

# 1 Gbps Unlicensed Band Radio

## ion4x1s

5.1 to 5.9 GHz, 1 Gbps Small Form Factor  
Radio UBR



IO enterprise/carrier grade P2P series is designed to serve highly critical applications in a wide range of unlicensed 5 GHz spectrum.

### Ease of Installation



#### Plug-and-Play

The plug-and-play model ensures effortless deployment. Whether redeploying or setting up a new remote site, simply input the IP address, and the radio will automatically fetch the server and intended configuration. This helps in quick and seamless set-up with minimal manual intervention.



#### LED & Buzzer Support

According to the LED blink pattern and buzzer sound, the rigger can align its position based on signal strength. Wireless experts traveling to the field for site installations may not be necessary, saving field deployment costs.

### Adaptive RF Technology

Adaptive RF technology refers to the sophisticated approach that combines Artificial Intelligence (AI) Algorithms with Radio Frequency (RF) systems to optimize wireless communication performance in real time. By leveraging AI, the system can intelligently adapt and adjust various RF parameters to enhance signal quality, coverage, and overall network efficiency.

**Automatic Channel Selection (ACS):** When deploying a new network or adding new devices, it allows the radio to select the best channel automatically and intelligently for transmitting and receiving data.

**Dynamic Data Rate Selection (DDRS):** Switches to the subsequent possible modulation in case of site-specific interference.

**Automatic Transmit Power Control (ATPC):** Automatically adjusts Tx power based on the link distance.

**Dynamic Channel Selection (DCS):** Allows the radio to continuously monitor the wireless environment and automatically adjusts the operating channel based on real-time environmental conditions.



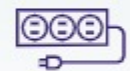
IP67 Certified



Supports wind load  
up to 180 kmph



Sustains in challenging  
weather conditions and  
extreme temperature  
(-40° C to 55° C)\*



Indoor/Outdoor PoE to  
support 4kV surge  
protection and enhanced  
6kV using external SPD  
(Surge Protection  
Device)

\*Applicable to extended temperature variant only. For the base model, the range is -5°C to 55°C.

## Advanced Technology Support



### Dying Gasp

Improves network reliability as it sends a final notification before the device loses its power or shuts down. It save significant time and effort of the operations team for troubleshooting by providing critical information about the device's status and reason for shutdown.



### GPS

A GPS-enabled system enables planning from a central location to check feasibility & new installation.



### Temperature Sensor

Continuously monitoring the radio temperature and setting threshold alarm levels, helps in proactive management to prevent potential damage, ensuring smooth operations.

## Security

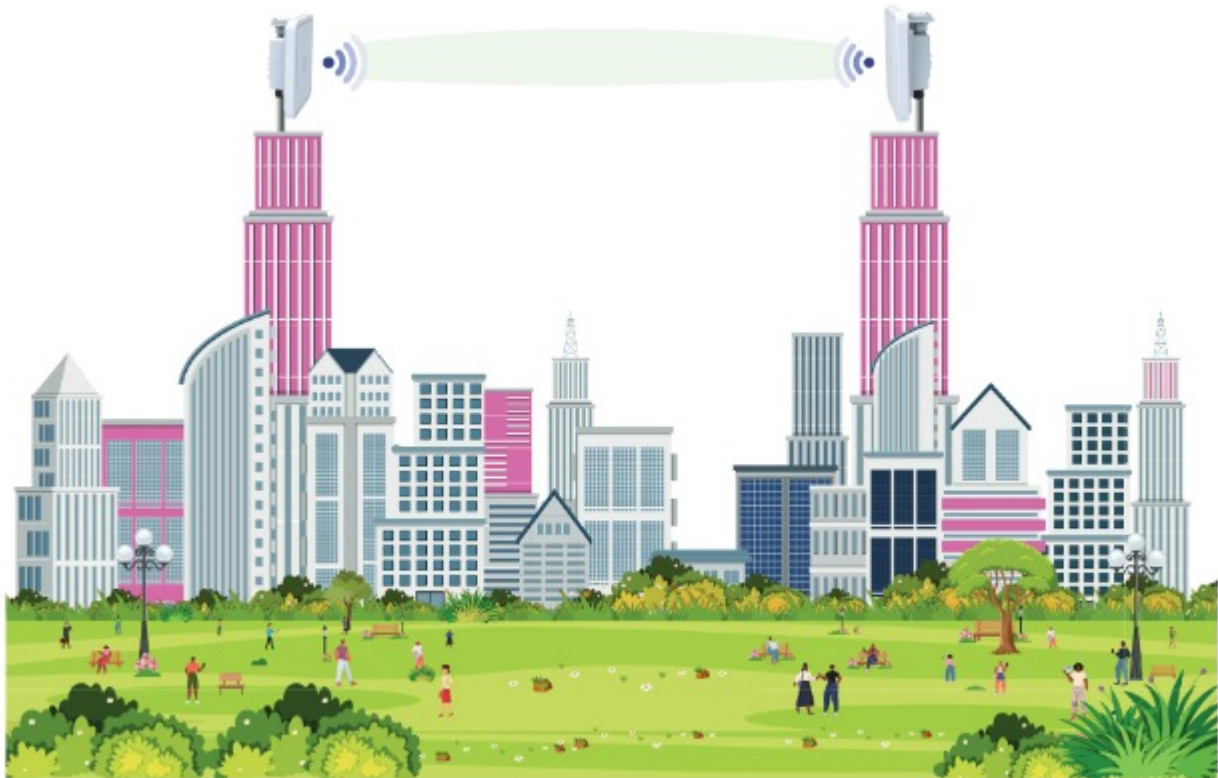
Our Radio supports AES-256 to provide a robust encryption format in wireless media. Evading unwanted threats in the wireless communication ecosystem.

Wireless MAC Access  
Level Control

SSID lock with WPA2/3  
Support

## P2P Link

Connects two locations together through line of sight (LOS).



## Rich Feature Set

Software designed to meet all types of customer requirements.

- Supports both IPv4 & IPv6 addressing
- Supports jumbo frame size up to 9000 MTU
- Supports 4 Level Priority quality of service (QoS) as per IEEE 802.1e WMM

• Voice • Video • Best Effort • Background

- Flexible VLAN features such as Q-in-Q, Access, Trunk, Transparent, and management VLAN
- Redundant Link Switching supports 1+1 & 2+0 deployments with very less switching time
- Arp and Bridge table allows to view the data and it comes with the option to clear and or refresh
- Supports Network Time Protocol (NTP) Client Application for synchronizing the clock to the network time server

## P2P Scheduler

- Effective wireless algorithm to deliver up to 1 Gbps aggregate throughput
- Better latency and jitter value to provide an excellent customer service experience
- UL/DL Configuration based control for deploying P2P links

# ion4xls

## Integrated 18dBi Small Form factor Antenna



### Wireless

<b>Access Technology</b>	OFDMA
<b>Radio Mode</b>	2x2 MIMO with 1024 QAM Support
<b>Radio Frequency Band</b>	5 GHz channel support (5.1 to 5.9 GHz, country-specific restrictions apply)
<b>Peak throughput</b>	Up to 1 Gbps aggregate UL/DL throughput
<b>Max Transmit Power</b>	27 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>Processor</b>	Qualcomm based chipset
<b>Power</b>	IEEE 802.3at 48V
<b>Max Power Consumption</b>	<15 W
<b>Interface</b>	1 X 10/100/1000 BASE-T Ethernet
<b>Antenna</b>	<b>ion4xls:</b> Integrated 18 dBi Small Form factor Antenna with H Plane BW = 17° +/- 2° V Plane BW = 17° +/- 2°
<b>Receiver Sensitivity MCS 0</b>	-84 dBm @ 80 MHz -87 dBm @ 40 MHz -90 dBm @ 20 MHz

### Security Features

<b>Security</b>	WPA, WPA2, WPA3 - Personal and Enterprise and 256-bit AES PSK with hardware acceleration  <b>WAN Protocols:</b> Static IPv4/v6, DHCP client v4/v6  <b>Management:</b> Standalone (via GUI) or through appliance-based EMS or cloud-based  <b>Smart Spectrum Management:</b> Active scan; monitors/logs ongoing RF interference across channels (no service impact); Dynamic auto optimization of channel and Adjustable upstream downstream bandwidth ratio
<b>High Level Features</b>	<b>QoS:</b> 802.11e WMM  <b>Y. 1731 - BNM (Bandwidth Notification Message) Support</b>  <b>IEEE 802.1ag - Service level OAM</b>  Device level firewall features like L2/L3 Broadcast/Multicast White/Black Listing Port/Mac/IP/Protocol based White/Black Listing  <b>Two-Way Active Measurement Protocol (TWAMP):</b> Enables measurement of round-trip network performance of links  In-built temperature sensor*  In-built buzzer*  Dying Gasp*  <b>GPS Location:</b> GNSS-1 (GPS + GLONASS)*

## Physical and Environmental

<b>Dimensions</b>	ion4xls: 270 X 220 X 105 mm	<b>Operating Temperature</b>	<b>Commercial:</b> -5° C to 55° C <b>Extended:</b> -40° C to 55° C
<b>Weight</b>	ion4xls: 1.2 kg	<b>Operating Humidity</b>	5 to 95% (non-condensing)
<b>Mounting</b>	Pole mounting Weight: 1.6 kg	<b>Operating Altitude</b>	As per QM333 (3050 meter/10000 feet)
<b>Visual Indicators</b>	Link, Alarm, & Power LEDs	<b>Wind Sustainability</b>	180 km/hour (sustained winds)
		<b>Certifications</b>	FCC Class A, CE, MTCTE, RoHS 3.0, ETA
		<b>Outdoor Ingress Protection Rating</b>	IP67

## Safety & Other Compliances

- Safety standard as per IEC/EN 62368 IEC60950
- Electrostatic Discharge Immunity as per IEC 61000-4-2, Contact Level 2 and Air Discharge Level 3
- 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, Level2
- 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: AC- as per IEC 61000-4-11 and DC- as per IEC 61000-4-29
- Health Test as per IEC/EN62311

## Ordering Information

Model No.	Description
<b>ion4xls</b>	IO 5 GHz 1000 Mbps UBR with Small Form Factor Integrated Antenna (18 dBi)
<b>ion4xls_ext</b>	IO 5 GHz 1000 Mbps UBR with Small Form Factor Integrated Antenna (18 dBi) [extended temperature]

\* Note : Customizable hardware options are available. Please reach out to Sales Team for more information

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