

Model:

AX820: Immunity Lotus Alpha



Advanced modulation & Stable connectivity

Ensures faster data transmission, reduced interference and consistently reliable performance across all connected devices.



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



Supports 1024-QAM, MU-MIMO (uplink + downlink), OFDMA, and TWT (Target Wake Time) for efficient, multi-user performance.



360° omnidirectional signal, BSS color, dynamic CCA/SD threshold adaptation, and long OFDM symbol support.



Works via PoE or external adapter for flexible deployment.



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



Full IP rating (IP61), ceiling-mountable design, and enterprise-level software feature set.



The throughput of single spatial traffic is increased by 25%

Gigabit ports for faster internet experience



PRODUCT OVERVIEW

The Immunity Networks Lotus Alpha is a next-generation Wi-Fi 6 (802.11ax) indoor access point, designed for high-density environments, offering high throughput and robust reliability. With a combined wireless speed of 1800 Mbps across dual radios (2.4 GHz + 5 GHz), it supports MU-MIMO, OFDMA, advanced modulation, and seamless roaming. It is ideal for campus settings, offices, warehouses, or any environment requiring strong, stable indoor wireless coverage.

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.

AX820

MECHANICAL SPECIFICATIONS



GROSS WEIGHT

530 to 810 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 15 Onsite Visits 45 Onsite Visits	IN-1000-POE

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 indoor gathering.

Education



Reliable Wi-Fi for classrooms, libraries, and hostels.

Enterprise



Stable, high-speed connectivity for employees and visitors.

Retail



Smooth connectivity for stores, malls, and point-of-sale systems.

Public Institutions



Network access for government offices and community centers.

PRODUCT SPECIFICATIONS

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

TECHNICAL SPECIFICATIONS

Component	Specification
Flash	SPI NOR 16MB
Memory	DDR3 256M
2.4G Frequency	2.4GHz ~ 2.484GHz
5G Frequency	5.150GHz~5.850GHz
2.4G Protocol	802.11 b/g n/ax
2.4G Antenna	2*4.6dBi
5G Antenna	2*4dBi
5G Protocol	802.11 a / n / ac /ax
Data Rate	2.4G 574Mbps MIMO 2*2, 5G 2402Mbps MIMO 2*2
2.4G EVM	802.11b:≤-10 dB; 802.11g:≤-25 dB; 802.11n:≤-28dB ; 802.11ax: ≤-35 dB
5G EVM	802.11a:≤-25 dB; 802.11n:≤-28 dB; 802.11ac:≤-32 dB ; 802.11ax:≤-35 dB
ppm	±20ppm
WAN	1*10/100/1000M RJ45, support 48V PoE
LAN	1*10/100/1000M RJ45
Reset	Reset to factory settings by pressing 6-10 seconds
Indicators	WAN, LAN, tricolor LED(sys-red, 2.4G-green, 5.8G-blue)
Power	DC2.0 12V 2A, PoE 802.3at
Max Power Consumption	< 15W
Dimension	186mm × 186mm ×36mm
Weight	0.4kg
Temperature	Working: -20°C to 55°C; Storage: -40°C to 70°C; Humidity: 5%~95%(Non-Condensing)
ESD	Air:±8K, Touch:±4K
Electrical Surge	Common Mode: 2K, Differential Mode: 1K

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SOFTWARE SPECIFICATIONS

Component	Specification
Firmware	PMWANI