Wi-Fi 6
Dual Band 2x2:2
Outdoor Access Point
ion4x_w | ion4x_w2

ion4x_w / ion4x_w2 is a cloud-managed 2×2:2 MU-MIMO Wi-Fi 6 certified Access Point, raising the bar for wireless performance and efficiency.

Engineered with high-performance hardware and advanced software features, ion4x_w is ideal for outdoor demanding use cases and bandwidth-hungry applications like high-definition videos, AR/VR, etc.

Overview

- Dual-band radio offering peak data rate of up to 3 Gbps
- Supporting 256 concurrent clients
- Up to 25 dBm transmit power
- Bi-Directional, Multi User-Multiple Input Multiple Output (MU-MIMO)
- 2X2:2 MU-MIMO
- Wi-Fi Alliance certified for Passpoint Release 3, Agile Multiband, EasyMesh & WPA3
- IP67 certified to withstand extreme weather variations
- TIP OpenWiFi compliant Access Point
- 9 dBi integrated omnidirectional antennas optimized for maximum coverage and range
- Two variants: with or without the LTE Band reject filter

Use Cases

- Outdoor Stadiums & Industrial Belts
- Public Venues
- High Foot Traffic Areas
- Transportation (Airport/ Railways)
- Outdoor Resorts
- Transit Stations
- High-Client Density Areas
- High-Density Outdoor Hotspot Environments

Unmatched Performance

Dual-band radio offering peak data rate of up to 3 Gbps

The concurrent dual-band radio inside ion4x_w offers a combined peak data rate of 3 Gbps with up to 2402 Mbps in the 5 GHz band and 574 Mbps in the 2.4 GHz band. Technologies like transmit beamforming and enhanced receiver sensitivity allow the ion4x_w to support a higher client density resulting in better performance for more clients connected to each Access Point.

Bi-Directional, Multi User Multiple Input Multiple Output (MU-MIMO)

The Access Point offers MU-MIMO and OFDMA for transmission, which is more efficient for multiple clients. It is ideal for environments having varied devices, each supporting latest or legacy Wi-Fi standards.

MU-MIMO enables multiple clients to transmit and receive data simultaneously, increasing the network performance required for an immersive user experience.

EasyMesh Networking

Access Points can automatically form a wireless mesh, without expensive cabling and provide connectivity in every possible corner.

In case of a mesh node failure, self-healing, and self-optimization functionality, it re-connects and resumes service with the surrounding nodes automatically, without facing downtime.

EasyMesh enables ion4x_w to be interoperable with third-party Access Points and/or Routers and can quickly be deployed as standalone or converged with the existing network.

This eliminates the need for vendor lock-in, reducing the network's total cost of ownership.

Traffic Shaping & Application Aware

The ion4x_w includes an integrated layer 7-packet inspection, classification, and control engine, enabling the configuration of QoS policies based on traffic type, helping to prioritize mission-critical applications while setting limits on recreational traffic like peer-to-peer, gaming, and video streaming.

Policies can be implemented per network, SSID, user group, or individual user for maximum flexibility and control.

Higher Security & Guest Access

The ion4x_w comes with WPA3 - the latest Wi-Fi security standards, offering more security from hacker attacks. It builds a security shield so hackers cannot crack off-site, brute-force, dictionary-based cracking attempts. Integrated, easy-to-use security provides secure connectivity for employees and guests alike. Advanced security features such as AES hardware-based encryption and Enterprise authentication with 802.1X and Active Directory integration provide wired-like security while still being easy to configure. One-click guest isolation provides secure, Internet-only access for visitors.

Improved Battery Life

Unscheduled automatic power save delivery (U-APSD) and Target Wake Time (TWT) features enable devices such as smartphones and laptops to determine when and how frequently they will communicate with the Access Point.

The benefits of these features are multifold—an increased sleep time for the device, less battery, and bandwidth consumption, and optimized spectral efficiency for IoT devices by reducing overlaps and conflicts.

Centralized Control

Supports centralized management of the entire network on our highly intuitive, flexible, and scalable cloud network manager.

With network distribution flexibility, it allocates varying bandwidths, manages, tracks, troubleshoots, configures, communicates, and enforces policies on all Access Points in the network.

The controller has in-built analytics and reporting capabilities to gain insight into usage patterns.

Technical Specifications

Wireless

Wi-Fi Standards	802.11a/b/g/n/ac/ac Wave 2/ax
Radio Mode	2×2 MU-MIMO with 2 spatial streams
Radio Frequency Band	Supports frequency bands with DFS optimization (country-specific restrictions apply): • 2.4000 GHz to 2.4835 GHz • 5.150 GHz to 5.250 GHz • 5.250 GHz to 5.350 GHz • 5.470 GHz to 5.725 GHz • 5.725 GHz to 5.875 GHz
Peak Data Rate	Up to 3 Gbps (2402 Mbps for 5 GHz and 574 Mbps for 2.4 GHz)
Max Transmit Power	25 dBm for 2.4 GHz , 25 dBm for 5 GHz (will depend on country-specific guidelines)
Receiver Sensitivity	-95 dBm (for MCS 0)
Channel Size	20/40/80/160 MHz
Modulation Schemes	Supports up to 1024 QAM
User Support	256 clients per Access Point (128 clients per radio)
Processor	Qualcomm IPQ5010 MAPLE SOC
Power	IEEE 802.3at PoE+
Max Power Consumption	< 20 W
Interface	1 × 100/1000/2500 Base-T Ethernet
Antenna	Integrated Omnidirectional antennas with 9 dBi gain on both 2.4 and 5 GHz

Security

- 802.1x / EAP, Hidden, WPA-PSK, WPA2-PSK, WPA2-EAP, WPA2-PSK-Mixed, WPA3-Personal and WPA3-Enterprise,WPA3-Personal-Mixed, WPA3-Enterprise-Transition, OWE-Transition
- VPN pass-through
- IP Security (IPSec), PPTP, IP-Filtering
- Layer 2 Tunneling Protocol (L2TP/LWAP/CAPWAP/GRE)
- Flexible guest access with device isolation
- Captive portal and guest accounts
- Rogue access point detection and prevention (WIDS & WIPS)
- Hidden SSID in beacons
- MAC address authentication
- X.509 digital certificates
- Support for locally-significant certificates using Public Key Infrastructure (PKI)

Environmental

Outdoor Ingress Protection Rating	IP67
Operating Humidity	5 to 95% (non-condensing)
Operating Temperature	0°C to 55° C
Wind Sustainability	180 km/hour (sustained winds)

Physical

Enclosure	Two-piece enclosure with ABS top and metal bottom cover
Dimensions	314 X 201 X 66 mm or 12.36 X 7.91 X 2.59 inches
Weight	1.02 kg
Mounting	Pole and wall mounting Turning Angle: 140° H & 60° V Weight: 185 grams
Visual Indicators	Power LED

Certifications

Certifications	RoHS 3.0 FCC Class B, CE, IC Wi-Fi Certified Passpoint 3.0 Wi-Fi Certified 6 Wi-Fi Certified EasyMesh Wi-Fi Certified WPA3 Wi-Fi Certified Agile Multiband

Safety & Other Compliances

- Safety Protection as per IEC 62368 / 60950 and IEC 60215
- Electrostatic Discharge Immunity as per IEC 61000-4-2, Contact L2 and Air Discharge, L3 Level
- DC Surge Immunity as per IEC 61000-4-5, Level 2 (power port + signal port)
- Electrical Fast Transient/Burst Immunity as per IEC 61000-4-4, Level 2
- Radiated susceptibility as per IEC 61000-4-3 Level 2
- Conducted Susceptibility as per IEC 61000-4-6, Level 2
- Bump and vibration as per QM333
- Radiated Emission as per CISPR 32 Class A
- Conducted Emission as per CISPR 32 Class A (power port + signal port)
- **Voltage variation and Dips:** AC - as per IEC 61000-4-11 and DC - as per IEC 61000-4-29DC - as per IEC 61000-4-29

High Level features

- WAN Protocols: Static IPv4/v6, DHCP client v4/v6
- Band Steering
- Load Balancing
- WDS and MESH Support
- EasyMesh support
- Auto Channel Selection
- Intelligent RF control plane for self-healing and self-optimization
- Ability to simultaneously serve clients and monitor RF environment
- Radio Resource Management for power and channel
- **Management:** Standalone (via GUI) or cloud-based
- 8 SSIDs per radio; 16 per AP
- QOS 802.11e WMM
- 802.11r- fast roaming and fast handover Bandwidth Shaping per SSID
- Maximal ratio combining (MRC) and beamforming support
- 802.11w- Protected Management Frames (PMF) support
- Non-Wi-Fi interference detection and avoidance
- Layer 4 to Layer 7 application identification and policy enforcement (DPI)
- Support for ATPC and coverage hole detection and correction
- Advance Power Save (U-APSD)

Ordering Information

Model Number	Product Description
ion4x_w	IO Wi-Fi 6 Dual Band 2×2:2 Outdoor Access Point with Integrated Antenna (9 dBi) [with non-LTE band reject filter]
ion4x_w2	IO Wi-Fi 6 Dual Band 2×2:2 Outdoor Access Point with Integrated Antenna (9 dBi) [with LTE band reject filter]

by HFCL

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