

1 Gbps

Unlicensed Band Radio

ion4x11_BTS/ ion4x12_BTS

P2MP

IO enterprise/carrier grade P2mP series is designed for medium-to-high scale 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



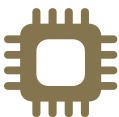
Ease of Installation

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.



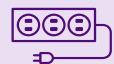
IP67 certified



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

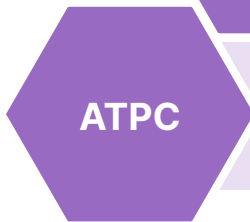
Our proprietary adaptive RF technology improves customer SLA by dynamically adjusting to meet customer needs. Incorporating Artificial Intelligence(AI) permits quick and easy selection of the best frequency and modulation without manual interference.



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
 - 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
- More Slaves support in single sector deployment – **up to 20 Slaves**
- Better **latency and jitter** value to provide an excellent customer service experience
- **Configuration based control** for deploying P2P or P2mP links



P2MP Link

In a P2MP wireless network, a single base station can serve up to 20 CPEs.

ion4xl1_BTS



Integrated 17 dBi Sector Antenna (BTS side)

ion4xl2_BTS



Integrated 19 dBi Sector Antenna (BTS side)

Physical & Environmental

Enclosure	UV protected PC top and aluminum bottom
Dimensions	ion4xl1_BTS: 408×128×120 mm ion4xl2_BTS: 830×125×120 mm
Weight	ion4xl1_BTS: 1.7 kg ion4xl2_BTS: 2.3 kg
Mounting	Pole mounting Turning Angle: 60°H & 60°V Weight: 1.6 kg
Visual Indicators	Link, Alarm, & Power LEDs
Operating Temperature	Commercial grade: 0° C to 55° C Industrial grade: -40° C to 55° C
Operating Humidity	5 to 95% (non-condensing)
Operating Altitude	As per QM333 (3050 meter/10000 feet)
Wind Sustainability	180 km/hour (sustained winds)
Certifications	FCC Class A, CE, RoHS 3.0
Outdoor Ingress Protection Rating	IP67

Wireless

Access Technology	OFDMA
Radio Mode	2x2 MIMO & OFDMA upto 1024 QAM
Radio Frequency Band	5 GHz with extended 5 GHz channel support (4.9 to 5.9 GHz, country-specific restrictions apply)
Peak Throughput	Up to 1 Gbps aggregate UL/DL throughput
Max Transmit Power	30 dBm for 5 GHz (will depend on country-specific guidelines)
Channel Size	10/20/40/80 MHz
Modulation Schemes	Supports upto 1024 QAM
Processor	Qualcomm IPQ6010 SOC
RF Power	Automatic transmit power control (ATPC) for enhanced adaptability to the changing environment
Power	IEEE 802.3af/at Active PoE
Max Power Consumption	<15 W (max..)
Interface	1 X 10/100/1000BASE-T Ethernet
Antenna	ion4xl1_BTS: Integrated 17 dBi Sector Antenna (BTS side) ion4xl2_BTS: Integrated 19 dBi Sector Antenna (BTS side)
Receiver Sensitivity MCS 0	<ul style="list-style-type: none">• -84 dBm @ 80 MHz• -87 dBm @ 40 MHz• -90 dBm @ 20 MHz

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

ion4xl1_BTS	IO 5 GHz 1000 Mbps UBR BTS with Integrated Antenna (17 dBi)
ion4xl2_BTS	IO 5 GHz 1000 Mbps UBR BTS with Integrated Antenna (19 dBi)



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