

1 Gbps

# Unlicensed Band Radio

ion4x12/ ion4x13/ ion4x14

P2P

IO enterprise/carrier grade P2P series is designed to serve highly critical enterprise applications in a wide range of unlicensed 5 GHz spectrum. High-precision GPS sync technology enables reusing the same channel at collocated sites, delivering maximum capacity in areas facing scarce spectrum and congested networks.

## Unparalleled Performance



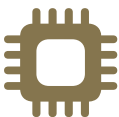
### Ease of Installation

Easy deployment on the plug-and-play model. This would allow for quick and easy redeployment in the event of an emergency or for a new location with no or little tweaks in the configuration.



### 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.



### Rugged Hardware

Distinctively rugged, our hardware is designed to withstand and continue to perform in the harshest of terrains, temperatures and environments.



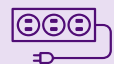
IP67 certified



Supports wind load up to 180 kmph



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



Ruggedized PoE to support 6KV Surge Protection on Telecom and Power ports



## Adaptive RF Technology

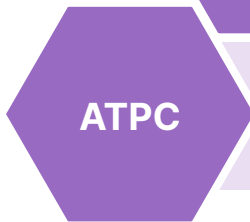
Our proprietary adaptive RF technology improves customer SLA by dynamically adjusting to meet customer needs. Incorporating Artificial Intelligence(AI) permits quick and easy selection of the best frequency and modulation without manual interference.



**Automatic Channel Selection** immediately switches to the best suitable channel in case of interference.



**Dynamic Data Rate Selection** switches to the subsequent possible modulation in case of site-specific interference.



**Automatic Transmit Power Control** automatically adjusts the power based on the link distance.



## Advanced Technology Support



### Dying Gasp

Proactively monitors customer-end power outages, leading to automatic closure of customer-end tickets.



### GPS

A GPS-enabled system enables planning from a central location to execute sector coverage, feasibility & new installation.



### Beamforming and Beam-Steering

Beamforming integration ensures constructive interference in acquiring data or navigating a route. By coordinating the signals from multiple antennas, beam-steering allows beamforming to be signaled in a specific direction to improve stable links.



### Temperature Sensor

Proactive monitoring of the radio temperature and threshold-based alert feature helps protect data and equipment within the Radio.



## Rich Enterprise Features

Software designed to meet all types of enterprise customer requirements.

- Supports both IPv4 & IPv6 addressing
- Supports jumbo frame size up to 9600MTU
- Supports 4 Level Priority quality of service (QoS) as per IEEE 802.11e 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



## Security

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

**Wireless MAC Access Level Control**

**SSID and MAC lock support**



## The Proprietary P2mP Scheduler

- Effective proprietary wireless algorithm to deliver up to **1 Gbps** aggregate throughput
- Better **latency and jitter** value to provide an excellent customer service experience
- **Configuration based control** for deploying P2P or P2mP links



## P2P Link

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

### ion4xl2



Integrated 23 dBi Antenna

### ion4xl3



Integrated 25 dBi Antenna

### ion4xl4



Integrated 27 dBi Antenna

## Physical & Environmental

<b>Enclosure</b>	UV protected PC top and aluminum bottom
<b>Dimensions</b>	<b>ion4xl2:</b> 380×380×198 mm <b>ion4xl3:</b> 465×465×235 mm <b>ion4xl4:</b> 650×650×245 mm
<b>Weight</b>	<b>ion4xl2:</b> 1.9 kg <b>ion4xl3:</b> 3.7 kg <b>ion4xl4:</b> 5.1 kg
<b>Mounting</b>	Pole mounting Turning Angle: 60°H & 60°V Weight: 1.6 kg
<b>Visual Indicators</b>	Link, Alarm, & Power LEDs
<b>Operating Temperature</b>	<b>Commercial grade:</b> 0° C to 55° C <b>Industrial grade:</b> -40° C to 55° C
<b>Operating Humidity</b>	5 to 95% (non-condensing)
<b>Operating Altitude</b>	As per QM333 (3050 meter/10000 feet)
<b>Wind Sustainability</b>	180 km/hour (sustained winds)
<b>Certifications</b>	FCC Class A, CE, RoHS 3.0
<b>Outdoor Ingress Protection Rating</b>	IP67

## Wireless

<b>Access Technology</b>	OFDMA
<b>Radio Mode</b>	2x2 MIMO & OFDMA upto 1024 QAM
<b>Radio Frequency Band</b>	5 GHz with extended 5 GHz channel support (4.9 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>	30 dBm for 5 GHz (will depend on country-specific guidelines)
<b>Channel Size</b>	10/20/40/80 MHz
<b>Modulation Schemes</b>	Supports upto 1024 QAM
<b>Processor</b>	Qualcomm IPQ6010 SOC
<b>RF Power</b>	Automatic transmit power control (ATPC) for enhanced adaptability to the changing environment
<b>Power</b>	IEEE 802.3af/at Active PoE
<b>Max Power Consumption</b>	<15 W (max..)
<b>Interface</b>	1 X 10/100/1000BASE-T Ethernet
<b>Antenna</b>	<b>ion4xl2:</b> Integrated 23 dBi Dish Antenna <b>ion4xl3:</b> Integrated 25 dBi Dish Antenna <b>ion4xl4:</b> Integrated 27 dBi Dish Antenna
<b>Receiver Sensitivity MCS 0</b>	<ul style="list-style-type: none"> <li>-84 dBm @ 80 MHz</li> <li>-87 dBm @ 40 MHz</li> <li>-90 dBm @ 20 MHz</li> </ul>

## Security & Features

### Security

WPA, WPA2, WPA3 - Personal and Enterprise and 256-bit AES PSK with hardware acceleration

Supports dying gasp feature (optional)

#### WAN Protocols:

Static IPv4/v6, DHCP client v4/v6

#### Management:

Standalone (via GUI) or through appliance-based EMS or cloud-based

#### Smart Spectrum Management:

Active scan; monitors/logs ongoing RF interference across channels (no service impact); Dynamic auto-optimization of channel and bandwidth used, Adjustable upstream/downstream bandwidth ratio

### High Level Features

#### QoS:

802.11e WMM

#### GPS Location:

GNSS-1 (GPS + GLONASS)

#### Co-location Synchronization:

1PPS GPS Tx/Rx synchronization for collocated co-channel radios

#### Two-Way Active Measurement Protocol (TWAMP):

Enables measurement of round-trip network performance of links

In-built temperature sensor (optional)

In-built buzzer (optional)

## 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, 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

## Ordering Information

<b>ion4xl2</b>	IO 5 GHz 1000 Mbps UBR with Integrated Antenna (23 dBi)
<b>ion4xl3</b>	IO 5 GHz 1000 Mbps UBR with Integrated Antenna (25 dBi)
<b>ion4xl4</b>	IO 5 GHz 1000 Mbps UBR with Integrated Antenna (27 dBi)



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