

## 文件履歷表

| 申請單編號      | 版本 | 修訂內容簡述 | 修訂頁次 | 申請日期       | 修訂者        |
|------------|----|--------|------|------------|------------|
|            | A  | 新制定    | ALL  | 2024.02.05 | Iris Huang |
|            |    |        |      |            |            |
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| 發行份數：電子檔發行 |    |        |      |            |            |



**Product Name:** WiFi Dual Band Antenna (HE019)

**Part Number:** H2B1PD1A1C6100

**Features:**

- Supporting WiFi 5 & 6, covering 2400~2485 & 5150~5850 MHz
- Stable and reliable in performances
- Dimensions: 40 x 6 x 0.5 mm
- Compact size
- RoHS 2.0 Compliant

**Applications:**

- Wi-Fi(802.11n/a/b/g) functions

# WiFi Dual Band PCB Antenna

**MODEL: HE019**

Version: Preliminary

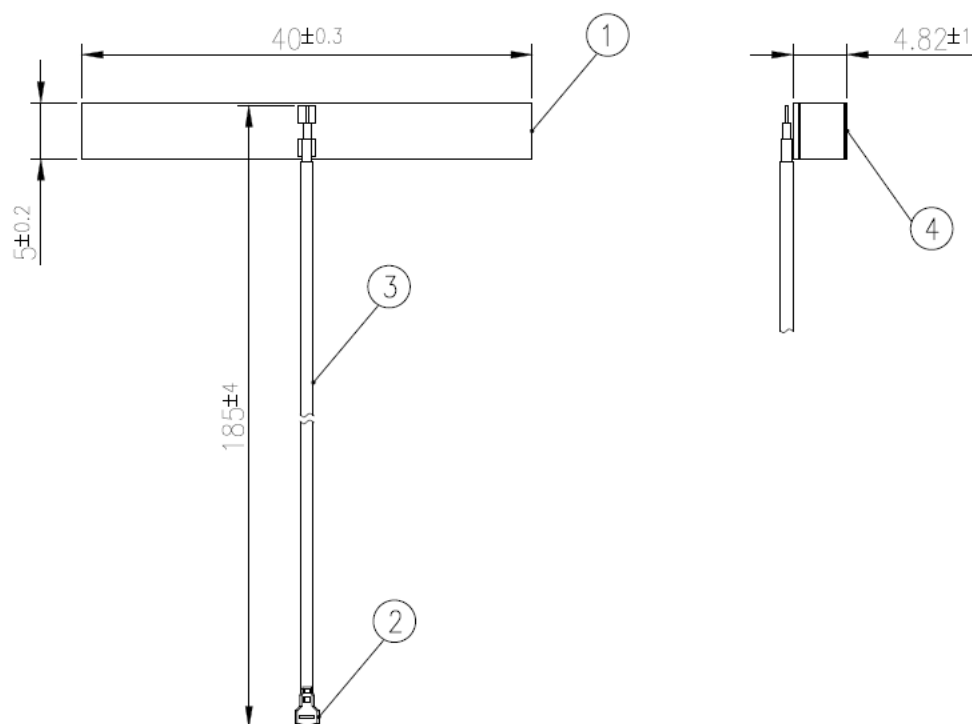
## I. Specifications:

| Items                                  | Specifications      |           |
|----------------------------------------|---------------------|-----------|
| <b>Frequencies (MHz)</b>               | 2400~2485           | 5150~5850 |
| <b>Return loss(dB)</b>                 | < -10.0 Typ.        |           |
| <b>Efficiency (%)</b>                  | 22.1 Typ.           | 40.5 Typ. |
| <b>Average Gain (dB)</b>               | -6.6 Typ.           | -4.1 Typ. |
| <b>Peak Gain (dBi)</b>                 | 0.4 Typ.            | 2.9 Typ.  |
| <b>Impedance (<math>\Omega</math>)</b> | 50                  |           |
| <b>Polarization</b>                    | Linear Polarization |           |

| Mechanical Specifications         |                         |
|-----------------------------------|-------------------------|
| <b>Dimensions (mm)</b>            | 40(L) x 6 (W) x 0.5 (H) |
| <b>Material</b>                   | FR4                     |
| Environmental Conditions          |                         |
| <b>Operation Temperature (°C)</b> | -40 ~ +85               |
| <b>Storage Temperature (°C)</b>   | -5 ~ +40                |
| <b>Relative Humidity</b>          | 10 ~ 70 %               |

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## II. Dimensions of antenna with cable (unit: mm)

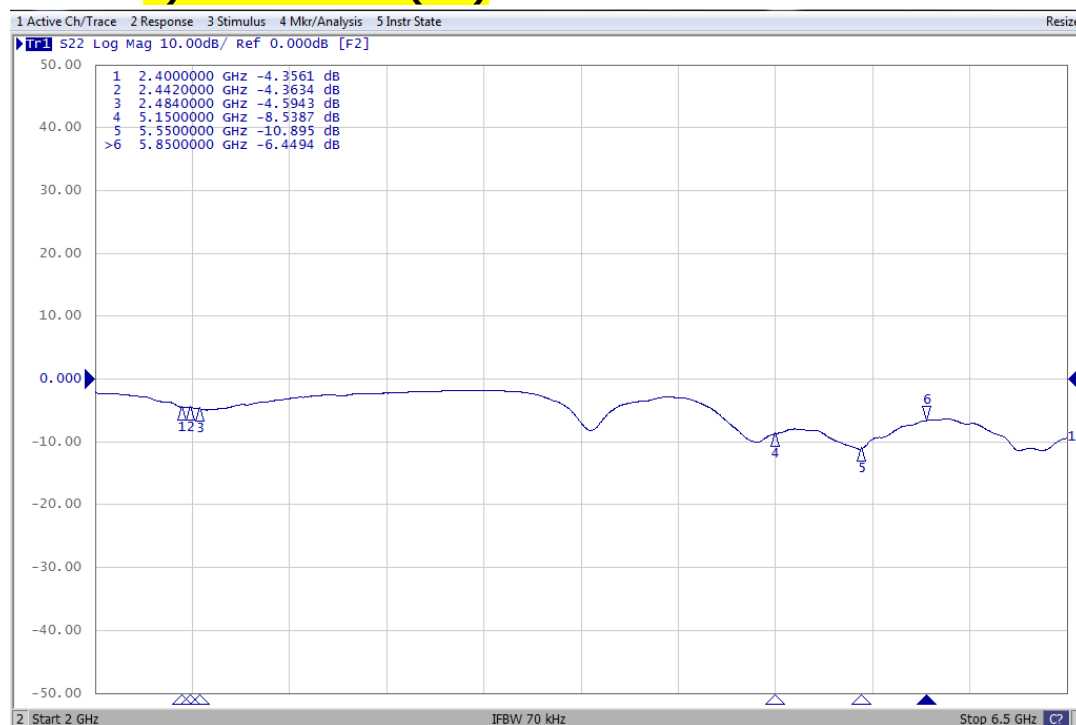


**NOTE:**  
1.All materials are RoHS 2.0 compliant.

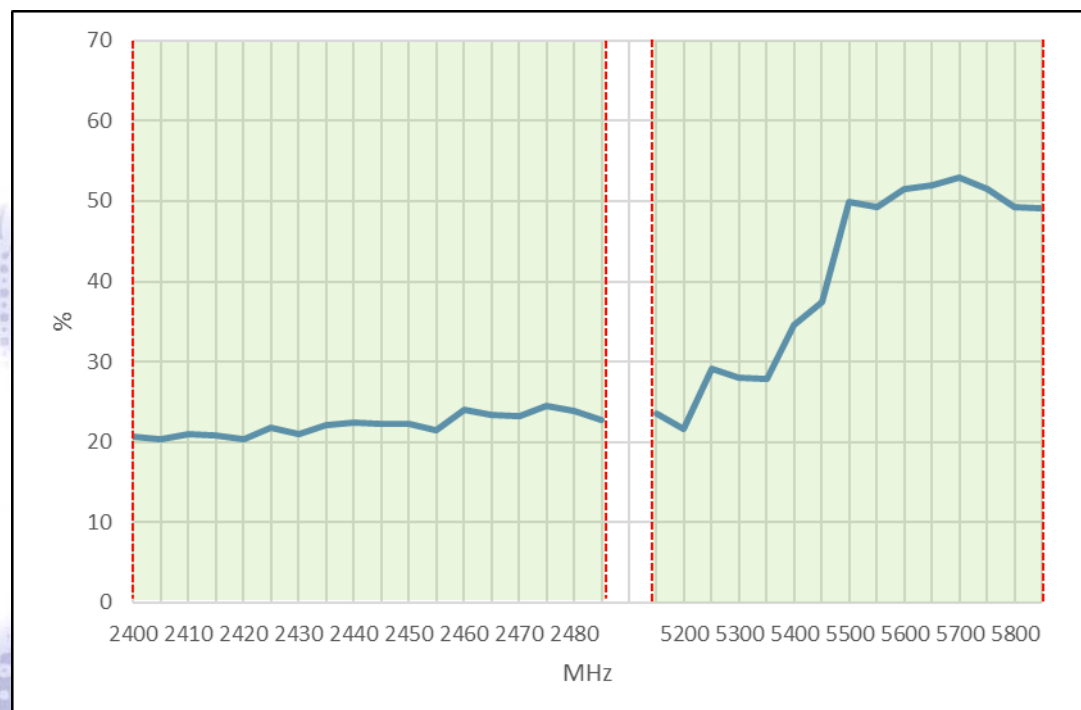
| Item | Name                             | Material          | Color     | Q'ty |
|------|----------------------------------|-------------------|-----------|------|
| 1    | PCB                              | FR4               | Black     | 1    |
| 2    | I-PEX Connector (20448-001R-081) | Phosphor Bronze   | Au Plated | 1    |
| 3    | OD1.13 Coaxial Cable             | FEP               | Grey      | 1    |
| 4    | Foam Double-Sided Adhesive Tape  | PE EVA & 3M 9810T | Liner     | 1    |

### III. Properties:

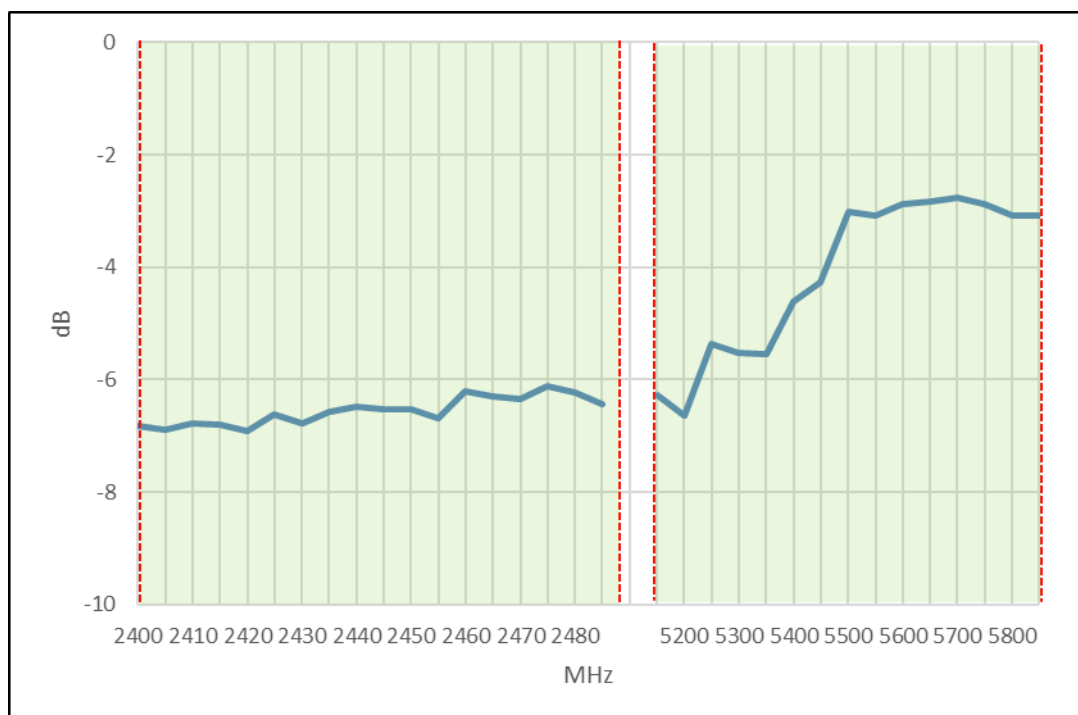
#### a) Return loss(dB)



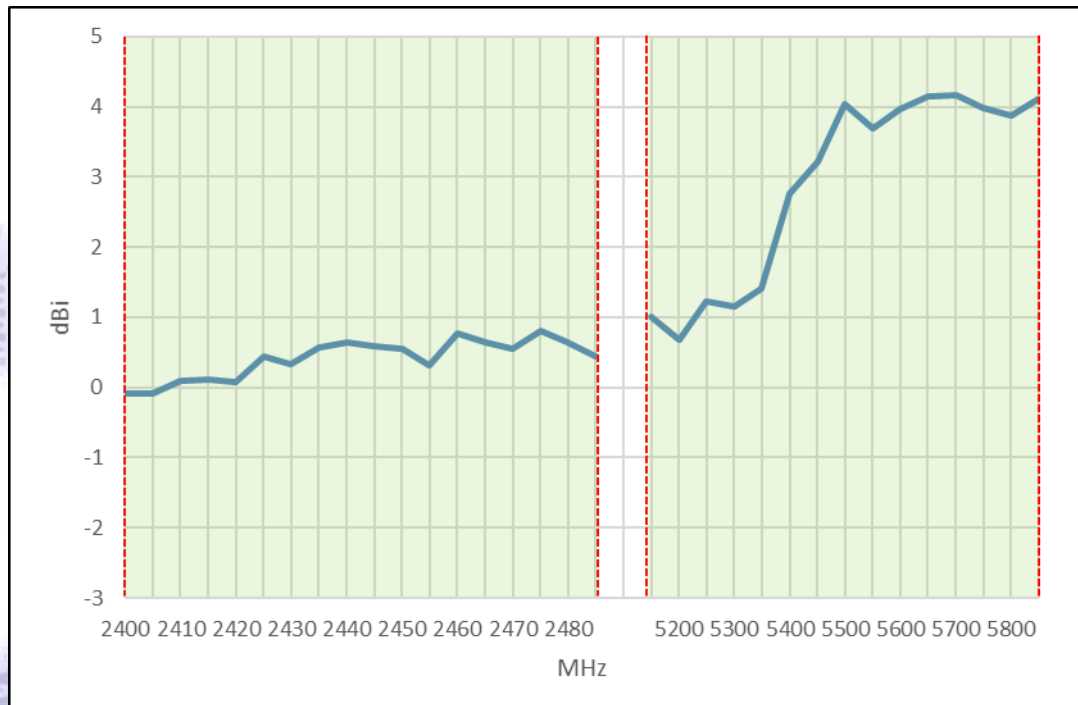
#### b) Efficiency (%)



### c) Average Gain (dB)



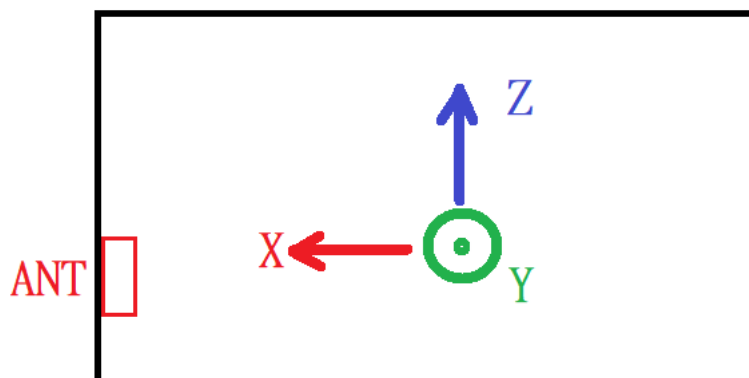
### d) Peak Gain (dBi)



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#### IV. Antenna Radiation Pattern Measurement:

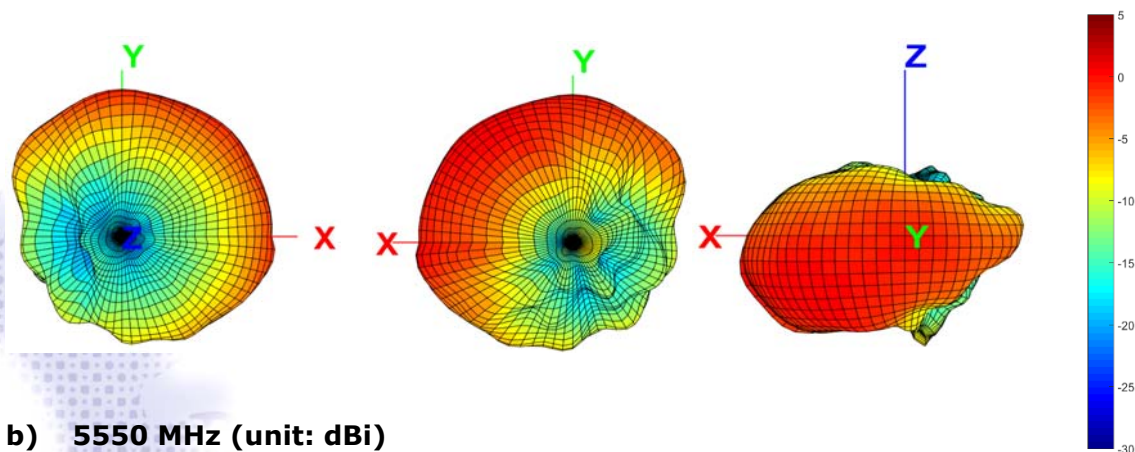
The antenna radiation patterns are measured in Unictron's 3D Anechoic Chamber. The measurement setup is as show below.



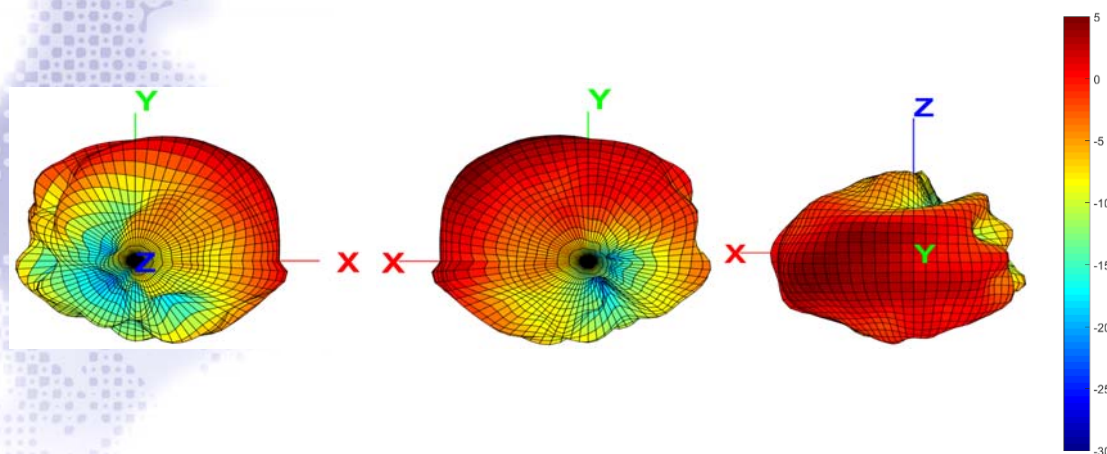
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#### 3D Radiation Gain Pattern

##### a) 2442 MHz (unit: dBi)



##### b) 5550 MHz (unit: dBi)



## IX. Packing: (Unit: mm)

a) Weight:

Unit Weight:  $0.8 \pm 0.05$  (g)

b) Quantity:

Each PE Bag: 25 pcs

Each Outer Box: 5,000 pcs

| Process | Photos                                                                             | Remark                                                              |
|---------|------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 1       |   | Put 25 pcs in a PE bag and attach label on PE bag.                  |
| 2       |  | Put 200 PE bags into an outer box with 5,000 pcs of antenna inside. |

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## V. MHF Connector Instruction Manual:

### 1. How to hold a cable connector

Hold the both ends of cable connector as show in Fig.1.

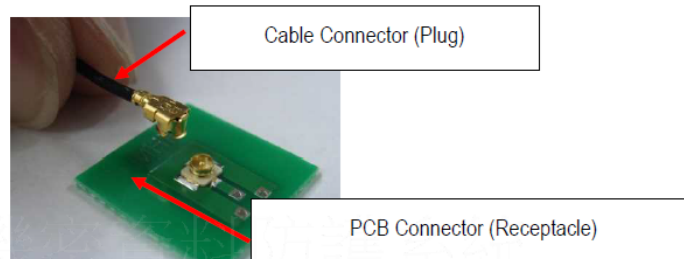


Fig.1

### 2. Which direction to mate

Set connectors of the board side and of the cable side as shown in Fig.2.  
Please check they are set firmly by moving back and forth slightly.

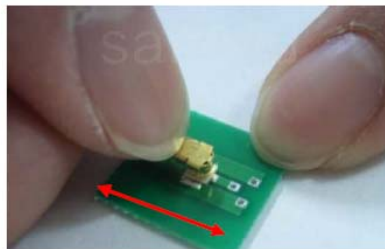


Fig.2.

Move back and forth slightly. They should not move.

#### CAUTION

Please make sure to set the cable side connector parallel to the board as shown in Fig.3.

If you mate in not parallel condition as shown in Fig.4, connector will be damaged

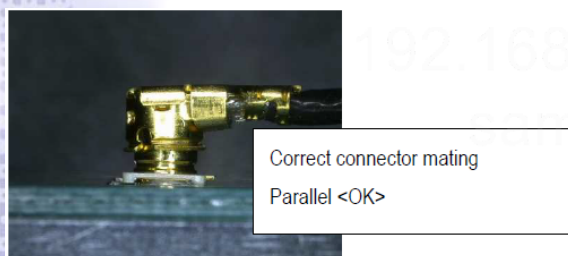


Fig 3.

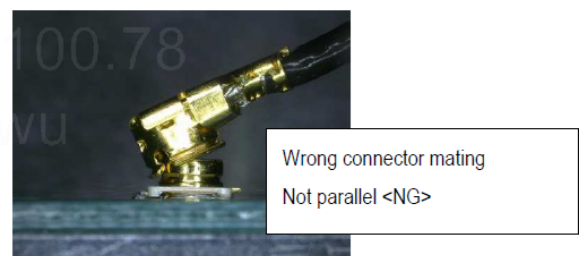


Fig 4.

### 3. How to mate

Push cable connector at its center location vertically as show in Fig.5. When click sound can be heard "the connector mating action is complete".

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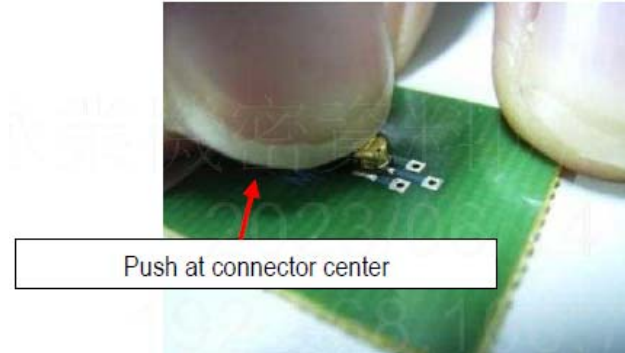


Fig 5.

### (CAUTION IN CABLE CONNECTOR HANDLING)

In the case of Fig.6, it has possibility to damage to the housing and come off from receptacle connector.

Especially when operator give continuous force to the direction (black allow), the tendency become higher.

So please take care of handing harness

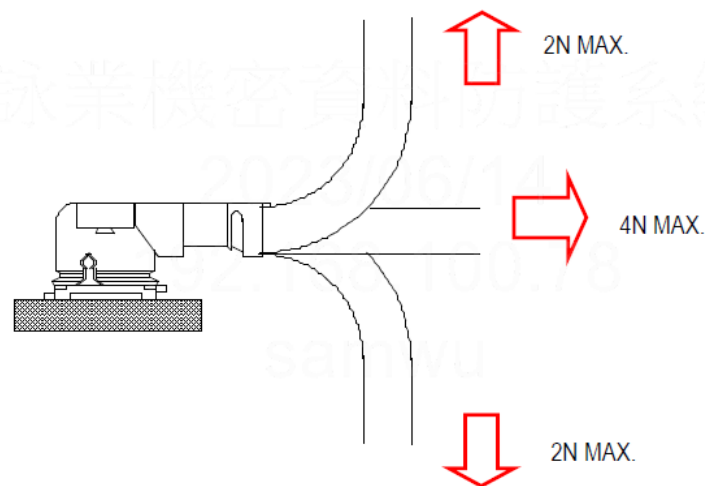


Fig 6.