

# Rizonn UniMax UM-525AX (P)

Dual-band 2x2 MIMO 802.11ax/ac  
Wave 2 Cloud Managed Access Point

## Datasheet



### Features

#### High Smart Data Rate, up to 3000Mbps

UM-525AX supports total aggregated link speed of 3000Mbps. It offers 600Mbps in 802.11n 40MHz channel in 2.4GHz band and 2400Mbps in 802.11ac 80MHz channel in 5GHz band. High link speed translates into very high throughput which results into great internet browsing experience for users.

#### Multi-user Multiple Input and Multiple Output (MU-MIMO)

UM-525AX AP supports open security from day one and MU-MIMO, allowing efficient utilization of available RF spectrum for data download. It also helps in providing a very high number of concurrent users connected with enough upload and download bandwidth.

#### Self-configuration, plug and play

All Indio series APs are self-configurable and pure plug-and-play device. As soon as Indio AP is powered on and connected to the network, it downloads configuration from cloud or controller appliance and becomes operational within minutes.

#### Enterprise level security and Hotspot mode

All Indio series APs come with support for enterprise level wireless security along with support for hotspot mode or guest access. Different level of security and VLAN isolation helps in delivering secured and seamless connectivity services.

The UM-525AX (P) is a two-radio, cloud managed 2x2 MIMO 802.11ax/ac Wave 2 access point. Designed for general purpose, next generation deployments in outdoor locations, the access point offers performance, enterprise-grade security, and intuitive management.

Indio UM-525AX delivers a maximum 3Gbps\* aggregate frame rate with concurrent 2.4GHz and 5GHz radios. It delivers the high throughput, reliability, and flexibility required by the most demanding business applications like voice and high-definition streaming video, even in the harshest outdoor environment.

### Key Points:

#### Hardware & Design

- Suitable for **pole**, with flexible tilt-angle options
- **Robust, ventless industrial design** for durability and long-life operation
- Integrated **8 dBi omnidirectional antennas**
- Weatherproof and temperature-hardened outdoor variant
- Supports **100 MPH sustained winds** and **140 MPH wind gusts**
- Includes **surge protection** on Ethernet ports for high-voltage environments
- Manufactured in **India**
- **Dual Concurrent**

#### Wireless Standards & RF Capabilities

- Fully compliant with IEEE **802.11a/b/g/n/ac/ax (Wi-Fi 6)**
- Supports **OFDMA, 2x2 MIMO (2.4 GHz), 4x4 MIMO (5 GHz)**, and multiple spatial streams
- Wireless backhaul operating on **5 GHz**, with encrypted and authenticated mesh links
- Supports **up to 16 BSSIDs per radio**
- Concurrent **2.4 GHz and 5 GHz** operation
- **Aggregate throughput up to 3 Gbps**
- Supports **BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM**

- Advanced PHY enhancements:
  - **Maximum Ratio Combining (MRC)**
  - **Cyclic Delay/Shift Diversity (CDD/CSD)**
  - **Space-Time Block Coding (STBC)**
  - **Transmit Beamforming (TxBF)**
  - **Low-Density Parity Check (LDPC)**
- Integrated technology to mitigate **sticky client** behavior for seamless roaming
- Supports **configurable carrier sense thresholds**
- **Load balancing** between 2.4 GHz and 5 GHz bands
- **Improved downlink performance** for mobile devices
- Full **Radio Resource Management (RRM)** for channel, power, and coverage optimization
- Can perform **client connectivity + security monitoring + spectrum analysis + threat scanning concurrently** on the same radio

### Mobility & Roaming

- Supports **Proactive Key Caching (PKC)** and other **fast secure roaming** methods
- Advanced **sticky client mitigation** for smooth transitions between APs
- Supports QoS and **Call Admission Control (CAC)** for voice/video applications
- **Downlink performance optimization** for mobile and roaming devices

### Security & Intrusion Prevention

- Supports **Management Frame Protection (802.11w)**
- Supports **locally significant certificates**, PKI, or preinstalled certs for AP authentication
- Integrated **Wireless IPS** to detect and filter malicious activity
- AP can function as **client-serving AP** and **WIPS monitor** simultaneously
- Supports **hardware or software-based encryption**
- Capable of operating as a **Remote AP (RAP)** or **IPsec VPN AP**, establishing secure SSL/IPsec tunnels to the controller
- Can perform **spectrum analysis and threat scanning** without impacting client connectivity

### Network Intelligence & QoS

- Deep Packet Inspection (DPI) for prioritizing and controlling bandwidth usage across applications
- Supports **QoS prioritization for voice, video, and data**
- Traffic optimization for unified collaboration apps (voice, video conferencing, desktop sharing)
- Supports **IEEE 802.1p, WMM**, and advanced QoS policy enforcement

### Mesh & High-Availability

- Supports **self-configuring, self-healing mesh**
- Mesh capabilities for temporary or cable-less deployments
- Supports **automatic detection of controller disconnection**
- Supports **automatic failover** to secondary controller
- Automatic detection of **tunnel failures** with configurable retry/timeout
- Supports encrypted & authenticated **backhaul mesh links**

### Management & Monitoring

- Remote management via **HTTP, HTTPS, SSH, Telnet, SSL**
- Supports **IPv4/IPv6 dual stack**
- Extensive system information: AP status, station status, radio stats, event logs

- Supports **standalone mode** with an **inbuilt virtual controller**
- Supports **DHCP Option 82** (Circuit-ID and Remote-ID)
- AP monitoring per radio:
  - **Bytes Sent/Received**
  - **Packets Sent/Received**
- Supports **split tunneling** for IPv4 and IPv6 to segregate management/data traffic
- Supports **policy-based split tunneling** for specific destination IPs/subnets using local NAT
- Supports **data-plane split tunneling** to bypass controller for selected destinations

### Power Options

- Supports **PoE / PoE+ / UPoE**
- Supports **Power Injector, AC, and DC adapters**
- Intelligent Power Monitoring (**IPM**) to track consumption and auto-adjust features based on PoE availability

### IoT & Future Readiness

- **IoT-ready** with built-in **Bluetooth 5** and **802.15.4 (Zigbee)** radios
- Supports **external BLE beacons**
- Enables IoT-based **location services**, sensors, and automation use cases
- Admission control by client MAC address
- Dual flash image support
- Wifi should have 100% coverage in station premises and various offices and should work on 2.5 Ghz/ 5Ghz with minimum data rate capacity of 1 gbps.
- A single access point can support up to unlimited users. The router which can be used will cover the range of 400 meter circular.
- Wide geographical coverage, common standard platform , highly reliable and available by design

# UniMax UM-525AX (P)

Dual-band 2x2 MIMO Wave 2 Access Point

AP Characteristics	
AP throughput and Max Users	3000Mbps; 512 users; Unlimited user
Radios (built-in)	2.4GHz: 802.11b/g/n/ax; 5GHz: 802.11a/n/ac/ax
Radio Operations modes	WiFi Access Point, Mesh
AP Managed	Cloud Controller Appliance managed & Stand-alone mode
Antenna	Inbuilt 8dbi & 6dbi Omnidirectional Antennas
Interface	a/b/g/n/ac WiFi certified
PoE Standard	802.3af/at
PoE	48V PoE+
Uplink Interface	SmartRate port RJ 45; 1X10/100/1000BASE-T Ethernet; 1xUSB 2.0 Port; Auto sensing link speed (100/1000/2500BASE-T)
Power Consumption Power	20W max 12V/1ADC
Power Source	Power-over-Ethernet: 802.3af/at or Proprietary 48V   IEEE 802.11e Compliant Source   Active Ethernet (PoE)
2.4GHz Output Power	30 dBm
5.8GHz Output Power	30 dBm
Chipset	Qualcomm® 1Ghz Quad-Core CPU with dedicated NSS
Memory	512MB
Flash	32MB
Reset Button	1
Ordering Information	
Part No	Indio UM-525AX (P)
MDO	Yes
DC	12V – 2A DC

## Regulatory Domains & Supported Channels

Americas (US)	2.4GHz: Channels 1 - 11 5GHz: Channels 36-64, 100-144, 149-165
European Union	2.4GHz: Channels 1 - 13 5GHz: Channels 36-64, 100-144, 149-165
Taiwan	2.4GHz: Channels 1 – 11 5GHz: Channels 56-64, 100-144, 149-165
Japan	2.4GHz: Channels 1 - 14 5GHz: Channels 36-64, 100-144, 149-165
Israel	2.4GHz: Channels 1 – 13 5GHz: Channels 36-64
Rest of the world	2.4GHz: Channels 1 – 13 5GHz: Channels 36-64, 100-144, 149-165

## Wireless

WiFi Standards	IEEE 802.11 a/b/g/n/ac/ax; TWT; OFDMA
Supported Rates	2.4GHz: Max 600Mbps 5GHz: Max 2400Mbps
MIMO	2x2
Spatial Streams	2
WiFi Hotspot	WiFi Hotspot 2.0
Security	WPA/WPA2-PSK/AES/ WPA3
Frequency Radio	2.4GHz: 2400 MHz ~ 2482 MHz 5GHz: 5150 MHz ~ 5250 MHz, 5250 MHz ~ 5350 MHz, 5470 MHz ~ 5725 MHz, 5725MHz ~ 5850MHz
Other Features	WMM, Power Save, 802.11r/k/v Hotspot Service Captive Portal WISPr

Certifications	
EN 60950-1	Safety
UL 2043 Certified	Yes
Wi-Fi Certified™ 6	Yes (802.11ax)
Wi-Fi Alliance Certified	Yes (802.11a/b/g/n)
Wi-Fi Certified™ AC	Yes (with Wave 2 features)
ETA	Yes
OpenWiFi	Yes
WFA REGULATORY/STANDARDS COMPLIANCE	Yes FCC, IC, CE, AU, MIC, NCC, SRRC, TELEC, JATE
MTCTE	Yes
Passpoint	Compliant (Release 2)
Networking	
Management Platform	UniBox (on-premise) Indio Cloud Standalone
IP	IPv4 / IPv6
VLAN	802.1Q (static and dynamic using Radius) Port based
802.1x	Authentication and Supplicant
Tunnels	VPN GRE
Policy	ACL Rate Limiting Device Fingerprinting
Performance Capacity	
Peak Data Rates	2.4GHz- 600Mbps 5GHz- 2400Mbps
Client Capacity	512 Concurrent devices
SSID	16 Per Radio

Controller Software	
Installation	Cloud or On-premise managed
Network Management	WLAN Controller Appliance, WLAN Cloud Controller Firmware Management
Authentication	RADIUS authentication, 802.1x, PSK, SAE
Rate Limiting	Per Client, Per SSID, Dynamic Rate Limiting MAC Authentication MAC Filtering Firewall
Guest Portals	Indio Cloud portals Click-through, Data Capture, SMS/OTP, Payment Gateway, Social-Media, Voucher
Troubleshooting	syslog, ping, traceroute, speed-test
SNMP	No
Time Sync	NTP
Data Offload	Yes
Client Presence / Location API	No

Accessories	
UM-PoE-30W	30W PoE Injector (On-demand)
UM-DC-12V	12V, 24A DC Power Supply (OnDemand)

Environmental & Physical Data	
Operating Temperature	Temperature: -40° C to +70° C -20°C~65°C
Storage and Transportation	Yes
Water & Dust	IP67
Salt Tolerance	Tested to ASTM B117-07A salt spray 200hrs
Wind Survival	Up to 165 Mph
Shock and Vibration	ETSI 300-19-2-4
Humidity	5~95% (Non Condensing)
Mounting	Ceiling/Wall mount
IP67 Certificate	Yes

**2.4GHz Table**

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	27 dBm	-100 dBm
		2 Mb/s	27 dBm	-93 dBm
		5.5 Mb/s	27 dBm	-91 dBm
		11 Mb/s	27 dBm	-89 dBm
		6 Mb/s	27 dBm	-91 dBm
		9 Mb/s	27 dBm	-90 dBm
		2.4 GHz	802.11g	12 Mb/s
18 Mb/s	26 dBm			-87 dBm
24 Mb/s	26 dBm			-84 dBm
36 Mb/s	26 dBm			-81 dBm
48 Mb/s	25 dBm			-76 dBm
54 Mb/s	25 dBm			-75 dBm
MCS0/8	27/27 dBm			-91/91 dBm
MCS1/9	27/27 dBm			-88/88 dBm
2.4 GHz	802.11n (HT20)	MCS2/10	26/26 dBm	-85/85 dBm
		MCS3/11	26/26 dBm	-82/82 dBm
		MCS4/12	25/25 dBm	-79/79 dBm
		MCS5/13	25/25 dBm	-75/75 dBm
		MCS6/14	25/25 dBm	-73/73 dBm
		MCS7/15	24/24 dBm	-70/70 dBm
		MCS0/8	27/27 dBm	-89/89 dBm
		MCS1/9	27/27 dBm	-86/86 dBm
2.4 GHz	802.11n (HT40)	MCS2/10	26/26 dBm	-83/83 dBm
		MCS3/11	26/26 dBm	-80/80 dBm
		MCS4/12	25/25 dBm	-77/77 dBm
		MCS5/13	25/25 dBm	-73/73 dBm
		MCS6/14	25/25 dBm	-72/72 dBm
		MCS7/15	24/24 dBm	-70/70 dBm

**5GHz Table**

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s	26 dBm	-90dBm
		9 Mb/s	26 dBm	-87dBm
		12 Mb/s	26 dBm	-86dBm
		18 Mb/s	26 dBm	-85dBm
		24 Mb/s	25 dBm	-84dBm
		36 Mb/s	25 dBm	-79dBm
		48 Mb/s	25 dBm	-74dBm
		54 Mb/s	26 dBm	-71dBm
5 GHz	802.11n (HT20)	MCS0/8	26/26 dBm	-88/-88dBm
		MCS1/9	26/26 dBm	-85/-85dBm
		MCS2/10	25/25 dBm	-83/-83dBm
		MCS3/11	25/25 dBm	-79/-79dBm
		MCS4/12	24/24 dBm	-76/-76dBm
		MCS5/13	24/24 dBm	-72/-72dBm
		MCS6/14	23/23 dBm	-71/-71dBm
		MCS7/15	23/23 dBm	-69/-69dBm
5 GHz	802.11n(VHT20)	MCS0/0	26/26 dBm	-88/-88dBm
		MCS1/1	26/26 dBm	-86/-86 dBm
		MCSZ/2	25/25 dBm	-83/-83dBm
		MCS3/3	25/25 dBm	-79/-79dBm
		MCS4/4	24/24 dBm	-77/-77dBm
		MCS5/5	24/24 dBm	-75/-75dBm
		MCS6/6	23/23 dBm	-72/-72dBm
		MCS7/7	23/23 dBm	-70/-70dBm
MCSB/8	22/22 dBm	-67/-67dBm		

**5GHz Table**

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11n (HT40)	MCS0/8	26/26dBm	-85/-85dBm
		MCS1/9	26/26dBm	-84/-84dBm
		MCS2/10	25/25dBm	-84/-84dBm
		MCS3/11	25/25dBm	-79/-79dBm
		MESA/12	24/24dBm	-77/-77dBm
		MCS5/13	24/24dBm	-72/-72dBm
		MCS6/14	23/23dBm	-70/-70dBm
		MCS7/15	23/23dBm	-68/-68dBm
5 GHz	802.11n (VHT40)	MCS0/0	26/26dBm	-85/-85dBm
		MCS1/1	26/26dBm	-82/-82dBm
		MCS2/2	25/25dBm	-79/-79Bm
		MCS3/3	25/25dBm	-77/-77dBm
		MCSAB	24/24dBm	-74/-74dBm
		MCS5/5	24/24dBm	-70/-70dBm
		MCS6/6	23/23dBm	-68/-68dBm
		MCS7/7	23/23dBm	-67/-67dBm
		MCS8/8	22/22dBm	-64/-64dBm
		MCS9/9	22/22dBm	-63/-63dBm
5GHz	802.11ac (VHT80)	MCS0/0	26/26dBm	-83/-83dBm
		MCS1/1	26/26dBm	-81/-81dBm
		MCS2/2	25/25dBm	-79/-79dBm
		MCS3/3	25/25dBm	-76/-76dBm
		MCS4/4	24/24dBm	-73/-73dBm
		MCS5/5	24/24dBm	-70/-70dBm
		MCS6/6	23/23dBm	-67/-67 dBm
		MCS7/7	23/23dBm	-66/-66dBm
		MCSB/8	22/22dBm	-62/-62dbm
		MCS9/9	22/22dBm	-60/-60dBm



Mounting  
Holes



3.46"  
(88mm)



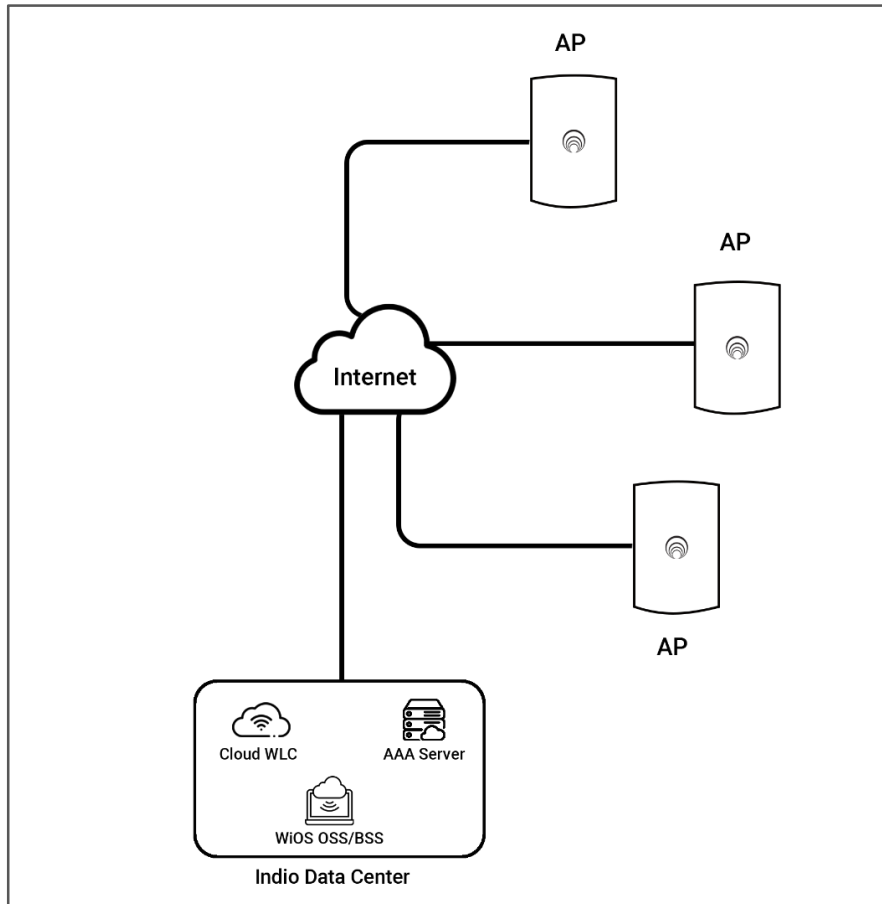


Figure 1. Indio Access Point with Indio Cloud Manager.

With over two decades of experience, we have worked closely in the wireless space essentially serving over 25+ million users till date. At Indio, we have seen disruptions in the tech sphere and worked alongside them. We solve problems where we see them, we evolve, innovate and adapt. That's why, we constantly craft newer products and solutions to make your life easier. 'Simplifying connectivity' is a principle we hold dear, and we plan on bringing it to everyone, everywhere. With a strong presence in over three important geographies, being Asia, the Middle East and America, we are always available for quick and responsive customer support.

For more information visit- [www.indionetworks.com](http://www.indionetworks.com)

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