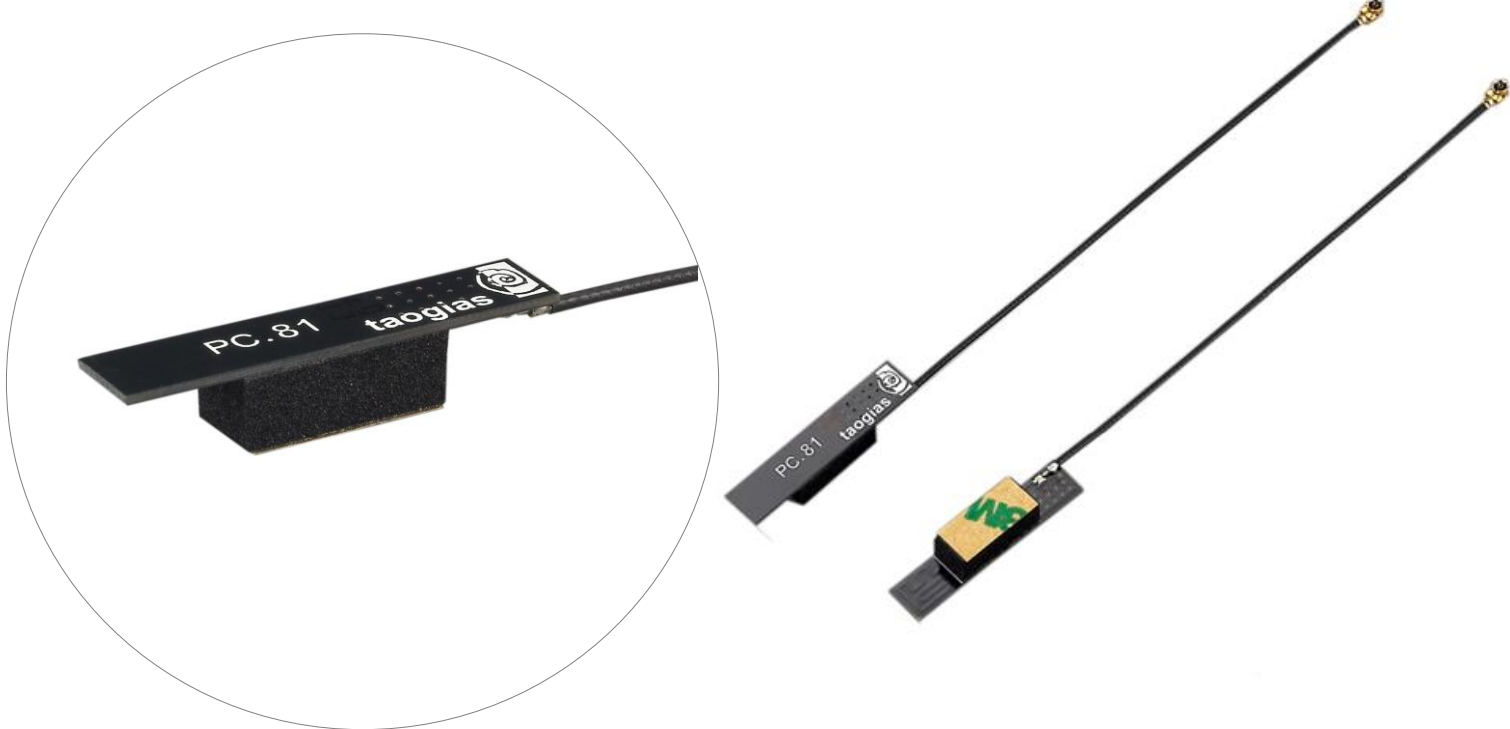


## SPECIFICATION

- Part No. : **PC81.07.0100A.db**
- Product Name : **TheStripe™** 868Mhz PCB Antenna  
100mm IPEX 1.13mm diameter MHF connector  
foam attachment for assembly
- Features : 34mm\*7mm\*0.8mm(PCB)  
16mm\*6mm\*7mm(foam)  
Compatible with Hirose U.FL  
With 3M Adhesive, easy stick on client enclosure

Photo:



## 1. Introduction

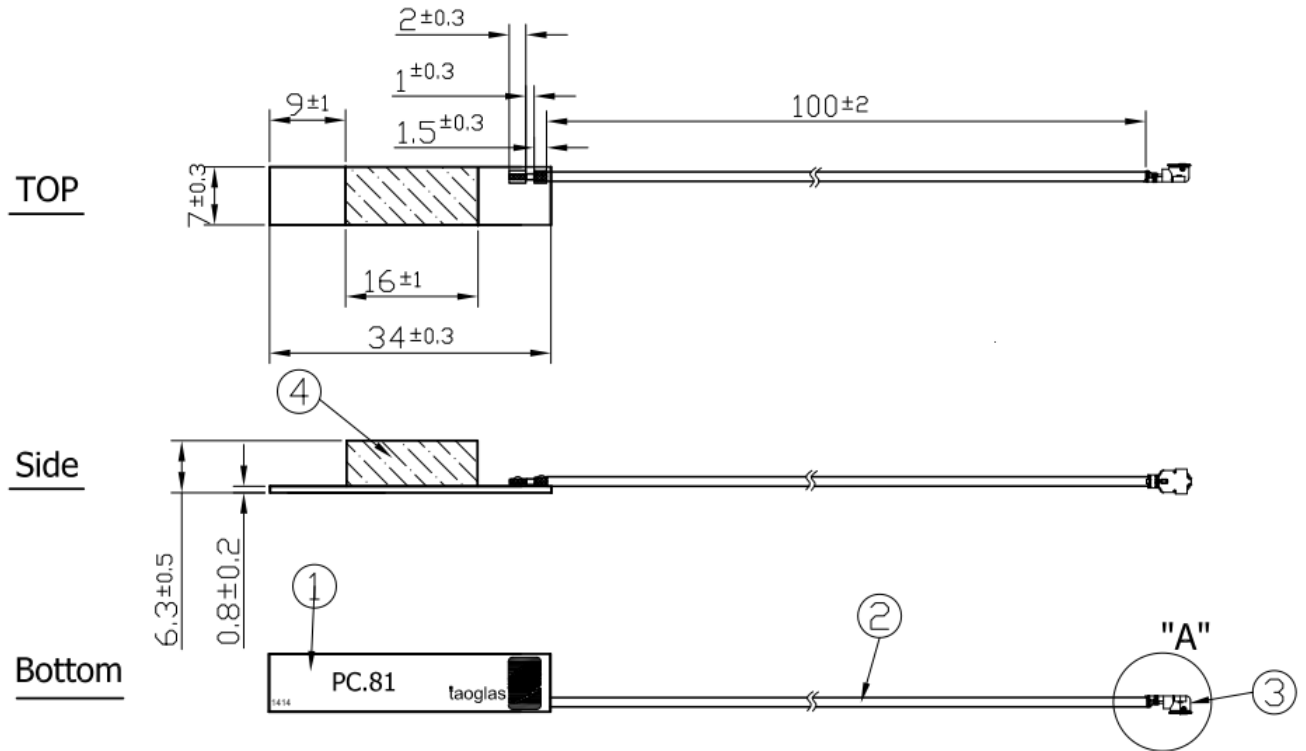
This miniaturized low profile PCB antenna is based on smart TheStripe™ antenna technology. It consists of a PCB antenna and 1.13mm mini coaxial cable with IpeX MHF (Hirose U.FL comp) connector. The PC81 comes with a foam attachment which has 3M adhesive on the underside which assists in placing the antenna with sufficient clearance for optimal performance.

Cable lengths and connectors are fully customizable.

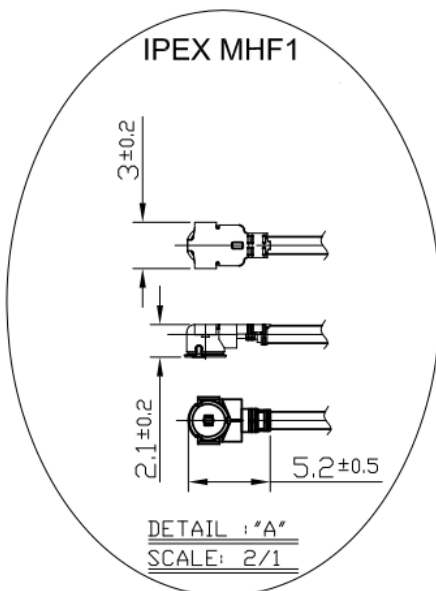
## 2. Specification

| Parameter             | Electrical Specification    |
|-----------------------|-----------------------------|
| Applications          | 868MHz ISM Band             |
| Frequency Band        | 868-870MHz                  |
| Efficiency            | 50.46%                      |
| Return Loss           | <-10dB                      |
| VSWR                  | <2.0:1                      |
| Impedance             | 50 Ohm                      |
| Polarization          | Horizontal                  |
| Radiation Pattern     | Omni-Directional            |
| Parameter             | Mechanical Specification    |
| Antenna Dimensions    | 34mm*7mm*0.8mm(PCB)         |
|                       | 16mm*6mm*7mm(foam)          |
| Cable Type            | Ø1.13 Coaxial Cable         |
| Cable Length          | 100mm                       |
| Connector             | IPEX MHFI(U.FL Compatible)  |
| Adhesive              | 3M 9472                     |
| Foam                  | CR4305                      |
| Parameter             | Environmental Specification |
| Operation Temperature | -40°C ~ +85°C               |
| Storage Temperature   | -40°C ~ +85°C               |

### 3. Mechanical Drawing



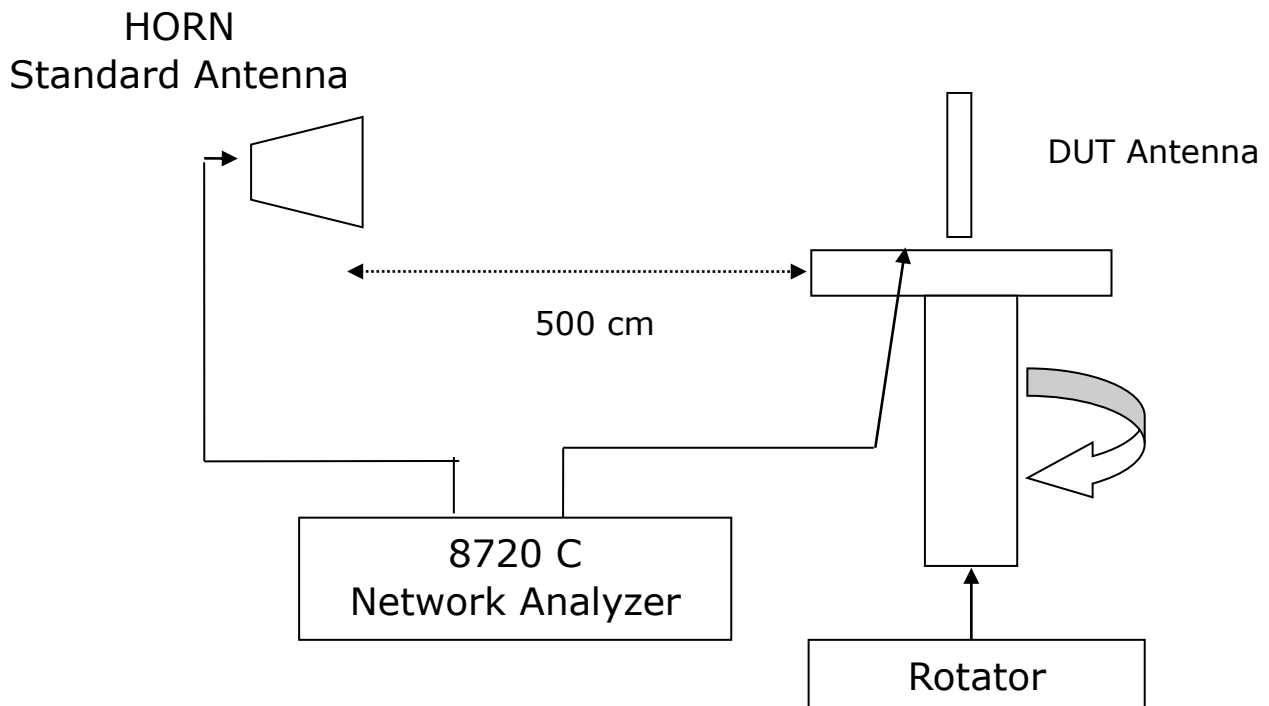
|   | Name                                     | Material      | Finish | QTY |
|---|------------------------------------------|---------------|--------|-----|
| ① | PC81 PCB                                 | FR4 0.8t      | Black  | 1   |
| ② | 1.13 Mini-Coaxial Cable                  | FEP           | Black  | 1   |
| ③ | IPEX MHF1                                | Brass         | Gold   | 1   |
| ④ | Double Sided Adhesive + Closed Cell Foam | 3M9472+CR4305 | Black  | 1   |



## 4. Antenna Test Setup and Results

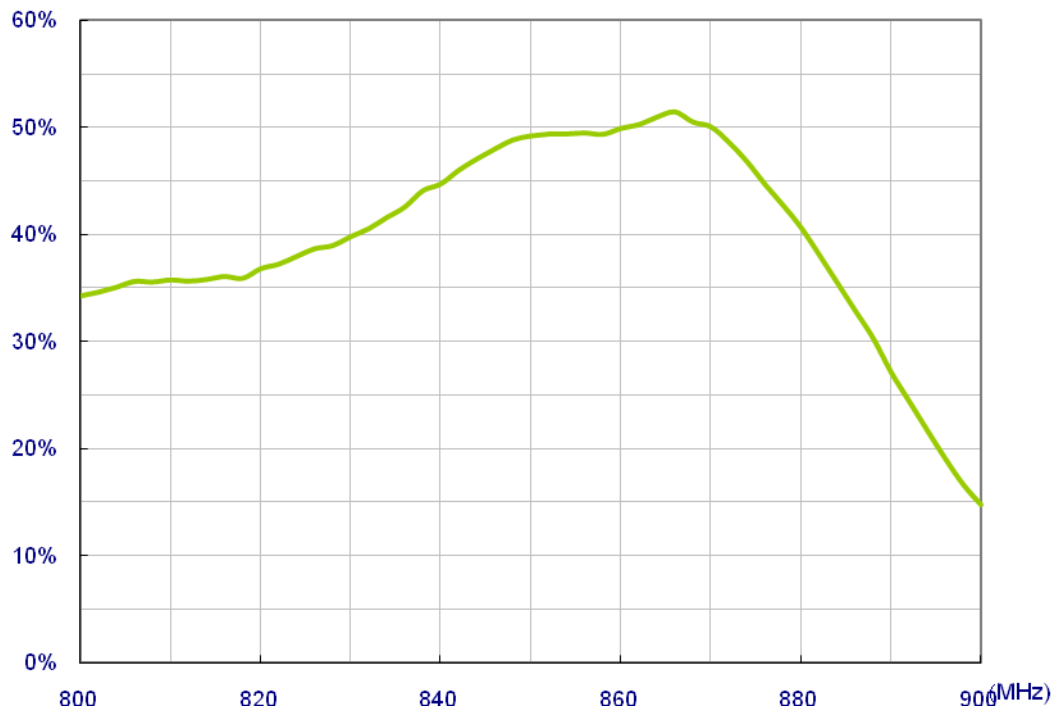
### 4.1 Equipment

#### Radiation Pattern Testing - Anechoic



## 4.2 Efficiency

Efficiency of PC.81 with 100mm coaxial in free space

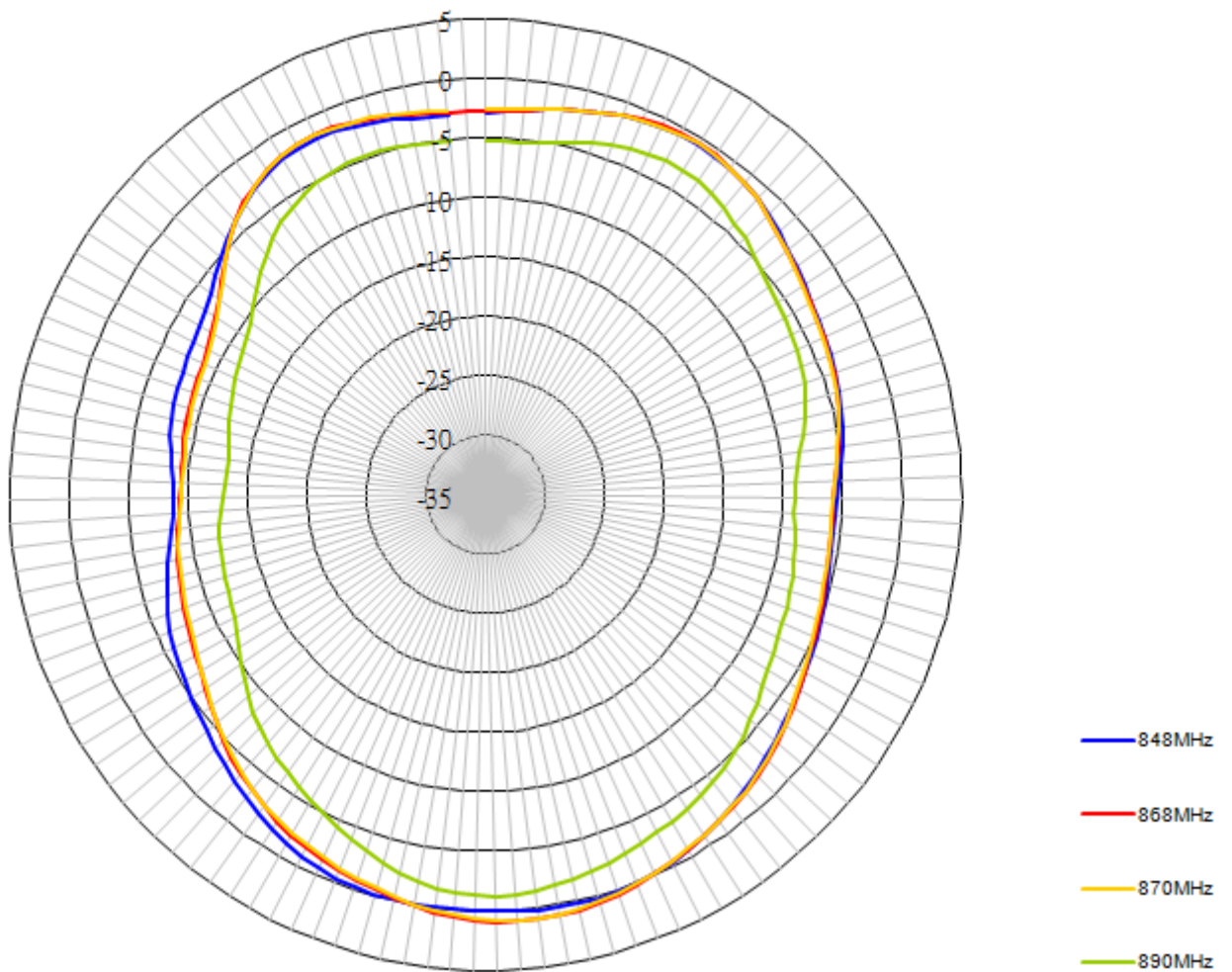


| PC.81 Efficiency Data |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Band(MHz)             | 800   | 810   | 820   | 830   | 840   | 850   | 860   | 868   | 870   | 880   | 890   | 900   |
| Gain                  | 0.78  | 0.93  | 1.21  | 1.55  | 1.88  | 2.25  | 2.36  | 2.51  | 2.6   | 1.82  | 0.01  | -2.56 |
| Efficiency (%)        | 34.26 | 35.75 | 36.79 | 39.78 | 44.69 | 49.16 | 49.86 | 50.46 | 50.01 | 40.63 | 27.15 | 14.79 |
| Efficiency dB         | -4.65 | -4.47 | -4.34 | -4    | -3.5  | -3.08 | -3.02 | -2.97 | -3.01 | -3.91 | -5.66 | -8.3  |

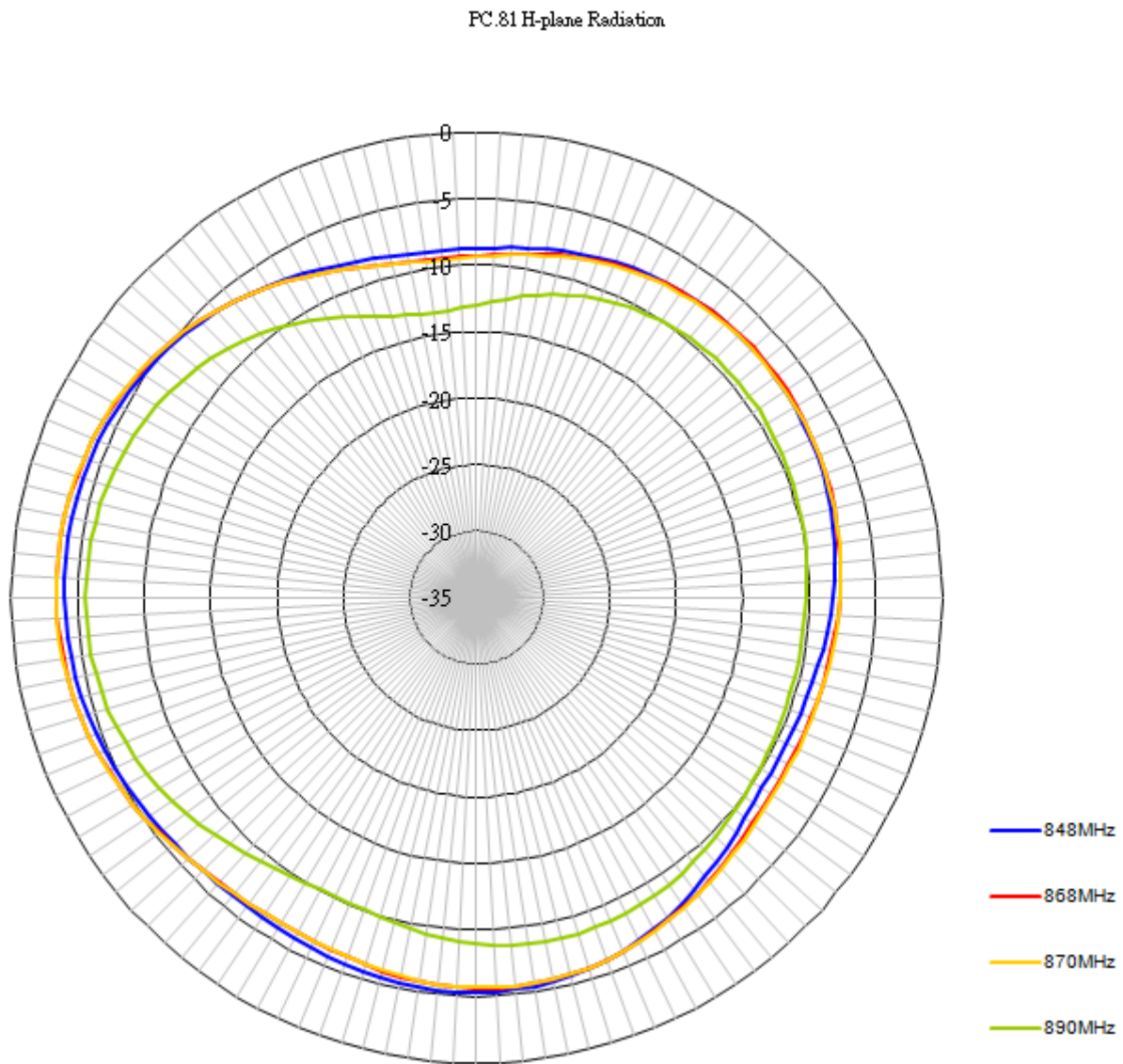
## 4.3 Radiation Patterns

### 4.3.1 E-Plane (Horizontal/Azimuth Plane)

PC.81 E-plane Radiation

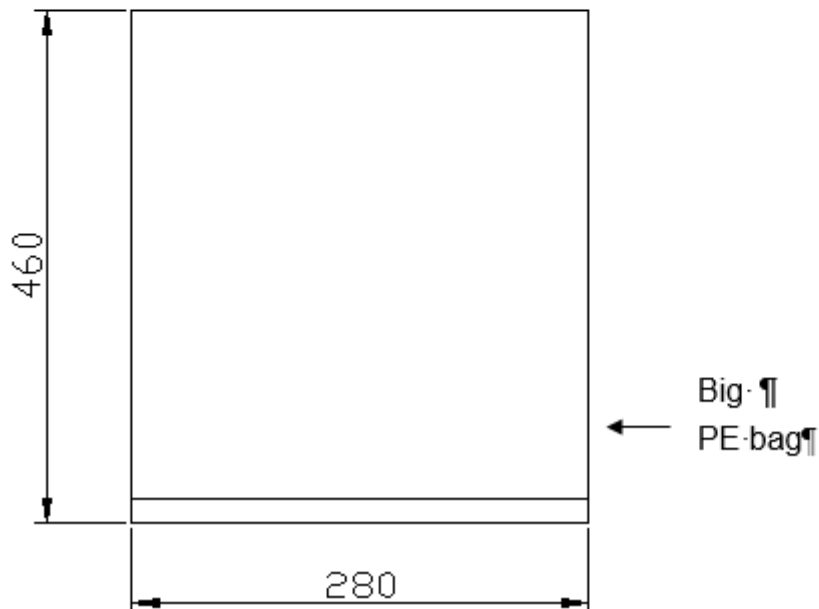
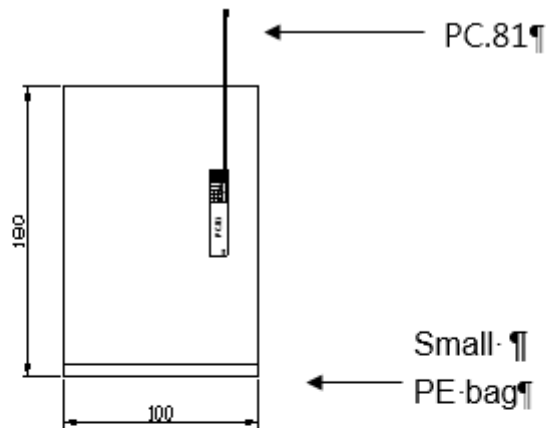


### 4.3.2 H-Plane (Vertical/Elevation Plane)



## 5. Packaging

- 100 pcs per small PE Bag
- 10 small PE bags per large PE bag (1000pcs)



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