Cohda Wireless

www.cohdawireless.com

MK6 RSU Quick Start User Guide

Version: 3.01

CE

The MK6 RSU complies to Radio Equipment Directive 2014/53/EU. A copy of the Declaration of conformity is available on request.

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

RF Radiation Exposure Statement Caution:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

WARNING: Modifications not approved by manufacturer could void compliance.

Others

The MK6 RSU is RoHS and Lead-Free compliant. It complies with the "Directive 2011/65/EU of the European Parliament and the Council on the Restriction of Use of certain Hazardous Substances in Electrical and Electronic Equipment" (RoHS).

These instructions are for use by qualified skilled personnel only. Only professional Skilled person should Install, Start-up and Service this device as

1. Only approved antenna shown under Section 1 and section 4.2 can be used with this device.
2. It is to be installed and mounted on Traffic Poll or other device on height.
3. It takes power from Power Over Ethernet devices and to be connected with complex networks.
4. It requires to install and pack device properly to maintain it IP rating.

This device is not sold via retail or mail for normal public use.

1 Kit Contents

Unpack the MK6 RSU Kit

Following items are included in the MK6 RSU Kit shipment.

RSU Unit

4x 5.9GHz Antennas
2 for DSRC, 2 for C-V2X

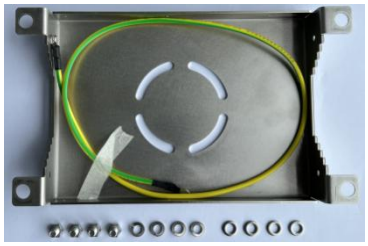
2x LTE Antennas

2x Bluetooth/WLAN Antenna

GNSS Antenna

Self-Fusing Rubber Tape

M12 Connector



Pole Mount Bracket, Earth wire, bolts, flat & spring washers

3x Stainless Steel Straps

2 Warnings, Symbols and Marking

2.1 Warning

Improper handling may lead to serious injury or even death.

2.2 Caution

Be sure to follow the instructions.

2.3 Attention

Improper handling may lead to injury or property damage.

2.4 Protective Earth

Product must be connected to proper protective Earth.

To ensure the system benefits from optimum electromagnetic interference immunity, the individual system components, and the connection cables in particular, need to be shielded. The shield must be connected to the ground reference plane.

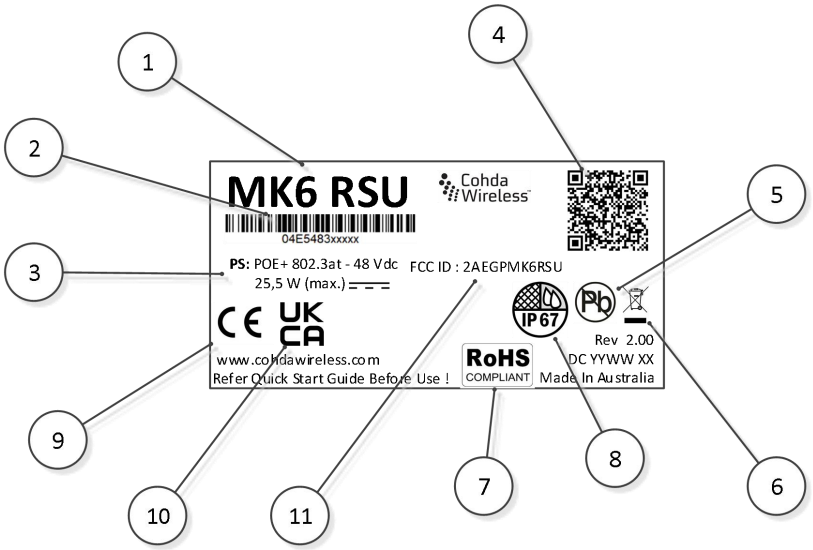
In systems without equipotential bonding or with potential differences between the individual grounding points or multiple instances of shield grounding, can result in transient currents at system frequency. These may affect performance of the device.

2.5 Product Disposal

Products that are marked with the above symbol may not be disposed of as unsorted municipal waste (domestic waste). They should be disposed of through separate collection of electronic devices. This product and its packaging are manufactured from materials that can be recycled by specialist recycling companies. The product must be supplied to a specialist recycling company. Do not use municipal waste collection points. These may be used for privately used products only in accordance with WEEE Directive 2012/19/EU.

2.6 Product Identification

MK6 RSU Product Label (Enclosure) – Label information.

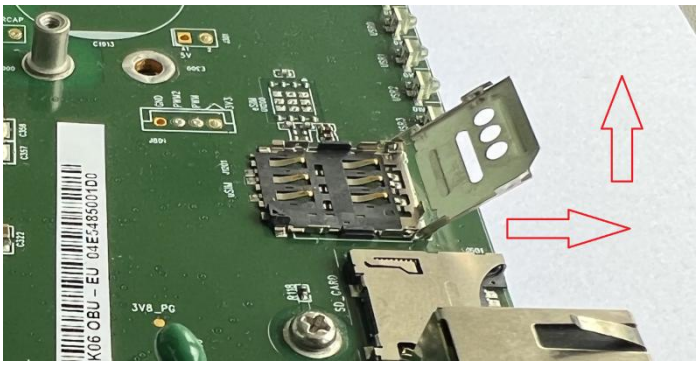


1. Product Model No.
2. Product Sr. No. Bar code information
3. Power supply Rating
4. Product Ordering Code QR Code info
5. Product is manufactured using Lead Free Materials
6. Product Disposal Symbol
7. Product is ROHS complaint
8. Product is IP 67 rated
9. CE Mark Symbol
10. UKCA Mark Symbol
11. FCC ID

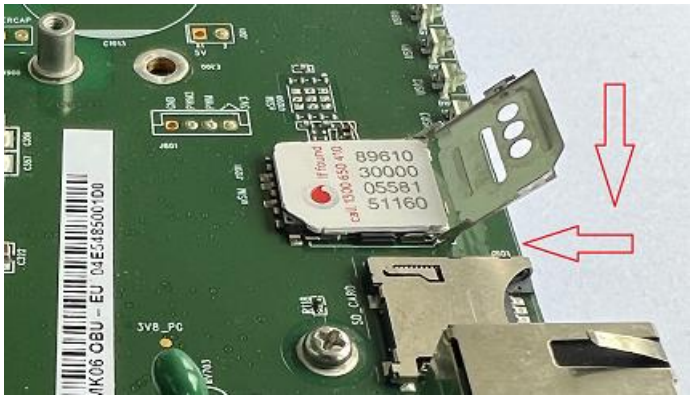
3 SIM card installation

3.1 Unscrew 4x Socket head cap screws with size 5 Allan key. Lift enclosure lid carefully.

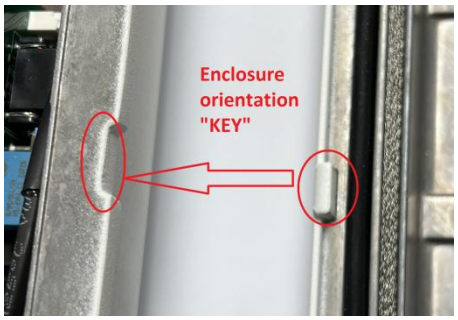
3.1 Slide SIM socket cover toward right and slip it up.



3.2 Insert micro SIM card onto socket. Slip socket cover down and slide it toward left.



3.3 Close the top enclosure. Ensure the enclosure orientation 'KEY" is matched.



3.4 Fasten 4x Socket head cap screws with size 5 Allan-key. Following steps and torques **MUST** be followed to ensure enclosure is sealed properly.

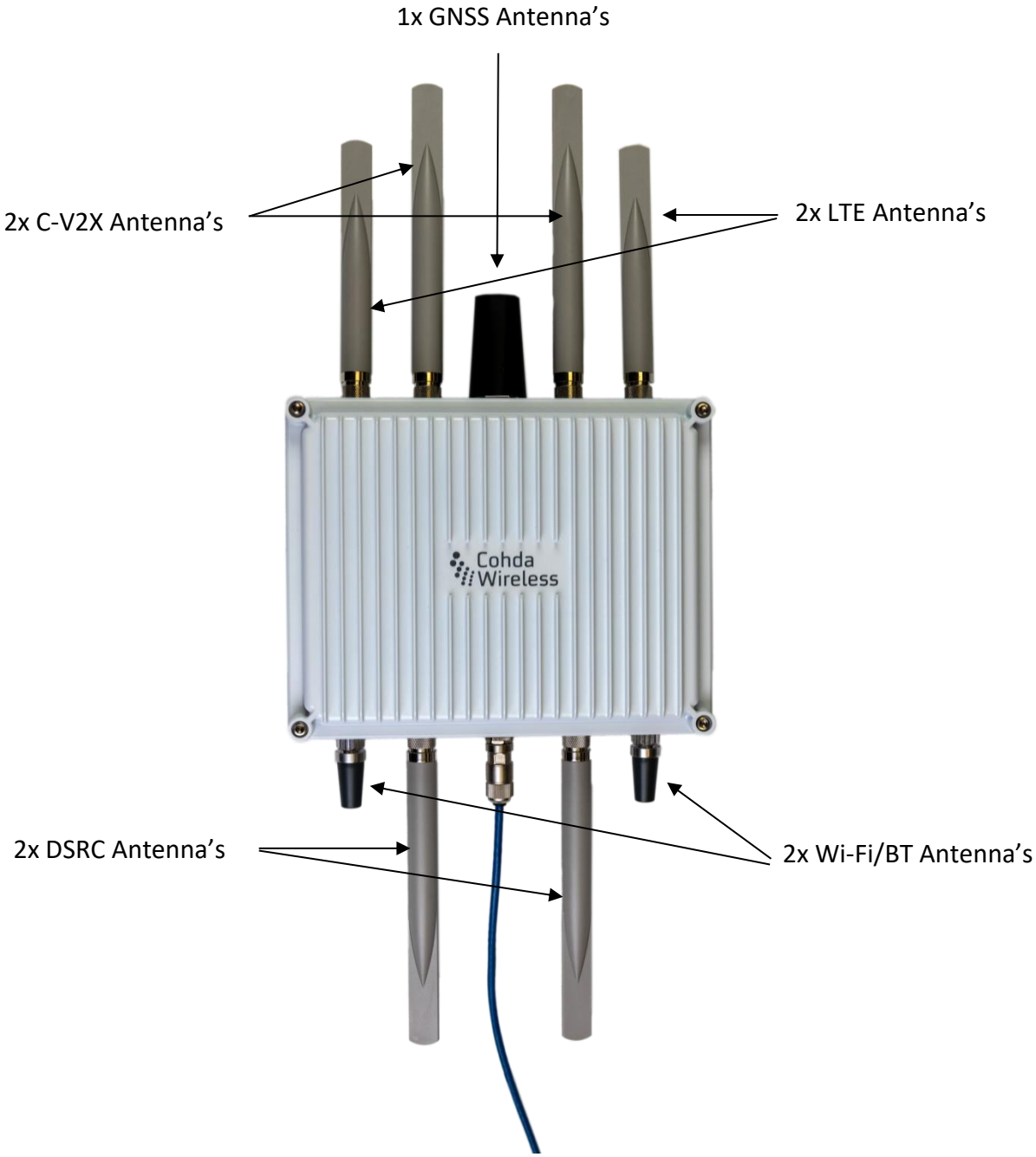
Fasten screw at location 1, 2, 3 and 4 with torque 10kgf.cm
Fasten screw at location 1, 2, 3 and 4 with torque 20kgf.cm
Fasten screw at location 1, 2, 3 and 4 with torque 30kgf.cm

4 Connecting MK6 RSU

4.1 Assemble Ethernet connector using M12 X-Coded field attachable Ethernet connector. The MK6 RSU can only be powered through the Ethernet port, it supports either Mode A (Endspan) or Mode B (Midspan). The Field-Attachable Ethernet connector suits 7.7-9.0mm diameter cable by default. Please use the correct alternative grommet supplied for smaller (5.5-6.7mm or 6-7.7mm) diameter cable.

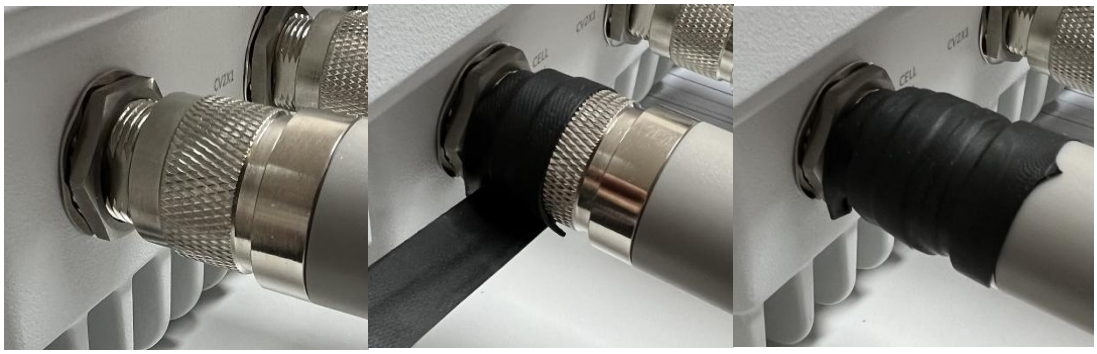
Please refer to the instruction sheet that comes with M12 connector when assembling the M12 Ethernet field attachable connector!

4.2 Connect DSRC, C-V2X, LTE, Bluetooth/WLAN and GNSS antennas and M12 Ethernet connector.



4.3 Wrap the N-connector and antenna joints with provided Self-Fusing Rubber Tape to prevent water intrusion.

-Cut a small length (10cm) of Self-Fusing tape.
-Remove backing film.
-Begin wrapping Self-Fusing tape around the N-connector and antenna joint. Stretch tape to 300% and wrap it spirally around the object with a 50% overlap.
-Repeat steps and ensure at least one complete wrap is applied.
-Cut off any excess.

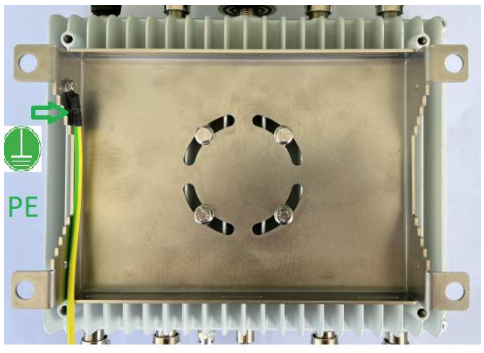


Ensure the surface is clean

Stretch tape and wrap

Done

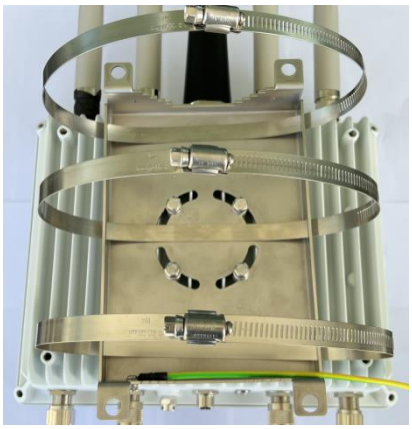
4.4 Both vertical and horizontal mounting with bracket are supported.



Horizontal Mount

Vertical Mount

4.5 Bracket can be mounted to a Pole using the provided Stainless Steel straps, or can be bolted to a wall through four mounting holes in the bracket. The ground wire is recommended to be connected to a good common earth point.



Example of using Stainless Steel Straps.

RSU attached to Vertical pole.

5 RF bands

- Cellular bands
  - 5G NR FDD bands – n2, n5, n25, n66, n71
  - 5G NR TDD bands – n78, n77
  - LTE-FDD bands – B2, B4, B5, B7, B12, B17, B25, B66, B71 , B29 *1, B30 *1
  - LTE-TDD bands – B41
  - WCDMA band – B2,B4, B5
  - GSM 1900
- DSRC and C-V2X bands
  - C-V2X (LTE TDD – B47) – 5.9Ghz*2
  - DSRC – 5.9Ghz
- BT bands
  - BT5.1 2.412 – 2.480 Ghz
- Wi-Fi bands
  - Wi-Fi 2.4GHz
  - Wi-Fi 5GHz 5.15 – 5.925 Ghz
- GPS Band 1*
  - GPS – L1C/A
- GLONASS – L1OF
- Galileo – E1-B/C
- BeiDou – B1

Note :
*1 – Rx only.
*2 – The C-V2X technology has applied for the waiver process (waiver document number: DA-23-343) and strictly follow below conditions.

Operating Frequency range	Channel Band width	RSU RF O/P Power
5905 – 5925 Mhz	20Mhz	33dBm EIRP

6 Link to Documentation and Software Support

Please register at Cohda Wireless Support Website

It can be accessed in two ways:

- Directly via https://support.cohdawireless.com
- Through clicking on the "Support" tab on the Cohda Wireless website www.cohdawireless.com

On the signup page that opens, enter your name and email address in order to register for Support and access to technical documentation.

Your email address **has to be the Company email address** and not your personal email address.

Please submit a support request by clicking on the button "Submit a request" to ensure your account is validated.

Once your account has been validated and you have logged into the Customer Support website, you will have access to the information on all Cohda products, how to develop applications and FAQs.

If you have purchased the SDK license, this will be made available to you via the Cohda Wireless Support website upon account validation.