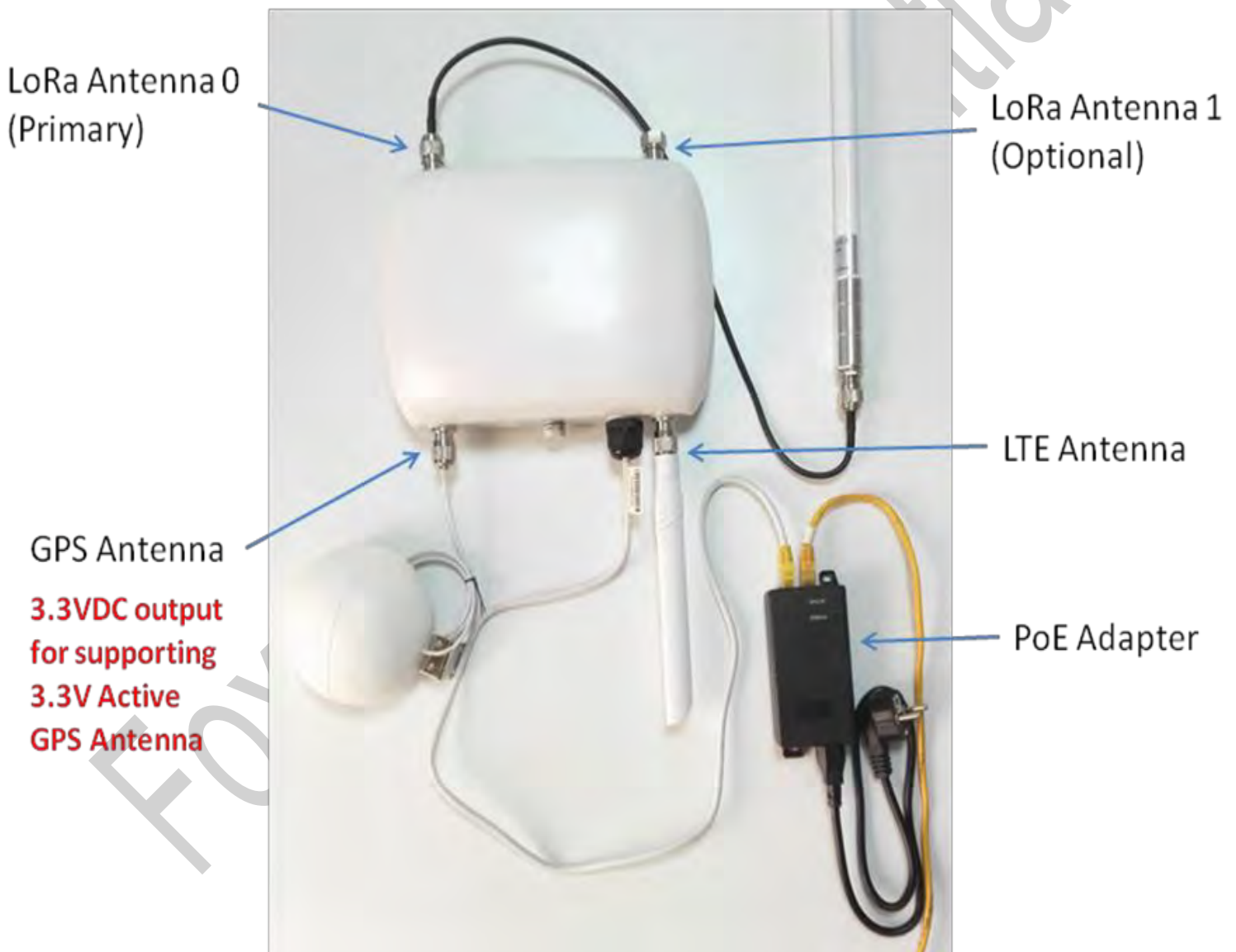


# Outdoor IOT Gateway Installation Guide

**WARNING:**

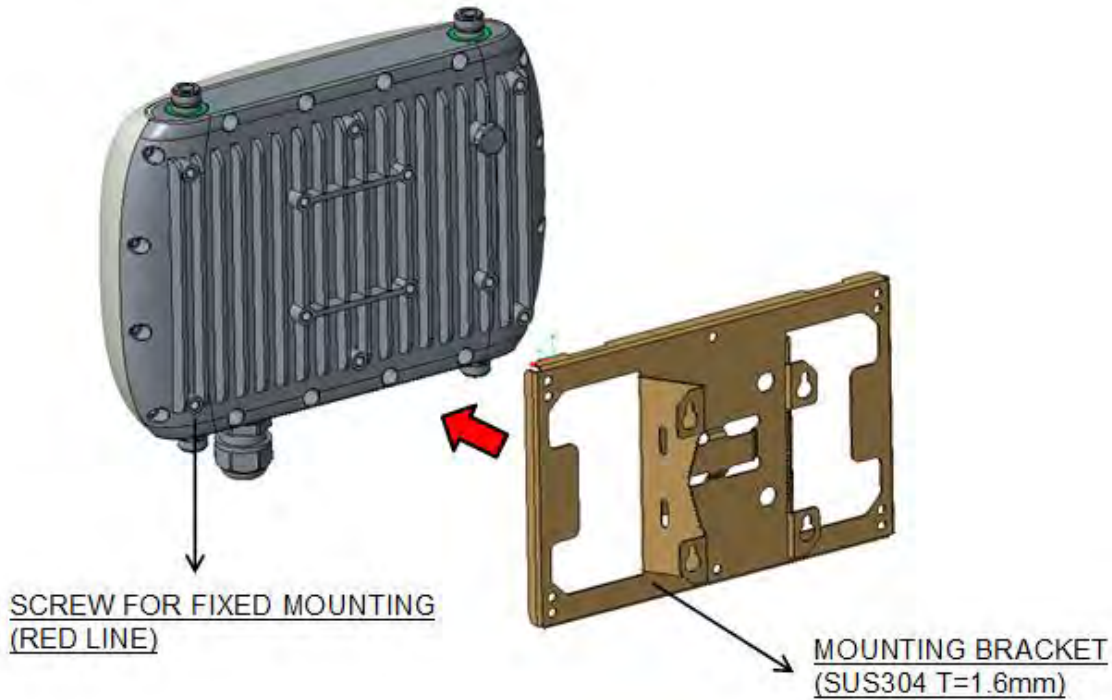
**MUST not install or remove GPS, LoRa or LTE Antenna when DC power is applied to the Gateway. It may damage the device.**

**For un-connected N Type Antenna Port, MUST install a " N Type Connector Cap" to prevent water getting into the device.**

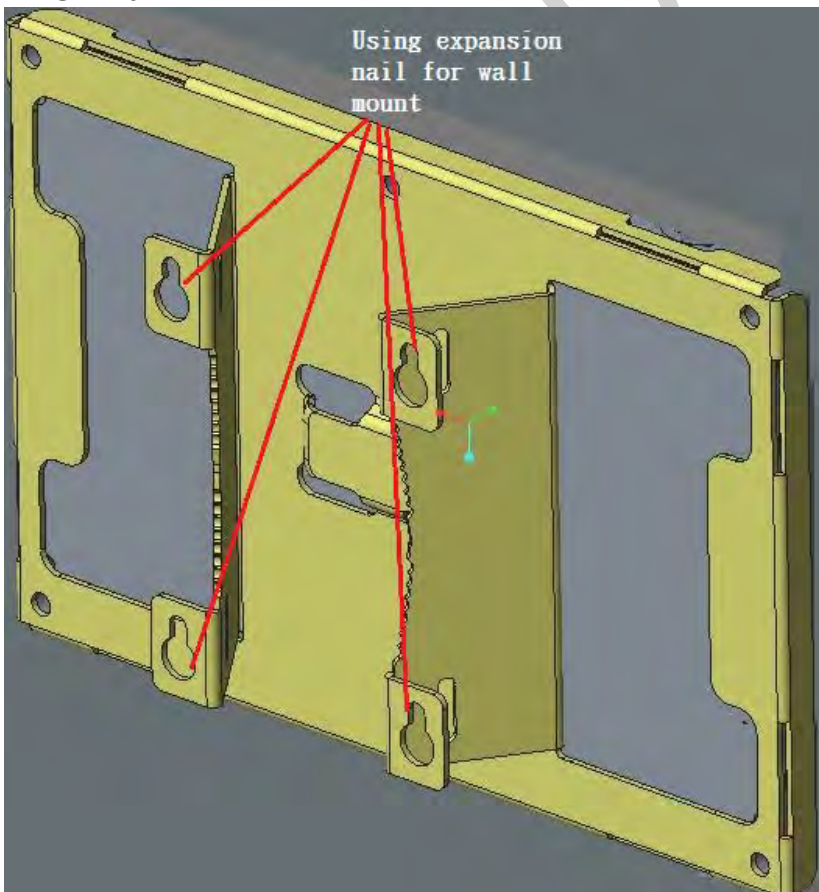


Our mounting bracket design will be able to fix in two different locations, which is antenna pole and wall. Mounting bracket is also be able to fix in two direction, Vertical and Horizontal as well.

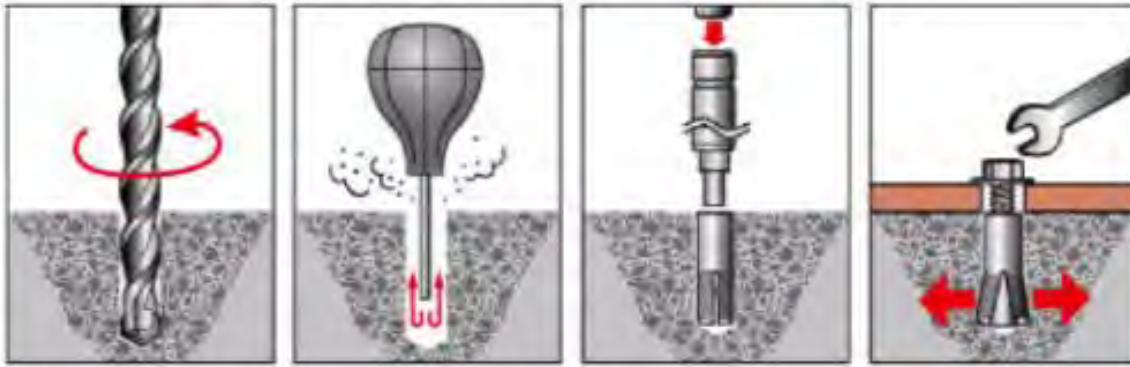
Bracket fix in the gateway for first step



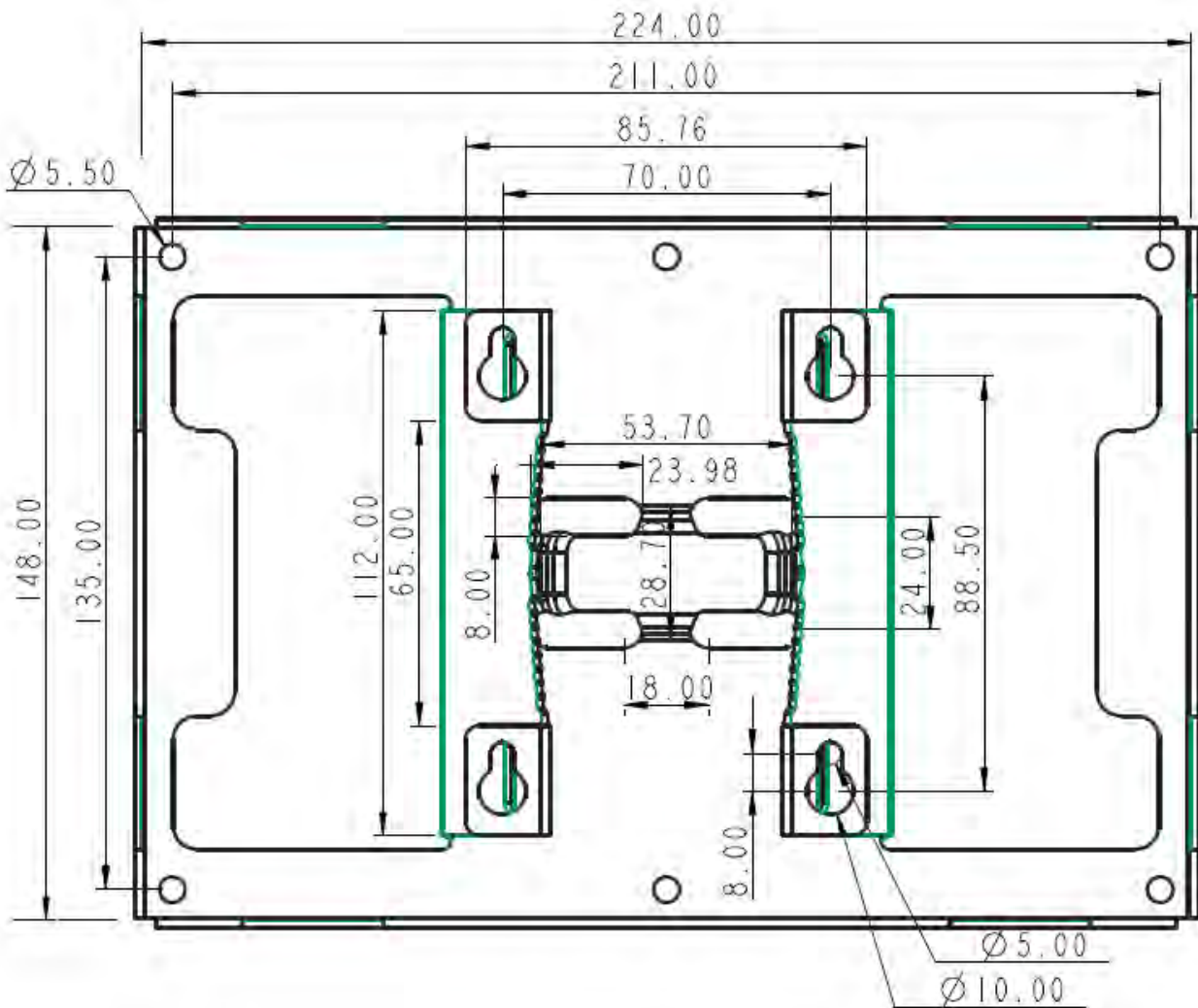
**1. On Wall**



locking the expansion nail for bracket. (Maximum 40Kg.cm torque for M5 nuts.)

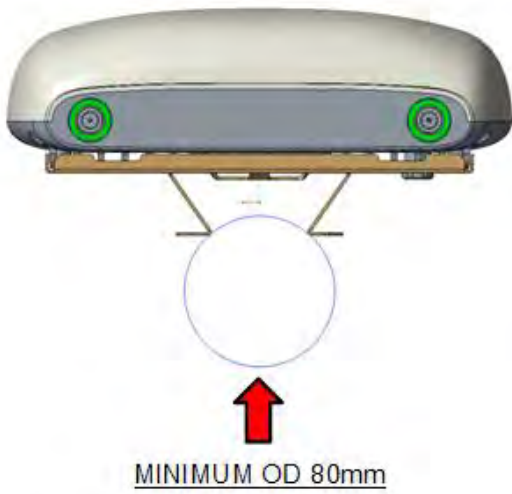


After locking the nuts, Reverse 3~4 turns nuts on wall. Hang on the IOT gateway then locking the nuts **again**.

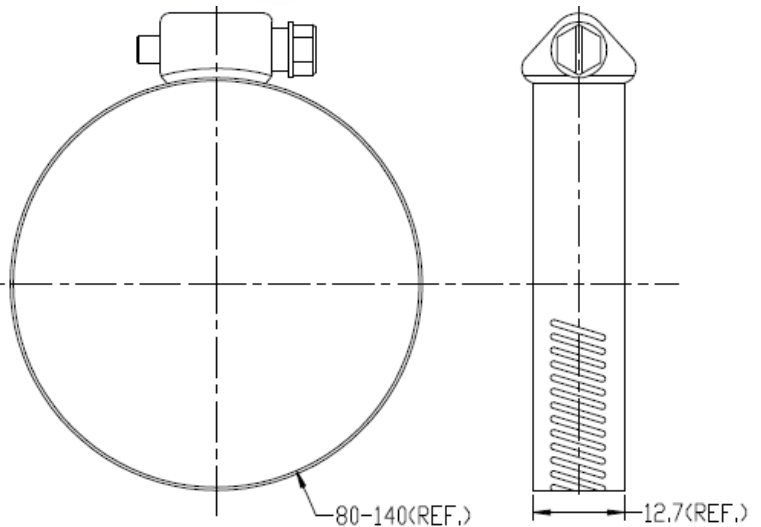
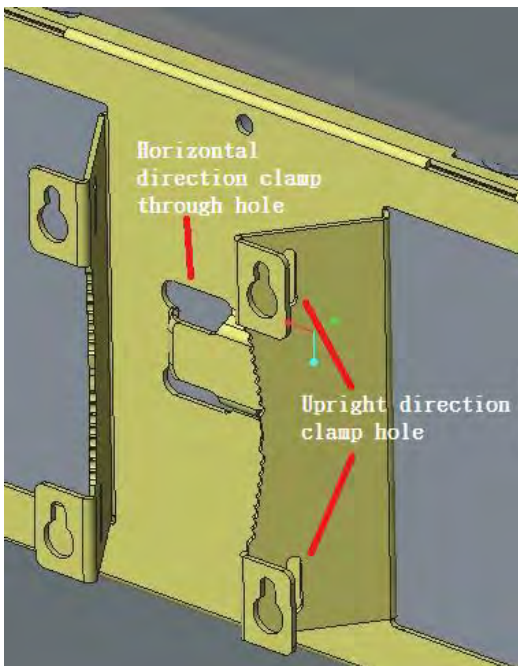
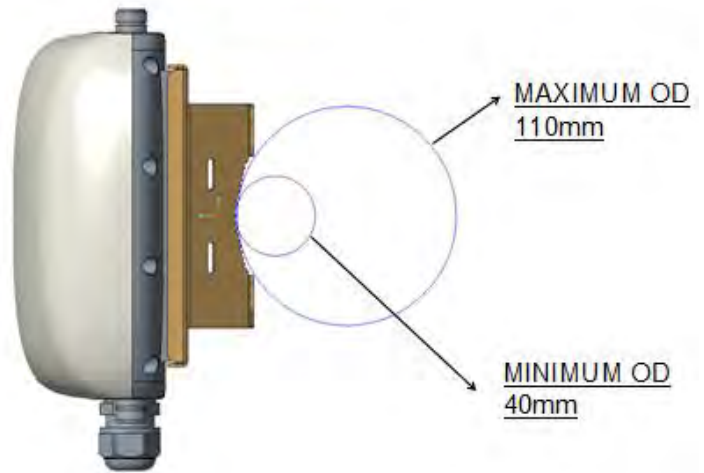


**2. On a Pole**

UPRIGHT POLE

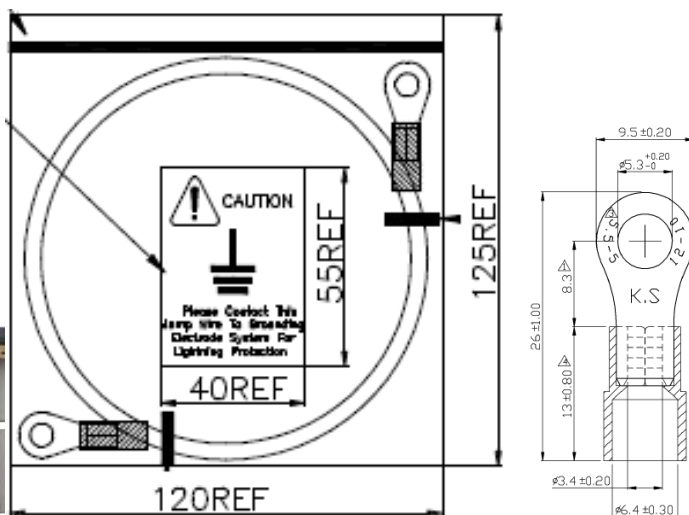


HORIZONTAL POLE



| MATERIAL (SPEC.) |      |      |      |      |      |       |      | SCALE |      |
|------------------|------|------|------|------|------|-------|------|-------|------|
| SUS304           |      |      |      |      |      |       |      |       |      |
| Select           | A    | B    | C    | EPS  | EPE  | BAG   | CTN  | Label | UNIT |
| Dia. Tol.        | 0.20 | 0.30 | 0.40 | 1.00 | 1.00 | 10.00 | 3.00 | 0.30  | mm   |

(Maximum 55Kg.cm torque for hose clamp)



Grounding Cable

Due to IoT Gateway has been certified with IP67 that SI can install with no any waterproof protection. But We still recommend that insert 3M 2166 waterproofing tape on antenna port could enhance reliability and prevent intentionally destroy in field.



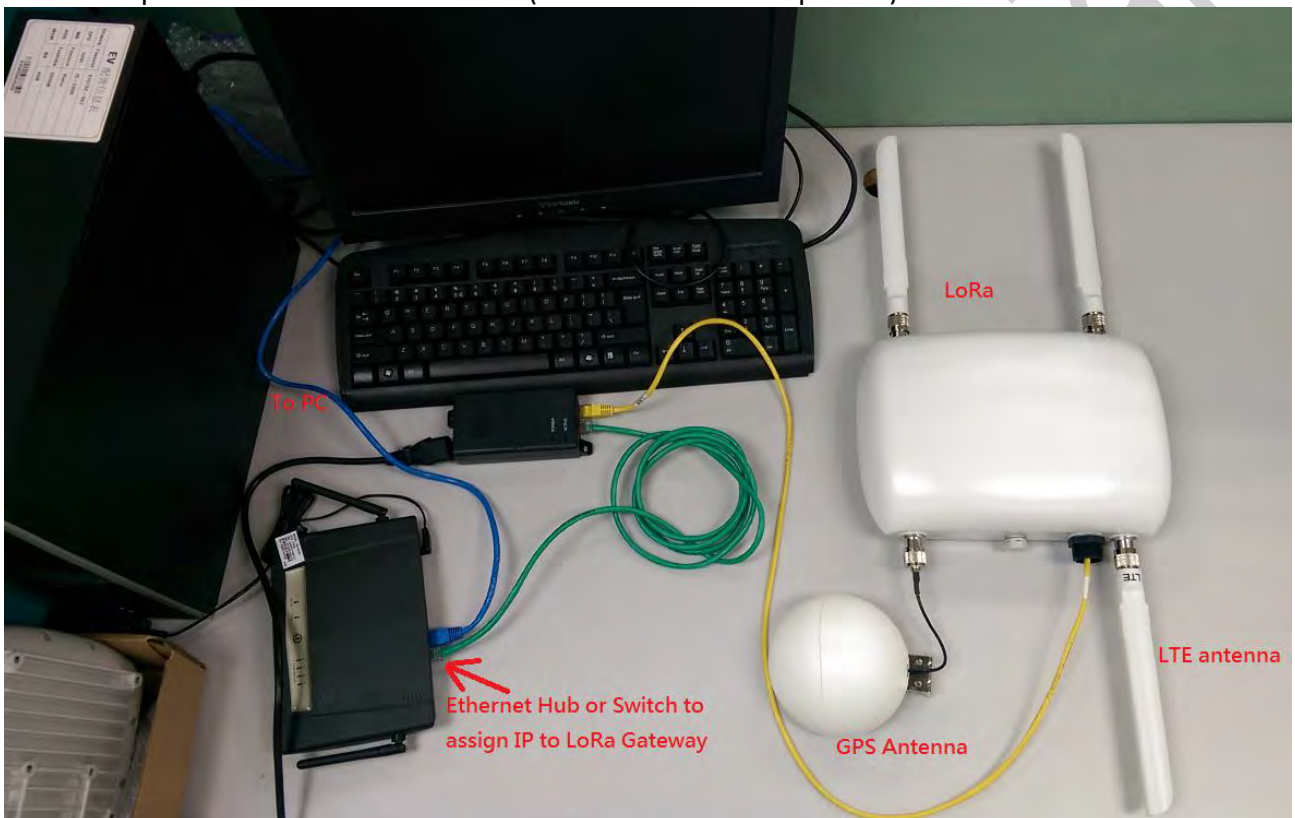
Foxconn Confidential

### 3. DHCP Setup

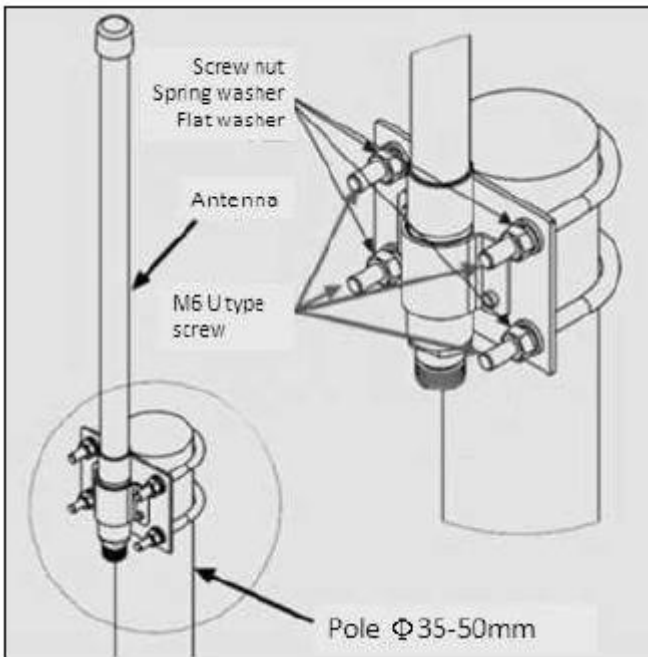
**WARNING:**

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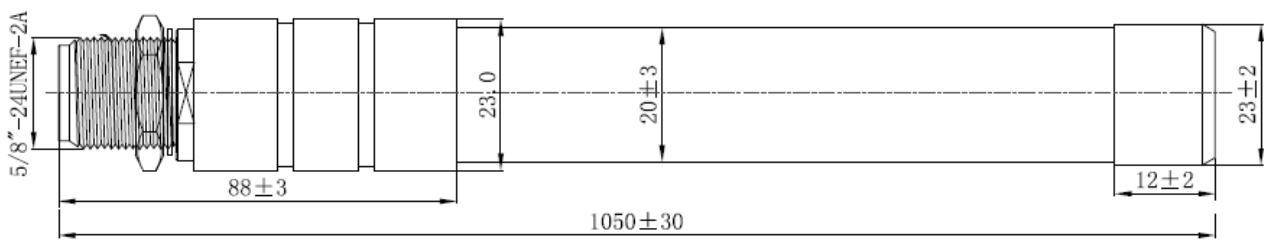
DHCP setup with 2 x 1dBi LoRa Antenna (LoRa Antenna 1 is Optional)



#### 4. Setup with High Gain (8dBi) LoRa Antenna



8dBi Antenna



Antenna Mounting Accessory





## Hardware Specification:

| Item                             | Technical Information   |
|----------------------------------|---|
| WiFi                             | IEEE 802.11 b/g/n 2.4 GHz   |
| GPS                              | 1575.42 MHz   |
| Ethernet                         | 100/1000 Mbps   |
| DC PWR                           | Max 60W, POE 802.3af compliant  |
| Power Consumption                | 40W max   |
| Antenna                          | 2 N-type external LoRA antenna<br>1 N-type external LTE antenna<br>1 N-type external active GPS antenna |
| IP Code                          | IP67  |
| UV Resistance                    | 0.77 w/m <sup>2</sup> @340nm  |
| Operation Temperature & Humidity | -20~70 °C, 20% ~90%   |
| Dimension                        | 269 × 184 × 85 mm   |
| Weight                           | 2.4 kg MAX  |
| Regulatory                       | FCC   |

| LoRaWAN 1.0 (GW2.1)                 | Technical Information     |
|-------------------------------------|---------------------------|
| Frequency Band Tx/Rx                | 902-928 MHz               |
| Tx Power                            | 26.85 dBm                 |
| Rx Sensitivity @ SF12               | -138 dBm                  |
| Sectorization                       | Omni                      |
| ADR                                 | Yes                       |
| Geo-localization                    | Yes, GPS, GLONASS, BeiDou |
| RF Channel Scanning                 | Yes                       |
| Higher grade SAW filter             | Yes                       |
| LoRa Channels                       | 8                         |
| Class A,B,C end-device              | Yes                       |
| Data Rate                           | 980 bps to 21900 bps      |
| Improvement of coexistence with LTE | Yes                       |
| LTE modem                           | Available upon request    |
| LTE modem Band                      | Available upon request    |

## Software Specification:

| Item                                | Technical Information   |
|-------------------------------------|---|
| Backhaul Connection                 | Ethernet / LTE / WiFi   |
| VPN                                 | OpenVPN / Strongswan  |
| LoRa GW Application                 | LoRa packet forward, uplink/downlink                              |
| FW upgrade                          | Remote Server side FW upgrade / Local GUI upgrade                 |
| Link Monitor                        | Healthy status report   |
| Configuration Preserved in Flash    | Backup & restore / dynamic & permanent setting / Reset to default |
| Web/GUI                             | Setup / Status report   |
| ThingPark LRR integration           | LoRa packet forwarding  |
| LoRa location without GPS (MCG022E) | Use Differential Time of Arrival(DTOA) for location calculation   |
| Triangulation LBS                   | Outdoor accuracy < 50M  |
| Zero-touch provisioning             | Yes   |
| IPSec (3DES,AES,SHA)                | Yes   |
| P&P (Plug and Play)                 | Yes   |
| Transmission features               | L2  |
| Management and manageability        | Yes   |

### **Federal Communication Commission Interference 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.

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.
- RF Modules installed in this product must not be co-located or operating in conjunction with any other antenna or transmitters, except when installed in accordance with FCC multi-transmitter product guidelines.

### **Radiation Exposure Statement:**

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.