



# User Manual

## WakeCap Asset

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## Document information

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Revision History:

Date	Description
18-Dec-19	First Draft.

## Device Specifications

Dimensions: 43 mm x 43mm x 43mm

Weight: 35g

Battery Type: 1000mAH Lithium Manganese Dioxide with reverse polarity protection.

Battery Life: 1 year in typical use case.

Motion Sensor: 3-axis accelerometer.

Environmental Sensor: Temperature, barometer, humidity.

Radio Frequency: 2.4GHz ISM band.

Operating Temperature: -20 to -60 deg C

Protection: IP67, UV resistant.

## Operation Description:

In normal operation when power is applied to the board by 3V Cr2477 coin cell, the stack initializes and based on its configuration it searches for neighbours and sends sensor data for processing to the gateway device via the mesh network. There is no external ground connection, the ground is only that of the printed circuit board. The current is supplied by the CR2477 coin cell. The frequency is divided the band into 40 channels with bandwidth of 1MHz each and channel spacing of 2MHz.



Frequency range: 2402-2480MHz

Modulation type: GFSK.

Crystals used on board: 32MHz

## Getting started

The Asset is sealed device that is IP67 protected and there is a push button in the middle of the flexible orange rubber.

Each device can be configured using NFC. The device will automatically join the network based on the configuration set.

Next attach the asset device to the hard hat as shown in the picture.



On the app assign the hard hat to a worker. Select the device ID and then select the worker, and click assign helmet.

Assign Helmet



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.

NOTE: 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 or more 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.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the use's authority to operate the equipment

The device has been evaluated to meet general RF exposure requirement.