

Quick Start Guide



UNLICENSED BAND RADIO

Point to Point High Capacity Radio

ion4xl2/ ion4xl3/ ion4xl4
ion4xl2_ext/ ion4xl3_ext/ ion4xl4_ext

**ANYWHERE
EVERYWHERE**



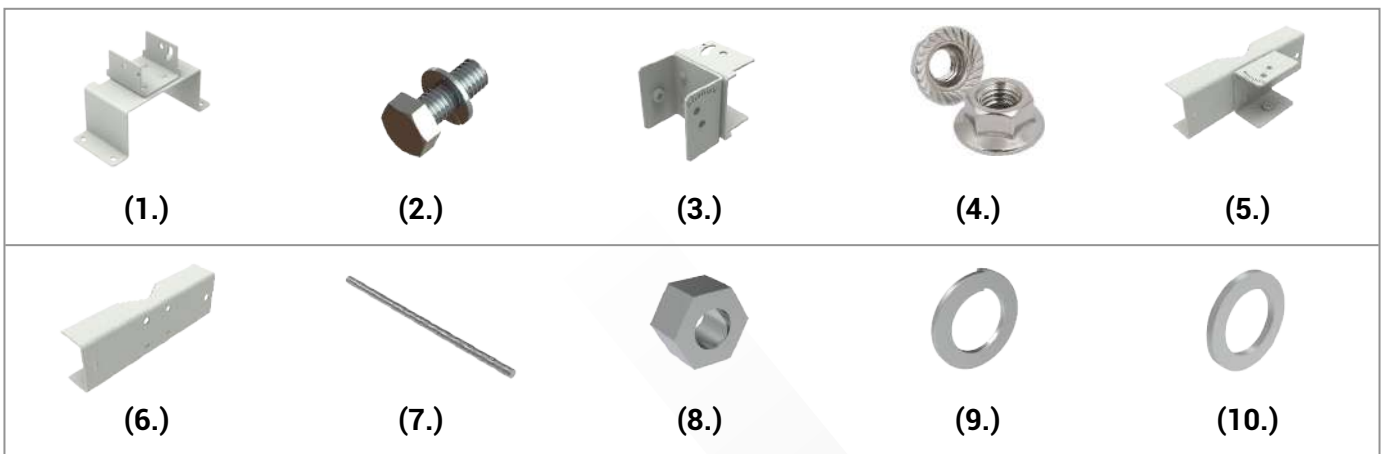
Introduction

Thank you for purchasing our Unlicensed Band Radio (UBR). IO enterprise/carrier grade P2P solution is designed to serve highly critical enterprise applications in unlicensed 5 GHz spectrum for short-range and long-range links.

Packaging Content



2x2 UBR (QTY:1)



1. Hood (1), 2. M6 Hex Bolts with split washers (6),
3. Riveted U Clamp (1), 4. M6 Flange Nuts with serrations (4),
5. Pole Clamp Assembly (1), 6. Pole Clamp (1),
7. M8x220 Bolts (2), 8. Hex Nuts M8 (4),
9. Split Washers M8 (4), 10. Flat Washers (4)

Product Specifications

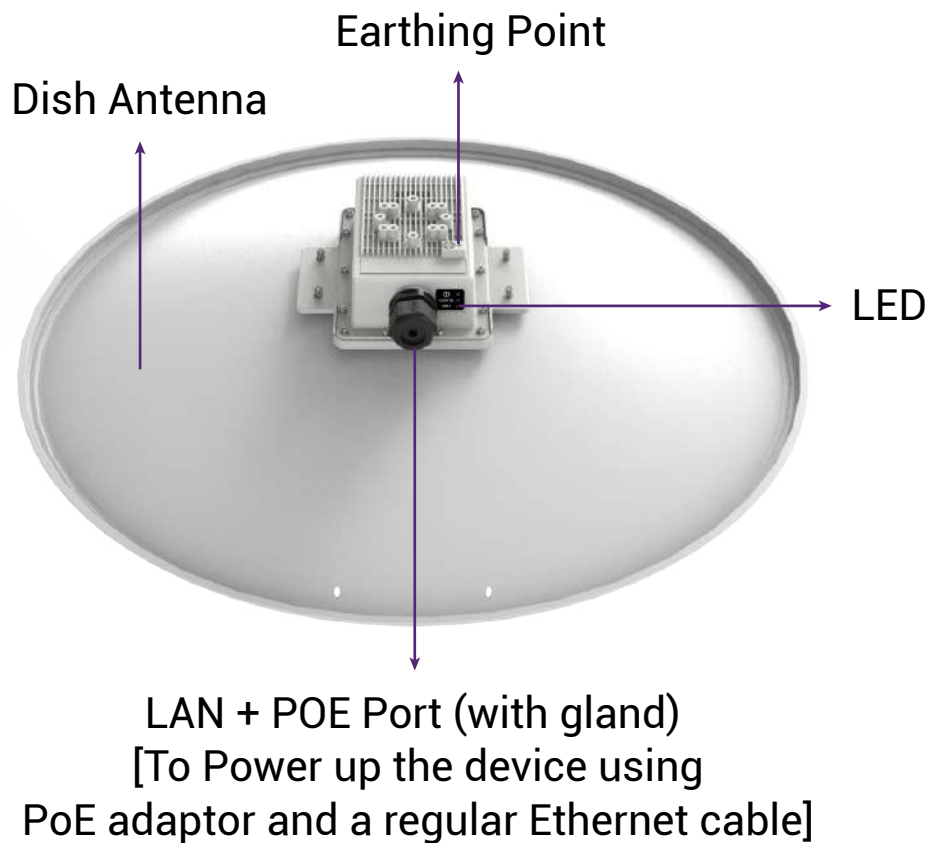
Peak Data Rate (aggregate)	Up to 1 Gbps Aggregate UL/DL Throughput
MIMO	2X2
Modulation	Upto 1024 QAM
Channel Bandwidth	20/40/80 MHz
Wireless QoS	802.11e WMM
Wireless Security	WPA, WPA2, WPA3 - Personal and Enterprise and 256-bit AES PSK with hardware acceleration
Power Supply	IEEE 802.3af/at Active PoE
Power Consumption (Max)	<15 W
Antenna Type	Integrated Antenna
Antenna Gain	<ol style="list-style-type: none"> 1. For ion4xl2/ ion4xl2_ext: 23dBi 2. For ion4xl3/ion4xl3_ext: 25dBi 3. For ion4xl4/ion4xl4_ext: 27dBi
Management	Standalone (via GUI) or through appliance-based EMS or cloud-based
Enclosure Dimensions	For ion4xl2/ ion4xl2_ext: 380x 380 x 198 mm or 15 x 15 x 7.8 inches
	For ion4xl3/ ion4xl3_ext: 465 x 465 x 235 mm or 18.3 x 18.3 x 9.25 inches
	For ion4xl4/ ion4xl4_ext: 650 x 650 x 285 mm or 25.6 x 25.6 x 11.2 inches

Weight	ion4xl2/ ion4xl2_ext - 1.9 Kg ion4xl3/ ion4xl3_ext - 2.1 Kg ion4xl4/ ion4xl4_ext - 2.9 Kg
Operating Temperature	-10°C to 55°C (Normal temperature operation) -40°C to 55°C (Extended temperature operation)
Certifications	FCC Class A, CE, MTCTE, RoHS 3.0, IP67
Variants	<ol style="list-style-type: none"> 1. ion4xl2 Normal temperature operation 2. ion4xl2_ext Extended temperature operation 3. ion4xl3 Normal temperature operation 4. ion4xl3_ext Extended temperature operation 5. ion4xl4 Normal temperature operation 6. ion4xl4_ext Extended temperature operation

Note:

Optional hardware customization includes in-built temperature sensor, in-built buzzer, dying gasp, and GNSS-1 (GPS + GLONASS) options. For more information, please contact our Sales Team.

Product Overview

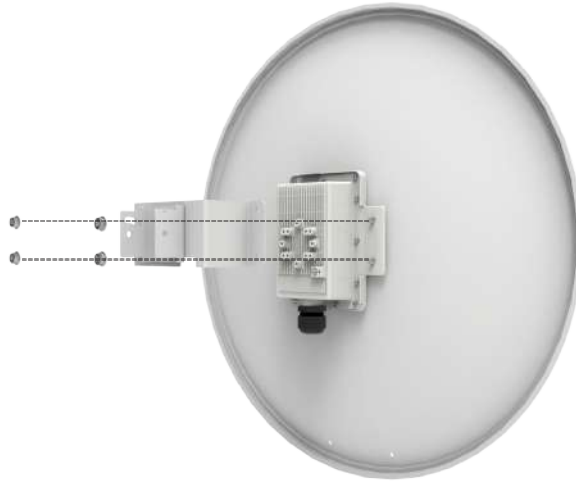


Installation Set-up

The 2x2 UBR with integrated dish antenna has four studs on its backside for attaching the mounting bracket. The mounting bracket is designed in such a way that UBR can be mounted on the pole with the help of its attaching parts. It provides freedom of movement to the UBR for link alignment even after mounting.

Note: Insecure mounting might damage the device or cause injury.
 HFCL cannot be held liable for any damages incurred during the process.

- ∴ 1. Attach the hood to the UBR using four M6 flange nuts. Refer to the image below:

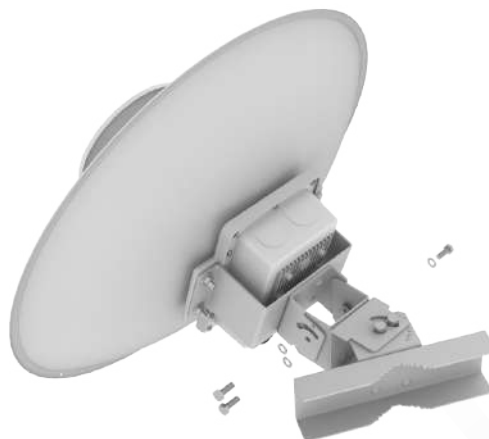


Make sure that the cut in the hood aligns with lug connector.

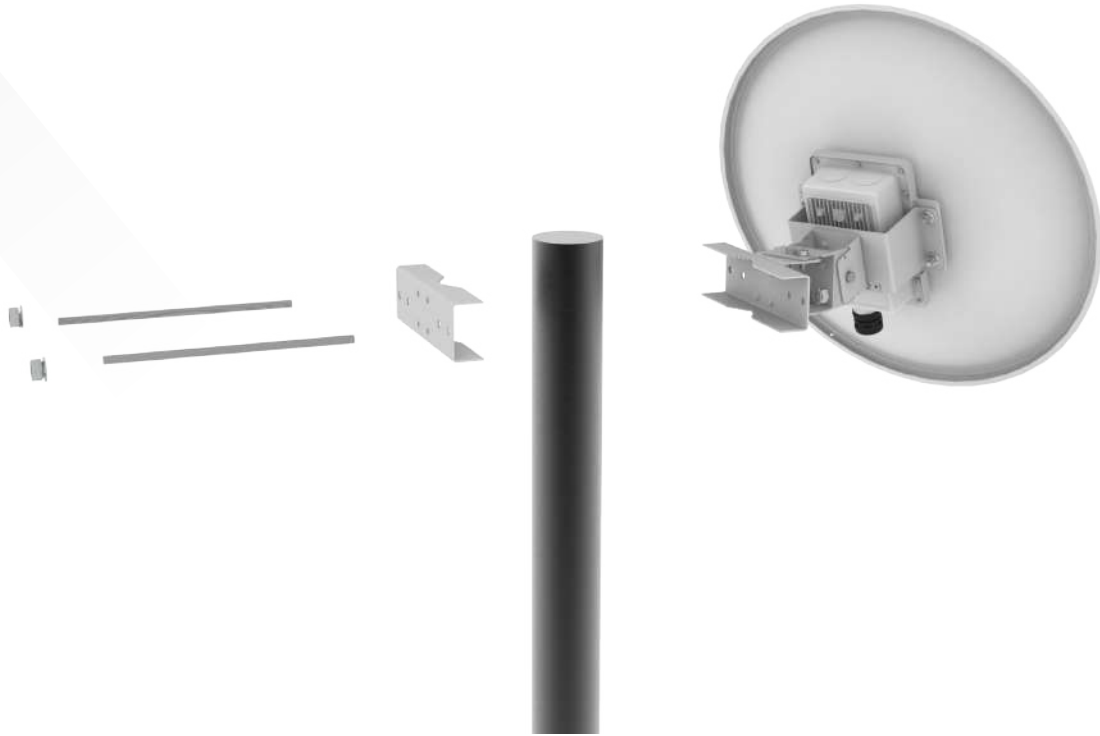
- ∴ 2. Attach the pole clamp assembly with a riveted U clamp with the help of three M6 hex bolts and split spring lock washers



- ∴ 3. Mount this assembly from the previous step on UBR using three M6 hex bolts and split spring lock washers.



- ∴ 4. Once the UBR is assembled, the next step is to mount it on the pole using two M8 x 220 bolts, four split spring lock washers, and flat washers.

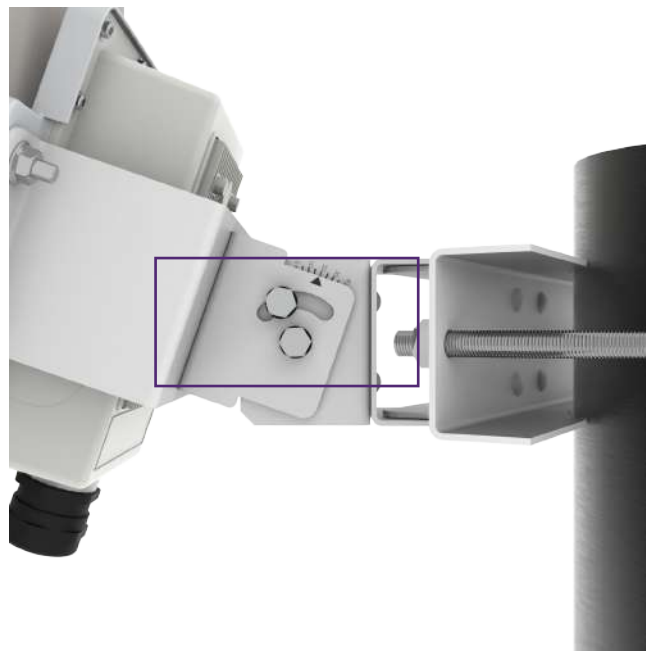
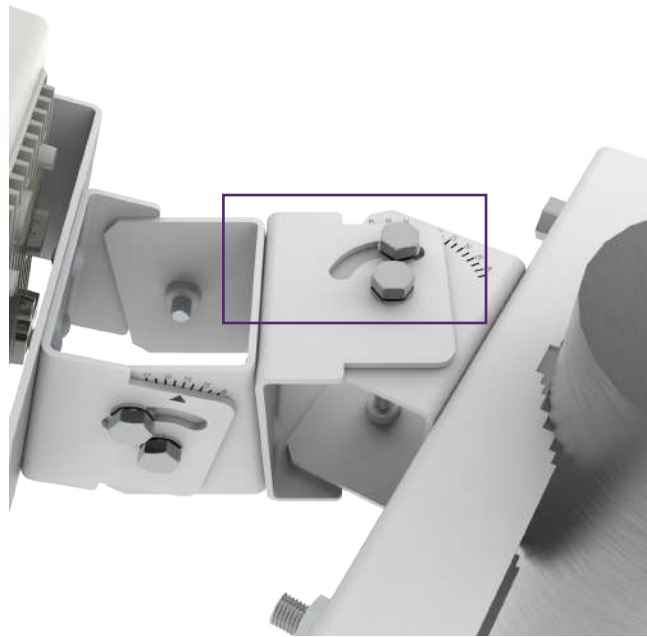


Final View after Mounting:



:::: For Link Alignment ::::

Slightly loosen the M6 bolts, and rotate brackets to align the pointer mark, at an optimum angle to set the azimuth and elevation. Once the desired setting is attained, securely tighten the six bolts using a compatible spanner.



Note: Angle marking for azimuth adjustment & elevation adjustment.

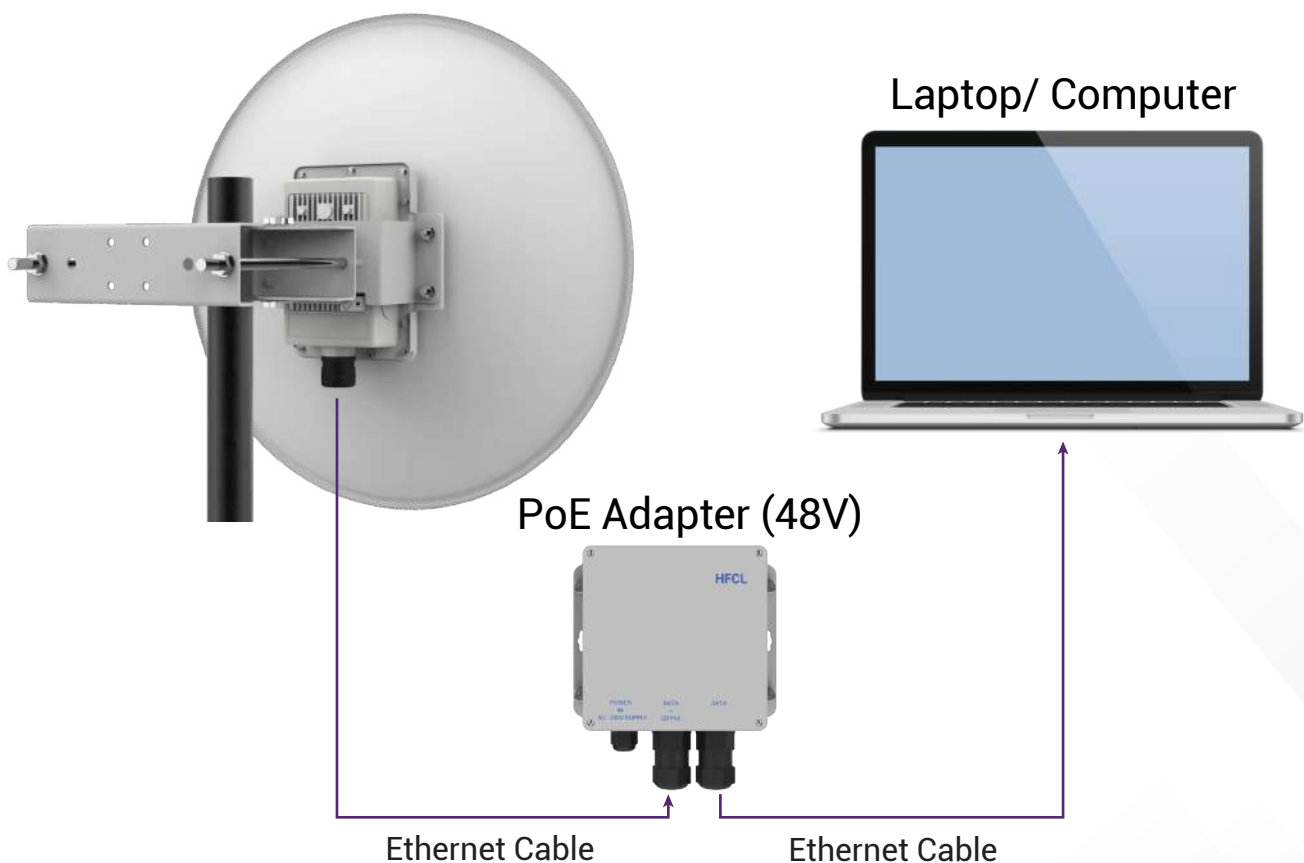
Getting the UBR Online



Step 1:

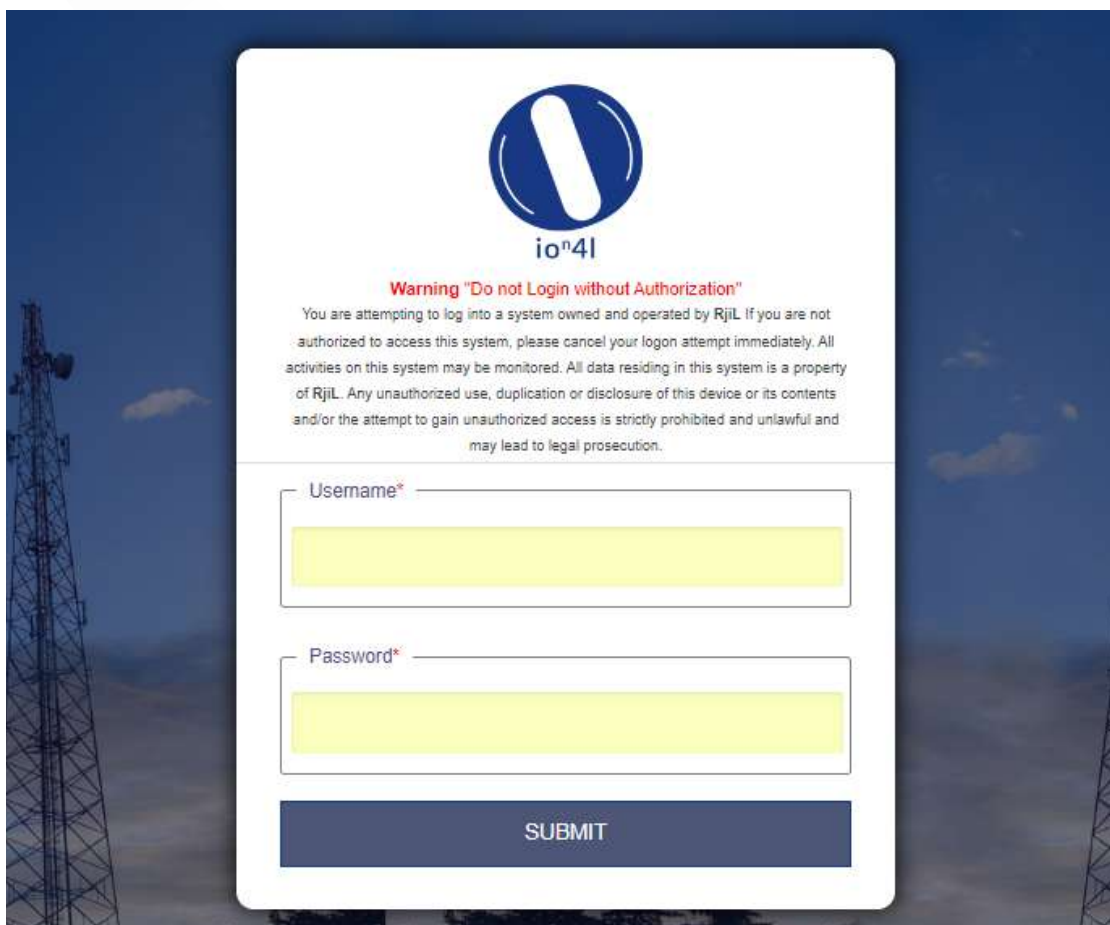
Power up the device and Configure the UBR

- :: 1. Connect an ethernet cable to the laptop/computer.
- :: 2. Connect the other end of the ethernet cable to the data port on the PoE adapter.
- :: 3. Connect UBR's PoE-supported ethernet port to the PoE adapter power port. The device will be powered on.
- :: 4. Configure a computer with a 1-domain static IP address e.g. 192.168.1.X and a subnet mask of 255.255.255.0.



Note: For powering on UBR, only use HFCL PoE adapter. Plug and Adaptor will vary by country/region.

- ∴ 5. Open the web browser and enter “UBR IP address” in the address bar. The default static IP address for 2x2 UBR is set to “192.168.1.1”.
- ∴ 6. A login screen will appear
- ∴ 7. Enter the default login credential details:
User- admin, Password- HFcl!@23#ion



- ∴ 8. Refer to our user manual on our website io.hfcl.com for detailed information to configure UBR.



Step 2:

Check the LED status




LED Color	Status
Green LED (Power indication)	Green color notifies the user that the device is powered ON
BLUE LED (RSSI/Link indication)	Single blink: 1 to -50 dBm Double blink: 51 to -60 dBm Triple blink: Greater than -60 dBm NOTE: If the link is down, then the link LED will be in continuous OFF State.
Blue LED (Alarm Indication)	Single blink: Minor Alarms Double blink: Major Alarms Triple blink: Critical Alarms


Note: During Reboot and Factory Reset, all three LEDs will glow for 7 seconds, and the power LED will continue to glow


Safety Precautions





Observe the following safety precautions to avoid damage to the UBR:


-  Do not power the device during installation.


-  Do not subject the device to high temperatures.


-  Keep away from high voltage cables.

-  Do not power off the unit in the middle of an upgrade process.

-  The gland should be ground facing all the time.

-  Make sure the earthing wire is connected properly to the earthing point.

-  Do not open the enclosure.

-  Fasten the device tightly.



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