

## Wi-Fi 6 Dual Band 2x2:2 Outdoor Access Point ion4x / ion4x\_2 / ion4x\_3



ion4x / ion4x\_2 / ion4x\_3 is a cloud managed 2x2:2 MU-MIMO Wi-Fi 6 certified Access Point that raises the bar for wireless performance and efficiency. With the combination of cloud management, high performance hardware and advanced software features, it is ideal for most demanding use cases and high performance intensive applications like high definition videos, AR/VR, etc.

### Overview

- Dual band radio offering peak data rate of up to 1.78 Gbps aggregate throughput
- Supporting 1024 concurrent client
- Up to 30 dBm transmit power
- Bi-Directional, Multi User Multiple Input Multiple Output (MU-MIMO)
- 2X2:2 MU-MIMO
- EasyMesh Certified
- IP67 certified to withstand extreme weather variations
- Cloud Managed Access Point
- Traffic shaping & Application Aware
- Higher security & Guest Access
- Better Coverage with Integrated Directional Antennas.
  - 8 dBi gain for ion4x
  - 14 dBi gain for ion4x\_2
  - 13 dBi gain for ion4x\_3

### Applications

- Outdoor stadiums & Industrial Belts
- Public Venues
- High Foot Traffic Areas
- Transportation (Airport/ Railways)
- Outdoor Resorts
- Transit Stations
- Other arenas with the most demanding wireless requirements due to high client density, high density Outdoor hotspot environments

# ion4x / ion4x\_2 / ion4x\_3

## UNMATCHED PERFORMANCE



### Dual band radio offering peak data rate of up to 1.78 Gbps

The concurrent dual band radio inside ion4x offers a combined peak data rate of 1.78 Gbps with up to 1202 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 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 that is more efficient to multiple clients. This is especially suited for environments with numerous varied devices, with each supporting latest or legacy Wi-Fi standards. MU-MIMO enables multiple clients to transmit and receive data simultaneously. This increases the total network performance and improves the end user experience.



### EasyMesh Networking

Eliminating the need for expensive cabling, Access Points automatically form a wireless mesh, and provides connectivity in every possible corner. With self-healing and self-optimization functionality, in case of a mesh node failure, the surrounding nodes automatically re-connect and resume service without downtime. Support for EasyMesh means that it is 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 locking-in with a single vendor, driving down the total cost of ownership of the network.



### Better Coverage with Integrated Antenna

Transmit power of up to 30 dBm along with integrated antenna gain of 8 dBi (ion4x) and 14 dBi (ion4x\_2) helps transmit data to a larger coverage. This ensures more clients can be connected at far off places.



### Higher security & Guest Access

The ion4x/ion4x\_2 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) feature enables devices such as smartphones and laptops to determine when and how frequently they will communicate with the Access Point. Benefits of these features are multifold such as an increased sleep time for the device, less consumption of battery and bandwidth, optimized spectral efficiency for IoT devices by reduction in overlaps and conflicts.



### Centralized Control

Centralized management of the entire network on our highly intuitive, flexible, and scalable cloud network manager. It provide the flexibility to distribute the network, allocate varying bandwidths, manage, track, troubleshoot, configure, communicate, and enforce policies on all Access Points in the network. The controller has in-built analytics and reporting capabilities to gain insight into usage patterns.

# ion4x



# ion4x\_2



# ion4x\_3



## TECHNICAL SPECIFICATIONS

### Wireless

<b>Wi-Fi Standards</b>	802.11a/b/g/n/ac/ac Wave 2/ax
<b>Radio Mode</b>	2x2 MU-MIMO with 2 spatial streams
<b>Radio Frequency Band</b>	Supported frequency bands with DFS optimization (country-specific restrictions apply) : <ul style="list-style-type: none"> <li>• 2.4000 GHz to 2.4835 GHz</li> <li>• 5.150 GHz to 5.250 GHz</li> <li>• 5.250 GHz to 5.350 GHz</li> <li>• 5.470 GHz to 5.725 GHz</li> <li>• 5.725 GHz to 5.875 GHz</li> </ul>
<b>Peak Throughput</b>	Upto 1.78 Gbps (1202 Mbps for 5 GHz and 574 Mbps for 2.4 GHz)
<b>Receiver Sensitivity</b>	-97 dBm (for MCS 0)
<b>Max Transmit Power</b>	30 dBm for 2.4 GHz , 30 dBm for 5 GHz (will depend on country-specific guidelines)
<b>Channel Size</b>	20/40/80 MHz
<b>Modulation Schemes</b>	Supports upto 1024 QAM
<b>User Support</b>	1024 clients per Access Point (512 clients per radio)
<b>Power</b>	IEEE 802.3at PoE/PoE+
<b>Max Power Consumption</b>	approx. 17 W
<b>Interface</b>	1 X 100/1000/2500 Base-T Ethernet 1 X 10G Base X Optical Ethernet SFP
<b>Antenna</b>	Integrated directional antennas with <ul style="list-style-type: none"> <li>• 70° ± 5°H &amp; 70° ± 5°V beamwidth (ion4x)</li> <li>• 60° ± 2°H &amp; 15° ± 1°V beamwidth (ion4x_2)</li> <li>• 45° ± 2°H &amp; 27° ± 2°V beamwidth (ion4x_3)</li> </ul>
<b>Antenna Gain</b>	<ul style="list-style-type: none"> <li>• 8 dBi for 5 GHz, 8 dBi for 2.4 Ghz (ion4x)</li> <li>• 14 dBi for 5 GHz, 14 dBi for 2.4 Ghz (ion4x_2)</li> <li>• 13 dBi for 5 GHz, 13 dBi for 2.4 GHz (ion4x_3)</li> </ul>

### High Level Features

- WAN Protocols: Static IPv4/v6, DHCP client v4/v6
- Band Steering, Load Balancing, EasyMesh Support
- Auto Channel Selection
- Intelligent RF control plane for self-healing & selfoptimization
- Ability to simultaneously serve clients and monitor RF environment
- Radio Resource Management for power and channel
- Management: Standalone (via GUI) or through on-premise based solution or Cloud-based
- 16 SSIDs per Radio; 32 per AP
- QOS 802.11e WMM
- 802.11r- fast roaming and fast handover
- 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, coverage hole detection & correction
- Advance Power Save (U-APSD), VOIP Support
- Support for Multi-Link Operation (MLO)
- Support for Preamble Puncturing and Multiple Resource Unit

## Physical and Environmental

<b>Enclosure</b>	Two-piece enclosure with ABS top and bottom body and a metal heat sink
<b>Dimensions</b>	<ul style="list-style-type: none"><li>• 178 X 178X 73 mm or 7.01 x 7.01x 2.87 inches (ion4x)</li><li>• 374 X 218 X 73 mm or 14.8 X 8.6 X 2.87 inches (ion4x_2)</li><li>• 310 x 310 x 85 mm or 12.2 x 12.2 x 3.34 inches (ion4x_3)</li></ul>
<b>Weight</b>	1.20 kg (ion4x) 1.85 kg (ion4x_2) 2.3 kg (ion4x_3)
<b>Mounting</b>	Wall and Pole mounting, Weight: 185 grams
<b>Visual Indicators</b>	RF and Power LEDs
<b>Outdoor Ingress Protection Rating</b>	IP 67
<b>Humidity</b>	5 to 95% (non-condensing)
<b>Operating Temperature</b>	-15° C to 60° C
<b>Wind Sustainability</b>	150 km/hour (sustained winds)

## Certifications

<b>Certifications</b>	<ul style="list-style-type: none"><li>• FCC Class A, CE,</li><li>• Wi-Fi Certified Passpoint 2.0</li><li>• Wi-Fi Certified 6</li><li>• Wi-Fi Certified EasyMesh</li><li>• Wi-Fi Certified WPA3</li></ul>
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## Safety & Other Compliances

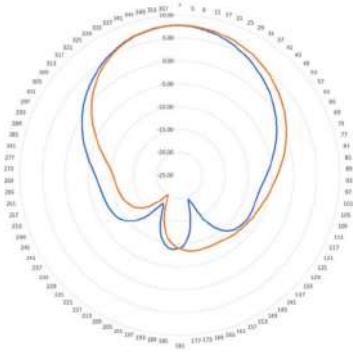
- Safety standard as per IEC/EN 62368/IEC60950 & IEC 60215
- Electrostatic Discharge Immunity as per IEC 61000-4-2, Contact L2 and Air Discharge, L3 Level
- DC Surge Immunity as per IEC 61000-4-5, Level 2 (power port + signal port)
- Electrical Fast Transient/Burst Immunity as per IEC 61000-4-4, Level 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 B
- Conducted Emission as per CISPR 22 Class B (power port + signal port)
- Voltage Variation: AC - as per IEC 61000-4-11 and DC - as per IEC 61000-4-29

## Security

- 802.11i, 802.1x / EAP, Hidden SSID
- EAP Type (EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, EAP-SIM)
- Protected Management Frames (PMF)
- WPA (Personal, Enterprise), WPA2 (Personal, Enterprise)
- WPA3 (Personal, SAE, OWE, Enterprise and SuiteB; including 192-bit security and R2 for Fast roaming)
- VPN pass-through
- IP Security (IPSec), PPTP, IP-Filtering
- Layer 2 Tunneling Protocol (L2TP/LWAP/AMQPS/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)

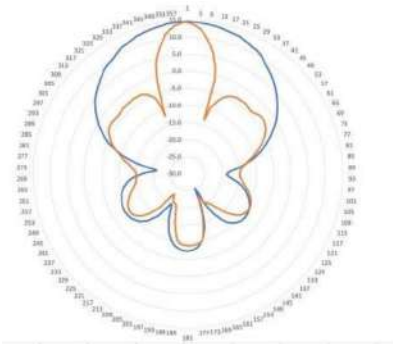
# Antenna Radiation Pattern

## ion4x

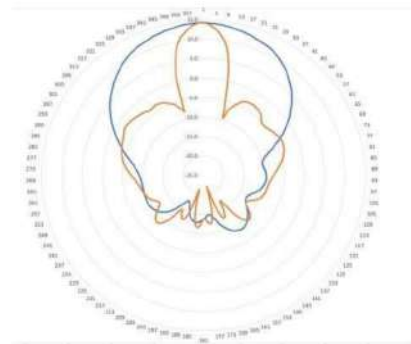


## ion4x\_2

2.45 GHz Antenna Radiation Pattern

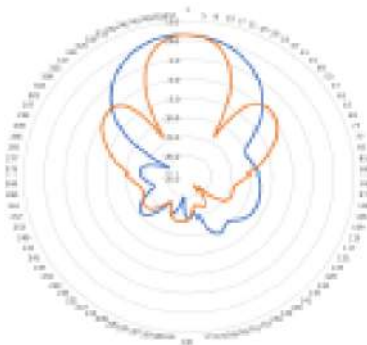


5.5 GHz Antenna Radiation Pattern

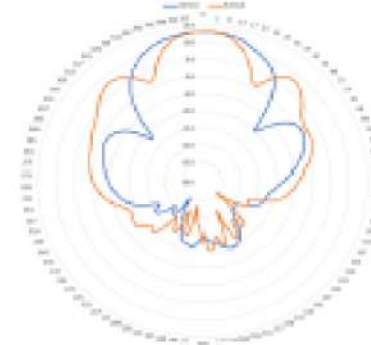


## ion4x\_3

2.45 GHz Antenna Radiation Pattern



5.5 GHz Antenna Radiation Pattern



## Ordering Information

Model No.	Description
ion4x	IO Wi-Fi 6 Dual Band 2x2:2 Outdoor Access Point with integrated Antenna (8 dBi)
ion4x_2	IO Wi-Fi 6 Dual Radio 4x4:4 Outdoor Access Point with Integrated Antenna (14 dBi)
ion4x_3	IO Wi-Fi 6 Dual Band 2x2:2 Outdoor Access Point with Integrated Antenna (13 dBi)



Email: [iosupport@hfcl.com](mailto:iosupport@hfcl.com)

Website: [hfcl.com](http://hfcl.com) | [io.hfcl.com](http://io.hfcl.com)

Office: 8, Commercial Complex, Masjid Moth, Greater Kailash II, New Delhi 110048