

2 Gbps Unlicensed Band Radio

ion8xl2 | ion8xl3 | ion8xl4

5.1 to 5.9 GHz, 2 Gbps UBR with
Integrated Antenna (23,25,27 dBi)



HFCL's 2 Gbps UBR is a meticulously engineered Enterprise/Carrier Grade P2P Radio, purpose-built to cater to the exacting needs of backhaul and high bandwidth-demanding applications. With its exceptional performance and unwavering reliability, this device operates seamlessly across 5 GHz frequency range of 5.1 to 5.9 GHz, ensuring uninterrupted connectivity and outstanding results.

Ease of Installation

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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 intended configuration from the EMS server resulting in quick and seamless set-up.
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LED & Buzzer Support
According to the LED blink pattern and buzzer sound, the rigger can align the radio's position based on signal strength. Field deployment costs are minimized as devices can be set up without the physical presence of wireless experts.

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):** Immediately switches to the best suitable channel in case of interference

Dynamic Data Rate Selection (DDRS): Switches to the optimal 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): Changes channels when there is high interference without any 'downtime'



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)

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 check feasibility & new installation



Temperature Sensor

Proactive monitoring of the radio temperature and threshold-based alert feature

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)

Networking Features

Software designed to meet all types of customer requirements

- Supports both IPv4 & IPv6 addressing
- Supports jumbo frame size up to 9000 MTU¹
- Supports timer for tracking Ethernet Inactivity
- Supports 4-level quality of service (QoS) priority as per IEEE 802.1e WMM

• Voice • Video • Best Effort • Background

- Enterprise VLAN features such as Q-in-Q, Access, Trunk, Transparent, and management VLAN
- Flexible channel bonding allows to make combinations with 20/40/80 MHz channel bandwidths
- 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

Performance

- Effective wireless algorithm to deliver up to 2 Gbps aggregate throughput
- Better latency and jitter value to provide an excellent customer service experience
- UL/DL configuration based control for deploying P2P links



ion8xl2

2 Gbps UBR
with Integrated
23 dBi Antenna



ion8xl3

2 Gbps UBR
with Integrated
25 dBi Antenna



ion8xl4

2 Gbps UBR
with Integrated
27 dBi Antenna



Wireless

Access Technology	OFDMA
Radio Frequency Band	5.1 to 5.9 GHz
Peak throughput	Up to 2 Gbps aggregate UL/DL throughput
Max Transmit Power	5 GHz: 24 dBm (Tx power values will depend on country-specific guidelines)
Channel Size	20/40/80 MHz
Modulation Schemes	Supports upto 1024 QAM
Channel Bonding Support	20+20, 20+40, 20+80, 40+40, 40+80, 80+80 MHz
Power	IEEE 802.3at 48V
Max Power Consumption	23 W
Interface	1 X 10/100/1000/2500BASE-T Ethernet
Antenna	ion8xl2: Integrated 23 dBi Dish Antenna ion8xl3: Integrated 25 dBi Dish Antenna ion8xl4: Integrated 27 dBi Dish Antenna
Receiver Sensitivity MCS 0	-84 dBm @ 80 MHz -87 dBm @ 40 MHz -90 dBm @ 20 MHz

Certifications

Certifications	• CE • FCC Part 15B and 15E [Class A] • MTCTE • RoHS 3.0 • WPC ETA
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Security Features

Security	WPA, WPA2, WPA3 - Personal and Enterprise and 256-bit AES PSK with hardware acceleration ¹
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Rich Feature Set

High Level Features	WAN Protocols: Static IPv4/v6, DHCP client v4/v6 Management: Standalone (via GUI) or through appliance-based EMS Smart Spectrum Management: Active scan; monitors/logs ongoing RF interference across channels (no service impact); Dynamic auto optimization of channel, Adjustable upstream/downstream bandwidth ratio QoS: DSCP priority and VLAN priority based on 802.11e WMM IGMP snooping ¹ TACACS+ Two-Way Active Measurement Protocol (TWAMP): Enables measurement of round-trip network performance of links In-built temperature sensor* In-built buzzer* Dying Gasp feature support* GPS Location: GPS + GLONASS + IRNSS Support*
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Physical and Environmental

Dimensions	ion8xl2: 370 X 370 X 251 mm ion8xl3: 465 X 465 X 235 mm ion8xl4: 650 X 650 X 294 mm	Operating Humidity	5 to 95% (non-condensing)
Weight	ion8xl2: 2.6 kg Approx ion8xl3: 2.9 kg Approx ion8xl4: 4.0 kg Approx	Operating Altitude	As per QM333 (3050 meter/10000 feet)
Mounting	Pole mounting Weight: 1.6 kg	Wind Sustainability	180 km/hour (sustained winds)
Visual Indicators	Link, Alarm, & Power LEDs	Outdoor Ingress Protection Rating	IP67
Operating Temperature	-40° C to 55° C		

Safety & Other Compliances

- Safety standard as per IEC/EN 62368 IEC60950 & IEC 60215
- 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
ion8xl2	IO 5 GHz 2 Gbps UBR with Integrated Antenna (23 dBi)
ion8xl4	IO 5 GHz 2 Gbps UBR with Integrated Antenna (25 dBi)
ion8xl4	IO 5 GHz 2 Gbps UBR with Integrated Antenna (27 dBi)

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

¹In Roadmap – Future Software Upgrade

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