# TrackBox v2.0 - Upper Part Installation Instructions 安裝說明
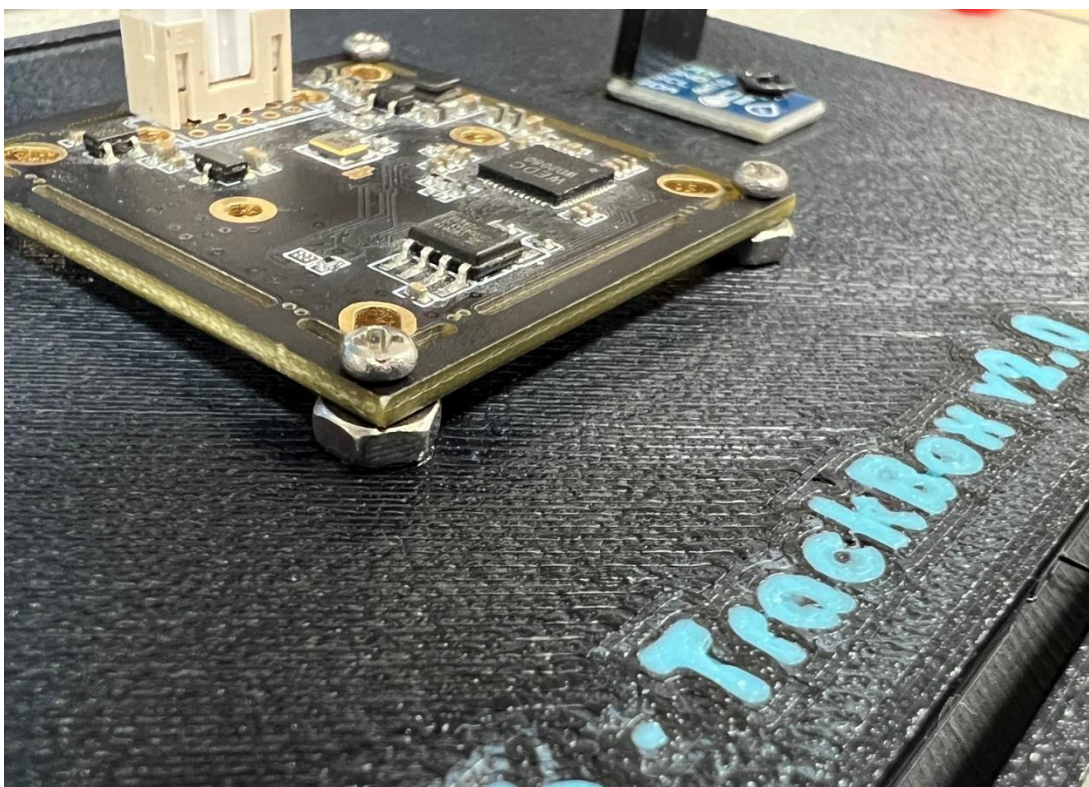
1. 取出摺疊狀態下的頂蓋，準備 4 支 M2 自攻螺絲和 4 個 M3 螺帽。

   *Take out the top cover in its folded state. Prepare 4 M2 self-tapping screws and 4 M3 nuts.*



2. 按照孔位將 USB 攝影機鎖在頂板上，螺帽是墊高用的不會與螺絲鎖緊。鎖完請檢查攝影機是否水平。

   *Secure the USB camera onto the top panel using the provided holes. Use the M3 nuts as spacers; do not tighten them with the screws. After installation, ensure the camera is level.*

3. 小心展開左右側板，由於有設計溝槽勾住上板，因此展開時小心不要折斷掛勾。
   *Carefully unfold the left- and right-side panels. Since the grooves are designed to hook onto the top panel, be cautious not to break the hooks during unfolding.*



4. 展開後成 ㄇ 字型直角。下一步前，請撕掉所有壓克力的保護紙或塑膠膜。
   *Once unfolded, the structure should form a U-shaped right angle. Before proceeding, remove all protective paper or plastic film from the acrylic components.*
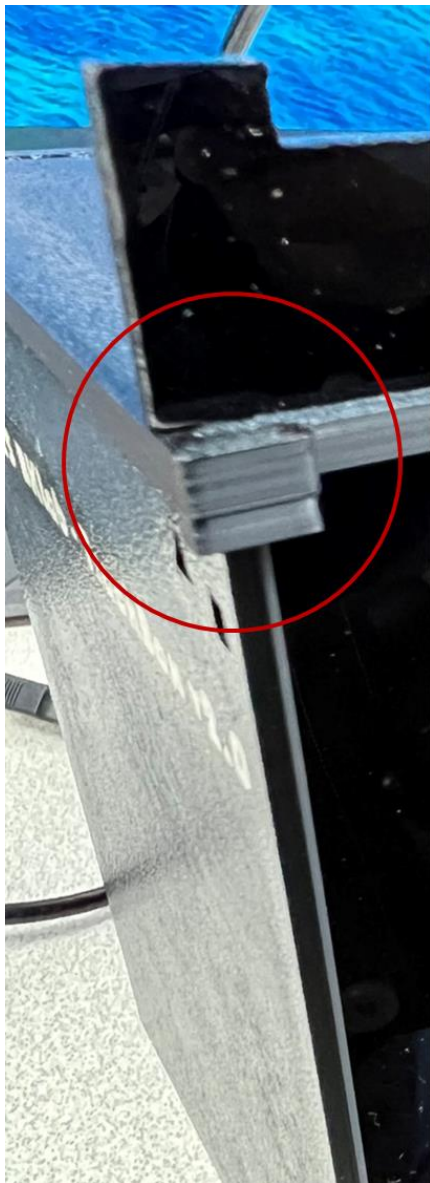
5. 插入前後壓克力板,可選兩片皆不透光全黑色,或前側使用半透光。壓克力非亮面要朝向攝影和內部以減少反光。
   注意:這個步驟由於密合度高所以最為困難,請嘗試讓壓克力板剛進入時保持兩側深度一致。如果左右側板被壓克力板推至脫落,請再左右側板卡回去即可。

   Insert the front and rear acrylic panels. You can choose either fully opaque black panels for both or a semi-transparent panel for the front. Ensure the non-glossy side of the acrylic faces inward and toward the camera to reduce reflections.
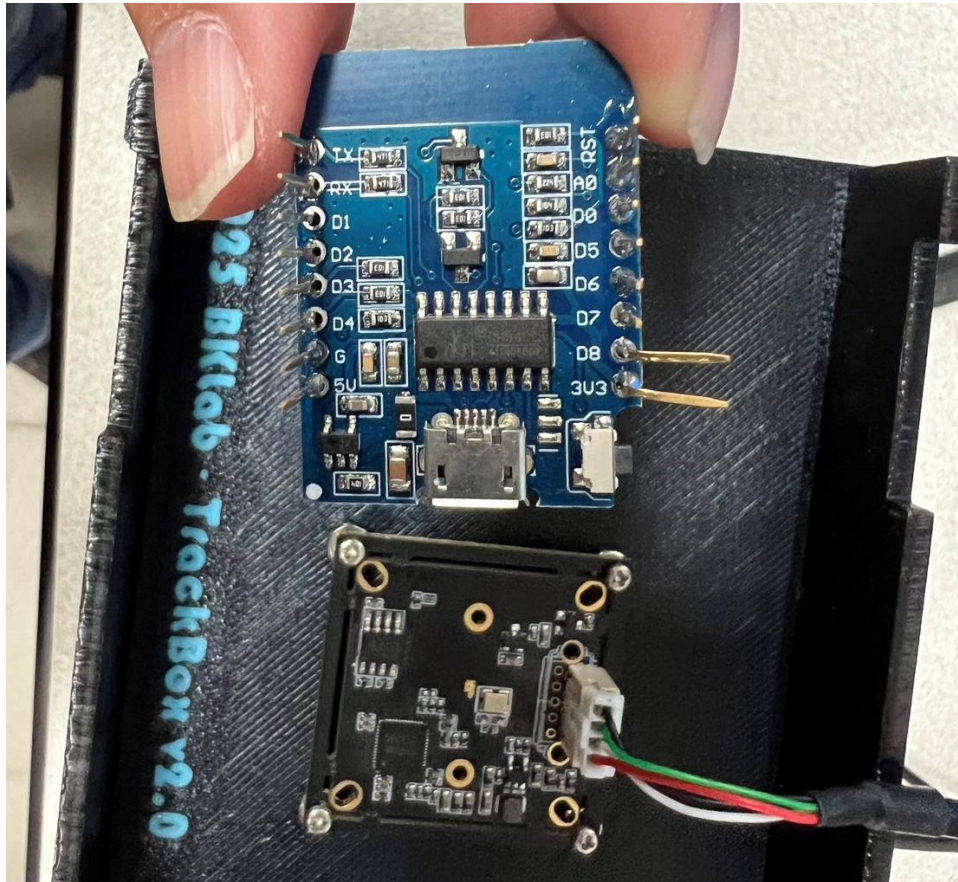   Note: This step may be challenging due to the tight fit. If the side panels come loose, simply reattach them.

6. 前後壓克力板插入完成後,請注意前後面的四個接觸角落是否密合,確保攝影盒沒有形變。
   After inserting the front and rear acrylic panels, check the four corner connections to ensure a tight fit. This ensures the photography box maintains its intended shape.
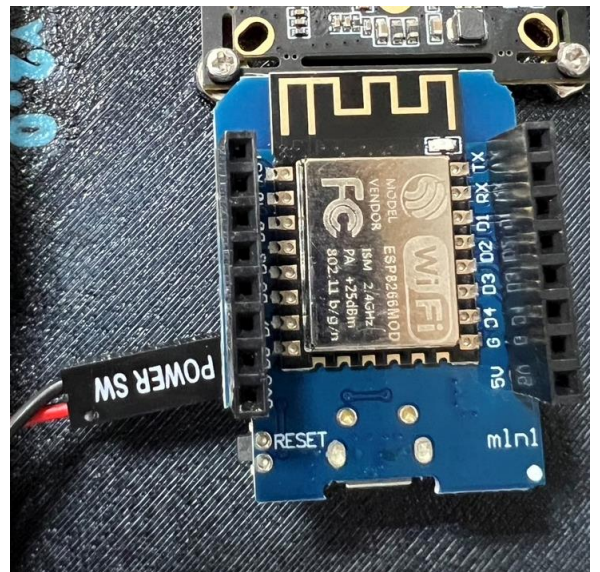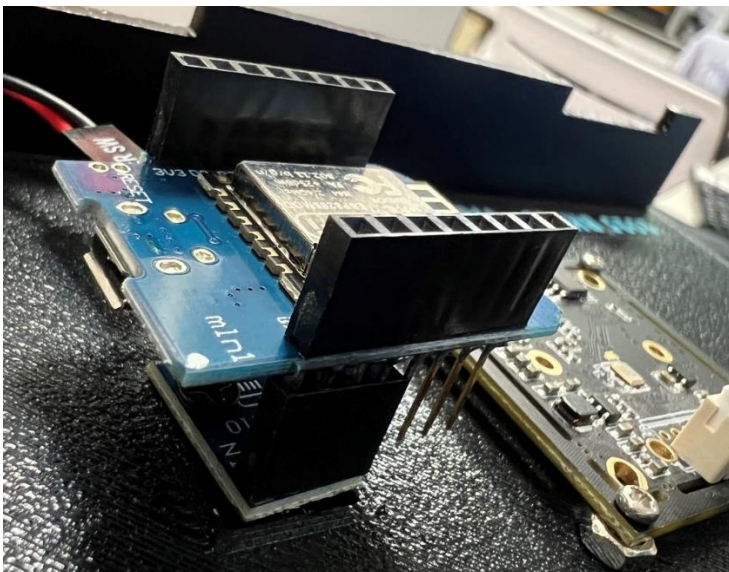
7. （選配）接著安裝溫溼度紀錄用的單晶片開發版（D1 mini），D8 和 3V3 針腳也可以不折，改從上部插入開關按鈕。
   *(Optional)* Install the D1 mini microcontroller for temperature and humidity recording. You may leave the D8 and 3V3 pins unbent and instead insert the switch button from the top.
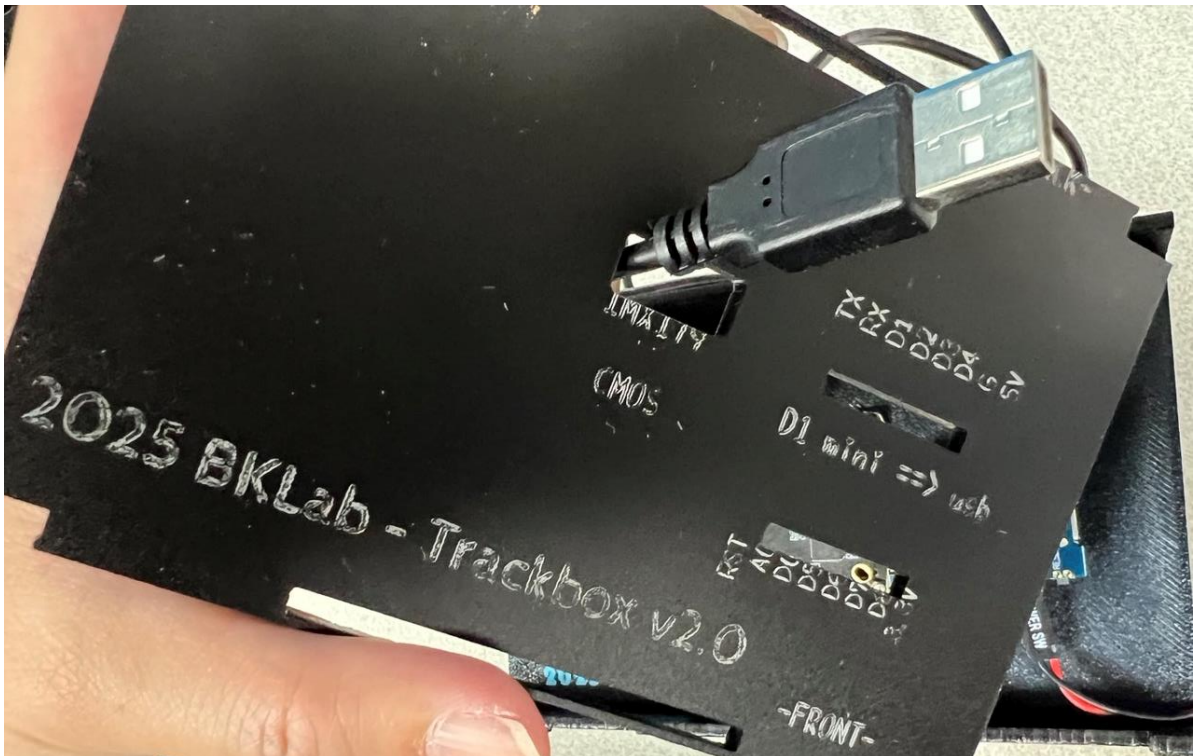


8. （選配）將 D1 mini 的 5V、G、D4 和 D3 針腳插入已鎖好的 AHT10 中，要輕壓確定針腳進入 AHT10 排孔底部。開關按鈕接口接上 D8 和 3V3，開關按鈕無方向性。
   *(Optional)* Insert the 5V, G, D4, and D3 pins of the D1 mini into the installed AHT10 sensor. Gently press to ensure the pins are properly inserted. Connect the switch button to the D8 and 3V3 pins (*the cable is non-directional*).

9. 組裝上蓋壓克力板，有字的那面朝上。將攝影機 USB 接頭穿過預留孔。

   Assemble the top acrylic panel with the labeled side facing up. Pass the USB connector of the camera through the reserved hole.



10. 將上蓋壓克力板卡入前後壓克力板，若有安裝 D1 mini，請確定 D1 mini 兩側排線口有正確對齊露出，如下圖。

    Snap the top acrylic panel into the front and rear acrylic panels. If the D1 mini is installed, ensure the pin headers on both sides of the D1 mini are correctly aligned and exposed. As the picture below.

11. （選配）將 D1 mini 接上 micro USB 線，連上電腦，序列埠通訊 115200 baud 可看到溫溼度感測器資訊，如下圖。

    *(Optional)* Connect the D1 mini to a computer using a micro USB cable. Use serial communication at 115200 baud to view the temperature and humidity sensor readings. As the picture below.

```
AHT10 sensor initialized successfully
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Sensor:        AHT10_T
Type:          Ambient Temp (C)
Driver Ver:    1
Unique ID:     257
Min Value:     -40.00
Max Value:     85.00
Resolution:    0.30
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Sensor:        AHT10_H
Type:          Relative Humidity (%)
Driver Ver:    1
Unique ID:     256
Min Value:     0.00
Max Value:     100.00
Resolution:    2.00
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Waiting for START command...
```