wireless service to implement centralized forwarding and local forwarding, so as to release export bandwidth and save costs of network bandwidth.

## IPv4 and IPv6 dual stack (Native IPv6)

AP 5620 is fully compliant with IPv6 and implements dual IPv4/IPv6 protocol stacks. It can automatically register on the wireless controller and provide wireless services no matter in an IPv4 or IPv6 network via broadcast, multicast, DHCP option 43, or DNS, so that it never runs as an information silo.

## Specifications

### Hardware specifications

Name	AP 5620
Installation	panel mounting, wall mounting, and ceiling mounting available
Dimensions (excluding antenna connectors and mounting accessories)	35 x 185 x 155 mm (H x W x D)
Ethernet interface	1 x 100/1000M/2.5G electrical port 1 x 100/1000M electrical port
PoE	2.5GE: 802.3at/af
Local power supply	54V DC
Console port	1x
USB port	1x
Built-in antenna	4 Internal Omni-directional antennas, which: 4x4 5GHz with 4dBi gain 2x2 2.4GHz with 4dBi gain
Working frequencies	802.11ax/ac/n/a: 5.15 GHz - 5.35 GHz; 5.47 GHz - 5.725 GHz; 5.725 GHz - 5.850 GHz; 802.11ax/b/g/n: 2.4 GHz - 2.483 GHz
Compatible bandwidth	2.4GHz: 20/40MHz 5GHz: 20/40/80/160MHz
Nominal Throughput	2.4GHz: 574Mbps 5GHz: 4804Mbps Combined: 5378Mbps
Modulation techniques	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 (MCS 0 -31): BPSK, QPSK, 16QAM, 64QAM 11ac/ac wave2 - MIMO-OFDM (0 - 9): BPSK, QPSK, 16QAM, 64QAM, 256QAM 11ax - MIMO-OFDM (0 - 11): BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Transmit power (combined power)	20 dBm
Adjustable power granularity	1 dBm
Reset/restoration to factory default	Supported
State LED	Yellow/green/blue

Name	AP 5620
Operating temperature/storage temperature	-10°C to +55°C/-40°C to +70°C
Operating humidity/storage humidity	5% - 95% (non-condensing)
Power consumption	≤ 17.6 W (without USB feature) ≤ 35.1 W (with USB feature)
MTBF	542776H

## Software specifications

Name	AP 5620	
Operating mode	Fit mode	Controlled by WC
	Cloud mode (Fat mode)	Controlled via Cloud or operates independently
	Mode switching	Mode switching via command lines, ACs, Cloud, or reset button
	Router (IPv4/IPv6)	via command line or web interface
Management and maintenance	Cloud Centralized management	Support by INC Cloud
	Local centralized management	Support by INC
	WC centralized management	Fit mode: support Cloud mode: support version upgrade, switch mode
	Local web	Cloud mode support
	Telnet	Cloud mode support
	SSH	Cloud mode support
	SNMP	Cloud mode support
	Debug serial port	support
Intelligent operation and maintenance	Fit/ Cloud mode support	
11ax supported	TWT	Supported
	BSS Color	Supported

Name		AP 5620
	MU-MIMO	Supported
	OFDMA	Supported
	Only 11ax	Supported
WLAN basics	Maximum client's connections	256 (128 per frequency rate)
	Maximum number of SSID	8
	A-MPDU	Supported
	A-MSDU	Supported
	Maximum likelihood demodulation (MLD)	Supported
	Maximal ratio combining (MRC)	Supported
	Spatial-Time block coding (STBC)	Supported
	Low-density parity check (LDPC)	Supported
WLAN extended	STA related	STA offline anomaly check, STA aging, statistics and status query
	User number limit	Supported
	Link integrity check	Supported
	Broadcast probe acknowledgment control	Supported
	Prohibition of client access with weak signals	Supported
	Hidden SSID	Supported
	WLAN RRM	Supported
	Wireless bridging	Supported
	Repeater mode	Supported
	11k	Supported
	11v	Available in Fit mode
	11r	Available in Fit mode
Encryption	TKIP, CCMP, WPA3, and WAPI	



Name		AP 5620
Security control policies		Multiple encryption key triggered dynamic unicast/multicast key update
	802.11i	Supported
	Authentication	802.1X authentication, MAC address authentication, PSK authentication; Open system/shared key authentication; Enhanced open system authentication Mixed access of WPA, WPA2, WPA3, and Pre-RSNA users
	User isolation	Layer 2 user isolation SSID-based user isolation
	Forwarding security	Packet filtering, MAC address filtering, and broadcast storm suppression
	SSID and VLAN binding	Supported
	Wireless Intelligent Application Aware (wIAA)	Supported
	WIDS/WIPS	Supported
	MFP (802.11w)	Supported
	802.1X Client	Supported
	Layer 2 and layer 3 features	IP address configuration
Native IPv6		Supported
IPv6 Portal		Supported
IPv6 SAVI		Supported
ACL		IPv4/IPv6
NAT		Supported
PPPoE Client		Supported
Local forwarding		Local forwarding based on SSID+VLAN supported in Fit mode
QoS	802.11e	WMM
	Priority	Ethernet port based 802.1p identification and marking priority
		Priority mapping for wired and wireless connection
	Strategic QoS mapping	Distinctive QoS policies based on individual SSID/VLAN

Name		AP 5620
	Layer 2 to Layer 4 packet filtering and traffic classification	Supported
	CAR	Supported
	User bandwidth management	Bandwidth allocation per STA All STAs sharing bandwidth with a common SSID Dynamical adjusting of the available bandwidth of the STAs in terms of service needs
	Load balancing	Traffic-based load balancing User-based load balancing Radio-based load balancing for dual-5G devices
	Spectrum guide	Supported
	Multicast enhancement	Multicast to unicast (IPv4/IPv6)
	CAC (Call Admission Control)	Session-based and channel usage-based CAC
	Application recognition	Supports audio and video optimization (eMDI/SQA/UCC) in Fit mode
	Airtime fairness (ATF)	Supported
Green features	Green AP mode	Supported
	Dynamic MIMO power saving	Supported
	Enhanced automatic power save delivery (E-APSD)	Supported
	SM Power Save	Supported
Certification	Wi-Fi Alliance	WFA130310