SUNDRAY

X-LINK SERIES

XAP-2220P Datasheet

http://www.sundray.com

1 Product Overview

SUNDRAY XAP-2220P is a panel 802.11ac wireless access point specially designed for hotels, dorms, offices, and wards. It has 2x2 MIMO antenna embedded, complies with the 802.11b/g/n/ac protocol, and provides a maximum wireless access rate of 733Mbps. The dimensions of the XAP-2220P comply with standard 86 switch panels. XAP-2220P can be installed on any 86 switch panels without damaging wall decorations and this reduces the deployment costs remarkably.

SUNDRAY XAP-2220P

Top-speed Wireless Experience

802.11ac high-speed access

SUNDRAY XAP-2220P support the 802.11ac protocol, up to 300Mbps in 2.4G and 433Mbps in 5G. It will help improve the connection through coverage, density, stability etc.

QoS guarantee

SUNDRAY XAP-2220P supports different QoS levels. It supports air interface resource management based on applications, SSIDs or STAs to ensure that air interfaces are appropriately allocated and that the data of important SSIDs and applications is transmitted in preference. Transmission priorities can be defined for different service data through 802.11e/WMM. This ensures differentiated QoS levels.

Seamless roaming for L2 and L3

SUNDRAY XAP-2220P works with SUNDRAY wireless controller to implement seamless roaming for L2 and L3. When a wireless user roams, the IP address and authentication status remain unchanged. The terminal viscosity prevention function is provided to intelligently guide an STA to the optimal AP, increasing the roaming speed.

Airtime fairness

Terminal dragging prevention involves enabling terminals with different negotiated rates to occupy the identical wireless channel time by using the time fairness algorithm. This avoids problems of low wireless access speed, high delay and low network performance caused by low access rates of some terminals.

Intelligent load balancing

In the case of high-density wireless users, SUNDRAY XAP-2220P works with SUNDRAY wireless controller to implement intelligent load balancing based on the user quantity, traffic, and frequency band for the purpose of improving the bandwidth usage, thereby ensuring high wireless access speed for users. Frequency band-based load balancing enables 2.4/5 GHz dual-frequency terminals to access the 5 GHz frequency band in preference.

Intelligent RF to reduce wireless interference in an all-round way

The work channel and transmit power of the wireless access point are adjusted automatically and interference from the surrounding environment is detected in real time to reduce radio interference in an all-round way and to improve the overall service quality of the wireless network.

All-Round Security Protection

Multiple easy-to-use and secure authentication modes

Multiple flexible, easy-to-use and secure user authentication modes are available. 802.1x, portal, SMS, WeChat, and QR code authentication modes are provided with the support of SUNDRAY wireless controller to meet network deployment requirements in environments including enterprises, schools, shopping malls, hotels, and financial organizations.

All-round wireless security protection

With the support of SUNDRAY wireless controller, XAP-2220P provides a wide range of wireless security protection functions including WIDS/WIPS, illegitimate AP detection and workaround, ARP spoofing prevention, and DoS attack prevention, constructing a truly secure and reliable wireless network for users.

Timed turning off of RF for network security and environment protection

RF can be turned off and on based on time periods. The wireless network can be automatically turned off at nights and weekends to prevent malicious users from intruding the network and to reduce energy consumption of the equipment.

Flexible Network Deployment

Convenient deployment

XAP-2220P adopts the standard 86 design, in this way, the original network is retained, lowering the deployment costs significantly and shortening the construction period.

Full signal coverage

XAP-2220P is deployed on the inside wall of a room and the entire room is covered by wireless signals. This avoids problems of poor network signal and network unavailability in the case that a ceiling-mounted AP is deployed in the corridor, which deteriorates the signal when the signal penetrates through the wall of the room or rest room.
After the panel XAP-2220P is deployed, full signal coverage is ensured at any location of the room, providing unprecedented wireless network access experience for users.

Access via network cable or phone wire

XAP-2220P integrates Ethernet ports and IP phone ports for ease of access of wired terminals and phones. It is the best choice for wireless network construction in environments like hotels.

Power supply via PoE

XAP-2220P supports 802.3af PoE remote power supply. Power supply and data transmission can be implemented via the original network cable. In addition to convenient deployment, strong current threats can be avoided. In other words, the equipment is protected against damage caused by burst over-high voltage or unstable voltage.

Data forwarding

With the bridge mode forwarding technology, XAP-2220P can directly forward data that features high real-time transmission requirements, delay sensitivity, and large amount over the wired network without passing the wireless controller. This alleviates the traffic load of the wireless controller significantly and breaks the traffic restrictions of the wireless controller.

Virtual AP technology

A maximum of 32 ESSIDs can be provided by using the virtual AP technology. Different SSIDs use different authentication modes and have different network access permission. The SSIDs are isolated from each other. L2 isolation can be implemented for terminals that use the same SSID on a subnet or VLAN to ensure user data security.

SSID

An SSID with a maximum of 32 characters can be specified. An SSID can also contain both Chinese and English characters. Individualized SSIDs are available for shopping malls or enterprises to improve discrimination.

3 Technical Specifications

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Hardware Specifications

Product Specifications of SUNDRAY XAP-2220P	
Item	Description
Model	XAP-2220P
Weight	0.25kg
Dimensions (excluding antenna interfaces and accessories)	86 mm x 86mm x 10 mm
Ethernet port	Rear: 1*10/100Base-T Ethernet port ； 1 IP phone uplink Front: 2* 10/100Base-T Ethernet port (one can be reused with IP phone)
PoE	802.3af / 802.3at power supply supported
Transmit power	≤ 20 dBm
Power adjustment granularity	1 dBm
Power range	1 dBm to the value specified by national regulations
Power consumption	< 6W
Antenna	2*2MIMO embedded antenna
Reset / restore factory settings	Supported
Status indicator	1*Power,1*WIFI,1*STATUS,1*SYS
Operating/storage temperature	-10ºC to + 45ºC or - 40ºC to + 70ºC
Operating/storage humidity	5% - 95% (non - condensing)
Protection level	IP 41
MTBF	> 250000 H

Software Specifications

Item		Description
Model		XAP-2220P
RF	MIMO	2.4G: 2*2 5G: 1*1
	Maximum transmission speed of a single frequency	2.4 G: 300 Mbps 5 G: 433 Mbps
	Operating frequency band	802.11ac /n/a: 5.725-5.850 GHz, 5.15-5.35 GHz 802.11b/g/n: 2.4-2.483GHz
	Modulation technology	OFDM: BPSK@6 / 9 Mbps, QPSK@12 / 18 Mbps, 16-QAM@24 Mbps, 64-QAM@48 / 54 Mbps DSSS: DBPSK@1 Mbps, DQPSK@2 Mbps, CCK@5.5 / 11 Mbps MIMO-OFDM: MCS 0-15 MIMO-OFDM (11ac): MCS 0-9
	Channel rate	802.11b: 1, 2, 5.5, 11 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 802.11n: 6.5 to 300 (MCS0 to MCS15) 802.11n high throughput support: MCS 0-7 HT 20/40 802.11ac: MCS 0-9, 20 / 40 / 80
	Channel quantity	802.11a, 802.11n, 802.11ac (compatible with 802.11a): 5 channels 802.11b, 802.11g, 802.11n (compatible with 802.11b / g mode): 13 channels
	Manual and automatic channel adjustment	Support
	Automatic power adjustment	Support
	Manual power adjustment	The AP supports manual power adjustment with an adjustment granularity of 1 dBm. The power scope is from 1 dBm to the value specified by national regulations.
	Timed turning on or off of RF	RF can be turned on or off based on the specified time period.
	Coverage black hole detection and compensation	Support

3 Technical Specifications

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Item		Description
WLAN function	Maximum number of connected users	256 (maximum number of connected users of a single RF: 128)
	Connected user quantity restriction	Support
	Virtual AP	32
	Chinese SSID	Support
	SSID hiding	Support
	Wireless relay/bridge	Point-to-point and point-to-multipoint supported
	User-, traffic-, and frequency band-based intelligent load balancing	Support
	Bandwidth restriction	STA-, SSID-, or AP-based rate limiting is supported.
	STA function	Abnormal STA disconnection detection, STA aging detection, and STA statistic and status query are supported.
	Link integrity detection	Support
Security authentication	Authentication mode	Pre-shared key authentication, portal authentication, 802.1x authentication, CA certificate authentication, WeChat authentication, SMS authentication, QR code authentication, temporary visitor authentication, and authentication exemption are supported.
	Pre-shared key	WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK hybrid authentication
	Portal authentication	Intelligent terminal type identification is supported. A page matching the terminal size is pushed to terminals. The page logo and displayed information can be customized. In addition, the verification, authentication interval, and reconnection authentication time thresholds can be set.

Item		Description
Security authentication	802.1x authentication	802.1x one-key configuration and 802.1x perception-free authentication are supported. You only need to download the one-key automatic configuration tool at initial access and finish wireless network configuration quickly. This simplified network deployment significantly.
	CA certificate authentication	High-security certificate authentication can be implemented by using the CA certificate issuance center embedded into the controller, without the need to constructing a certificate server. Authentication by using a certificate imported from an external certificate server is also supported.
	SMS authentication	SMS authentication takes effect forever. That is, a user can directly access the network without authentication after being authenticated via SMS at initial access. This reduces the SMS costs and improves user experience.
	QR code authentication	After a visitor terminal accesses the wireless network, the terminal will automatically display a QR page. The approver scans the QR code of the visitor terminal via a cell phone and then the visitor can access the Internet. The visitor information is recorded in three dimensions: approver, remarks, and MAC address of the visitor terminal. This ensures user traceability and network security.
	Temporary visitor authentication	A temporary user information management system is embedded. A temporary user can log in within the validity period and cannot after the validity period elapses. A secondary permission system for temporary account management is embedded and temporary accounts can be created and managed in this system. The QR code of a temporary visitor can be printed and the temporary visitor can scan the QR code to access the network. Temporary visitors can be grouped.
	Authentication exemption	Only a portal advertisement page is displayed. A user needs to click the login button to access the network without entering any account password or performing other authentication.

Item		Description
Security authentication	Data encryption	Data encryption via TKIP and AES (CCMP) is supported.
	Blacklist and whitelist	Static whitelist and blacklist and dynamic blacklist are supported.
	User isolation	SSID-based isolation, automatic VLAN grouping, and user isolation of specified VLANs are supported.
	WIDS/WIPS	Support
	Illegitimate AP detection and workaround	Support
	ACL	Account-, access location-, access terminal type- and SSID-based ACL policy assignment and management are supported.
	Radius protocol	Support
Wireless optimization	Application layer acceleration	Acceleration can be performed for the application layer. The acceleration service application can help increase the transmission speed by 1.5 to 4 times.
	E-schoolbag scenario optimization	The transmission speed of multicast packets is increased, improving the effects of the E-schoolbag scenario in an all-round way.
	Intelligent broadcast acceleration	The transmission speed of broadcast packets is automatically increased based on the actual environment, thereby improving the transmission efficiency of broadcast packets.
	Terminal dragging prevention	This function aims to prevent the decrease of the entire network speed caused by low-speed terminals based on the time fairness algorithm.
	Terminal viscosity prevention	This function involves detecting STAs connected to APs and intelligently guiding the STAs to the optimal AP.
	Prohibited access of low-speed terminals	The speed of access terminals is limited. Weak-signal terminals with a speed lower than the specified value are prohibited from accessing the network. This improves the entire network speed.

3 Technical Specifications

Item		Description
Wireless optimization	High-density access scenario optimization	The response to broadcast probe requests is controlled for the purpose of optimizing high-density access scenarios.
	ARP-unicast conversion	ARP broadcast packets are converted into unicast packets. This reduces the number of broadcast packets, thereby improving the transmission speed.
	Prohibited DHCP requests destined for wireless terminals	After this function is enabled, DHCP broadcast requests will be forwarded only to the wired network, instead of another wireless network. This improves the network throughput and performance of the wireless network.
Hotspot analysis	AP-based access user quantity statistics	The number of connected users and change trends of each AP in the recent one day, one week, and one month can be measured.
	AP-based network access traffic statistics	The network access traffic and change trends of each AP in the recent one day, one week, and one month can be measured.
	AP-based signal quality analysis	Statistic analysis for the signal usage, noise, retransmit rate, BER, and BER change trends of each AP is supported.
AP access mode	AC discovery mechanism	L2 broadcast automatic discovery L3 discovery based on configured static IP addresses DHCP Option43 discovery DNS domain name discovery
	Cross-WAN and cross-NAT remote AP deployment	Support
	WebAgent	Controller IP addresses can be dynamically discovered by using the WebAgent technology. This avoids AP disconnection caused by unfixed controller IP addresses.
	Tunnel encryption	Support

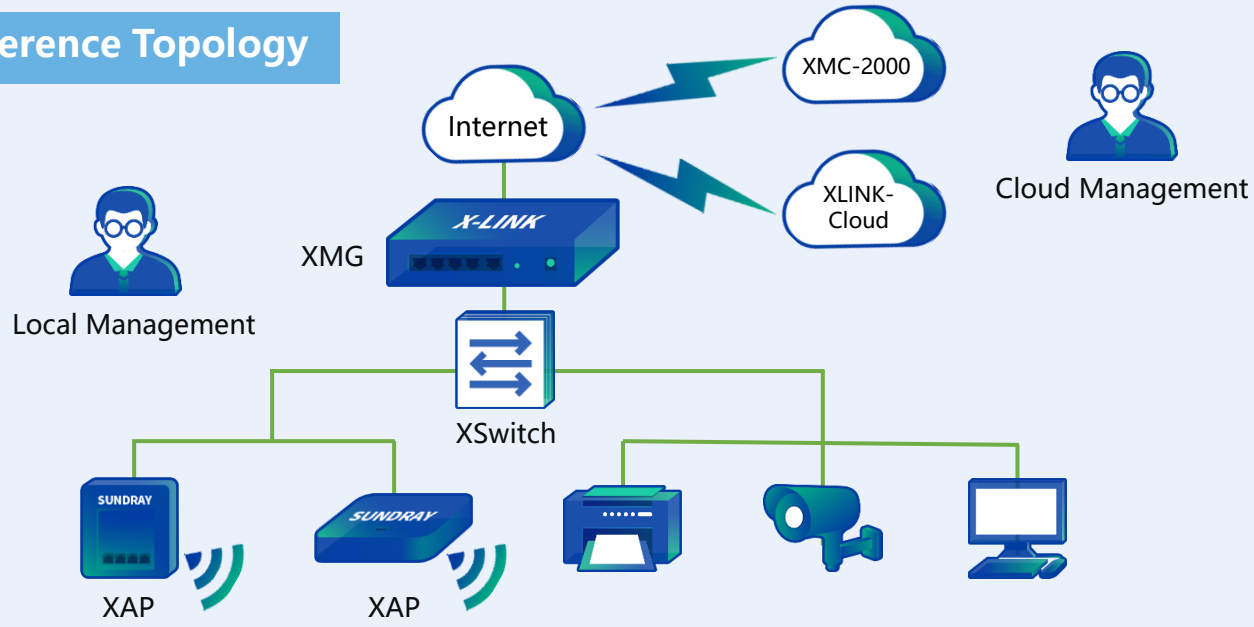
3 Technical Specifications

Item		Description
L3 function	NAT	Support
	Network access mode	PPPoE dial-up and static IP address
	DHCP server	Support
	DNS proxy	Support
Wireless relay / bridge	Relay mode	Point-to-point and point-to-multipoint supported
	Relay frequency band	2.4/5.8 GHz
	Disable wireless network on relay frequency band	Support
	Wireless backhaul service	Support

4 Order Information

Model	Specifications	Remarks
SUNDRAY XAP-2220P series		
XAP-2220P	The SUNDRAY XAP-2220P series access points is embedded with 2x2 MIMO antenna, complies with the 802.11a/b/g/n/ac protocol, provides a wireless access rate of up to 733Mbps, with gigabit port uplink integrates Ethernet ports and IP phone ports, and supports PoE power supply (PoE needs to be purchased independently).	Essential

Reference Topology



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