

Model:

AX821: Immunity Lotus Alpha OD



Next-Gen Wi-Fi 6 Technology Without Limits

360° omnidirectional coverage ensures reliable, uninterrupted outdoor wireless performance.



1,800 Mbps combined speed across 2.4 GHz (600 Mbps, 2x2) and 5 GHz (1,200 Mbps, 2x2)



High-performance MT7621AT + 7975 + 7905 chipset for reliable outdoor connectivity.



Wi-Fi 6 (802.11ax) technology for faster, efficient, and stable data transmission.



Works via PoE or external adapter for flexible deployment.



Supports 120+ concurrent users, ideal for high-density use cases.



IP67-rated waterproof and dustproof design for harsh outdoor environments.



Automatic frequency tuning for optimized signal stability coverage up to 50 meters



PRODUCT OVERVIEW

The Immunity Lotus Alpha OD is a high-performance Wi-Fi 6 (802.11ax) outdoor wireless access point designed to deliver fast, reliable, and wide-area connectivity in demanding environments. Powered by a robust MTK industrial-grade chipset (MT7621AT + 7975 + 7905), it supports dual-band concurrent operation with combined speeds of up to 1800Mbps – 574Mbps on 2.4GHz and 1201Mbps on 5.8GHz.

FEATURES

- Wireless data rate up to 1.8Gbps. 802.11ax support 1024QAM.
- Long OFDM symbol.
- 160M bandwidth and 11ax 2x2 MIMO technology.
- The wireless data rate up to 1.8Gbps.
- Meet with demand of high-speed applications such as VR/ AR, 4K or 8K stream media.
- Advanced 1024-QAM Modulation Mode. 802.11ax adopt 1024-QAM modulation

OFDMA AND SEAMLESS ROAMING

- Combined 1800 Mbps wireless speed across 2.4 GHz (600 Mbps, 11ax 2x2) and 5 GHz (1200 Mbps, 2x2) radios.
- Equipped with Gigabit WAN and LAN ports for faster Ethernet data transmission.
- Supports MU-MIMO and DL/UL-OFDMA modulation for efficient multi-user communication.
- Allows multiple users to upload and download data simultaneously without congestion.
- Ideal for deployment in universities, concert venues, gymnasiums, offices, and public spaces.
- Features narrower subcarrier spacing and longer symbol time for improved stability and data processing.

INTELLIGENT DEVICE

TWT Operation:

- 802.11ax support TWT (Target Wake-up Time).
- Allowing devices to negotiate when need to wake up, send and receive data.
- Wireless AP can group the device into different TWT cycles.

Wi-Fi Coverage:

- 802.11ax support long OFDM symbol transmission mechanism.
- 2MHz narrowband transmission.
- Effectively reduced the packet loss rate and noise interference.

ANTI-INTERFERENCE CONTROL ABILITY

- 802.11ax support BSS color bit and dynamic CCA-SD (Clear Channel Assessment Signal Detection) threshold and power adjustment.
- Effectively alleviates the channel interference in multi-users scenarios.
- Improve the utilization of spectrum resources.

MECHANICAL SPECIFICATIONS



GROSS WEIGHT

1380 to 2240 gm

ORDERING INFORMATION

Cloud Management	Hardware Warranty	Tech Support	Adapter
12 Mo 36 Mo 60 Mo	12 Mo 36 Mo 60 Mo	8*5 Remote 24*7 Remote	IN-1000-POE
		15 Onsite Visits 45 Onsite Visits	

AUTOMATIC TUNING

Enhance Overall Wireless Network Performance

Automatically analyzes 2.4 GHz and 5 GHz band load and terminal signal strength to intelligently allocate frequency bands for optimal wireless connections. Guides dual-band devices to connect with the most suitable frequency band, ensuring a high-quality and stable Internet experience. Prioritizes connections to the 5 GHz band for faster speeds and improved overall wireless network performance.

Supports automatic RF tuning by intelligently analyzing the relationship between access points in the network. Automatically adjusts wireless transmission power and channel settings based on real-time interference and network load. Ensures the wireless network operates at peak speed and performance, even in dynamic environments.

INDUSTRY WE SERVE

Our solution delivers seamless connectivity across all the outdoor gathering.

Education



Reliable Wi-Fi coverage for school campuses and playgrounds.

Sports Arena



Stable network performance for stadiums and outdoor sports fields.

Tourism



Seamless connectivity across resorts, scenic parks, and public attractions.

Public Place



Secure, wide-area coverage for city parks and community zones.

PRODUCT SPECIFICATIONS

Detailed technical parameters defining the flash, protocol, and data rate performance of the lotus alpha OD.

TECHNICAL SPECIFICATIONS

Component	Specification
Standard	802.11ax/ac/b/g/n
Flash	SPI NOR 16MB
Memory	DDR3 256MB
2.4G Frequency	2.4GHz - 2.484GHz
2.4G Wi-Fi standard	802.11b/g/n/ac/ax
5.8G Frequency	5150~5850MHz
5.8G Wi-Fi Standard	802.11 a/n/ac/ax
Interface	1 * 10/100 /1000 RJ45 WAN Port 1 * 10/100 /1000 RJ45 LAN Port 1 * Reset button, press 10 seconds to revert to default setting
Data Rate	1800Mbps
End Users	120+
RF Power	≤18dBm
PoE	48V (IEEE 802.3af/at)
LED light	Sys and WiFi, WAN, LAN
Power Consumption	≤ 15W
Size	303mmX180mmX87mm

SOFTWARE SPECIFICATIONS

Component	Specification
Firmware	PMWANI
Working Mode	Gateway, AP
Wireless Functions	Multiple SSID functions: 2.4GHz: 4; 5.8GHz: 4. Support SSID hidden Support seamless roaming, 802.11kvr standard. Support 5G Prior for a faster Ethernet. Wireless Security: Open, WPA, WPA2PSK_TKIPAES, WAP2_EAP, WAP3 Support MAC filter Support Wi-Fi time on/off to save energy Support client isolation to improve the wireless stability Support RF power adjustable, adjust the RF power based on environment. Support user quantity limited, Max 64 users to access each band
Networking Function	VLAN settings Cloud access support in gateway mode
Protocols	IPv4

Device Management	Back-up the configuration Restore the configuration Reset to factory default Reboot the device: including time reboot or reboot immediately Admin management password modify Firmware upgrade System log Support firmware GUI web management, AC controller management, remote management and cloud management
Networking Function	VLAN settings Cloud access support in gateway mode
Protocols	IPv4