icecube

sunfounder

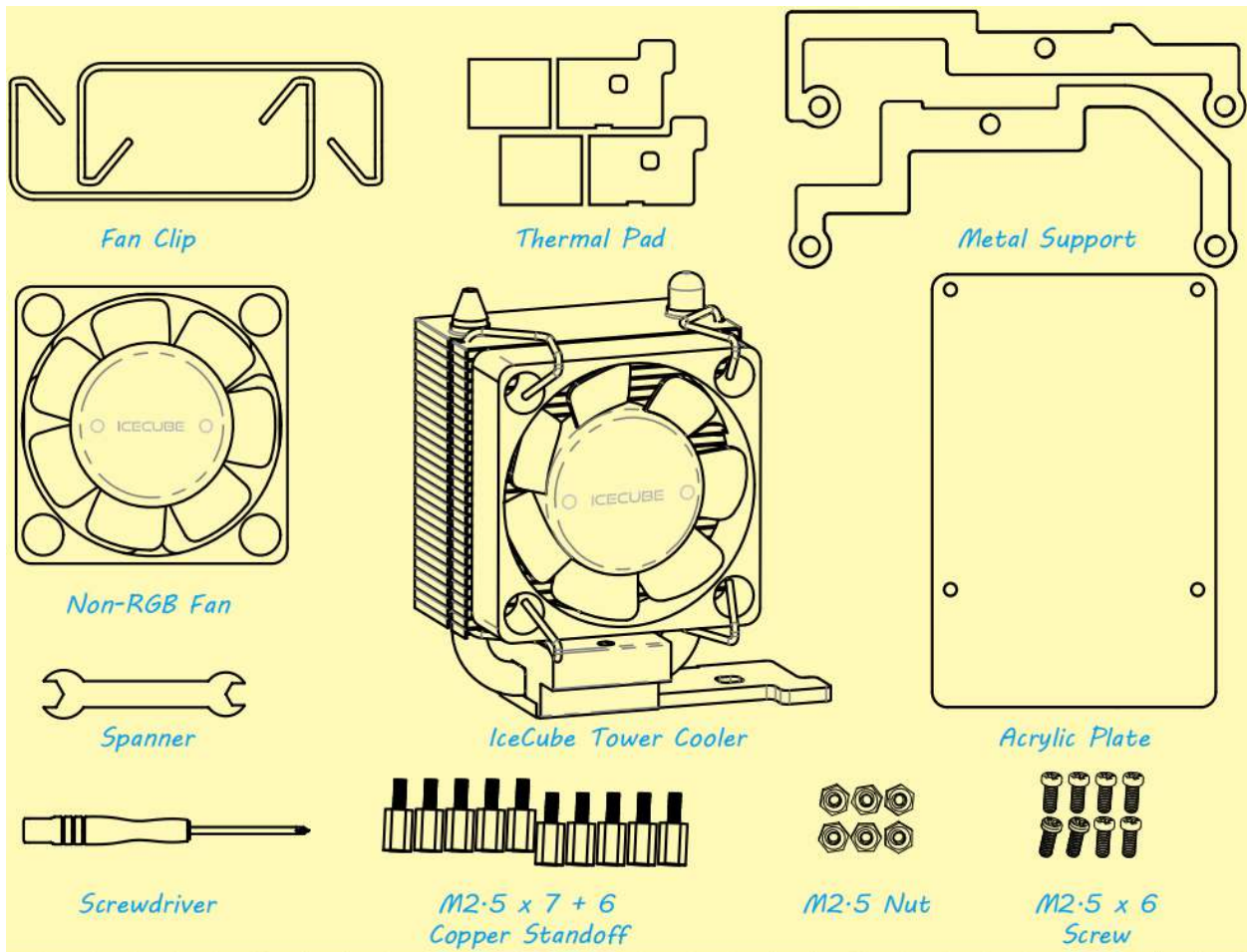**Aug 03, 2022**

CONTENTS

- Product Size: 55.75*35.5*61mm

- Fan Size: 40*40*10mm

- HS Material: Aluminum

- Fan speed: 3500RPM

- Bearing Type: sleeve bearing

- Rated Voltage: 5V

- RGB LED

This is a tower cooler designed for Raspberry Pi 3B+/4B, it has the following advantages.

- Compatible with Raspberry Pi 4 B and Raspberry Pi 3 B+, easy to assemble.

- Super Cooler - (Ambient temperature 25°C) Raspberry Pi 4 Model B 2gb version Idle Test: around 29°C; Full Load: less than 37°C; Overclock2147 MHz: less than 46°C

- Tower Structure - 28 Aluminium Fins and 5mm Copper Pipe provides effectively excellent heat dissipation.

- Silent RGB LED Fan - Speed: 3500RPM; Air Flow: 2.46CFM; Noise Level: 22.32dBA; Rated Power: 0.4W @5V, 0.08A.

- Cooling 4 Chips - Not just the CPU, the cooling base also covers the RAM, Ethernet and USB chips.

ONE

COMPONENTS LIST

Fan Clip

Thermal Pad

Metal Support

Non-RGB Fan

IceCube Tower Cooler

Acrylic Plate

Spanner

Screwdriver

M2·5 x 7 + 6
Copper Standoff

M2·5 Nut

M2·5 x 6
Screw

TWO

ASSEMBLE INSTRUCTIONS

M2.5 x 7 + 6
Copper Standoff

Raspberry Pi 4

M2.5 x 7 + 6
Copper Standoff

Arcylic Plate

M2.5 x 6
Screw

Metal Support

M2.5 x 6 Screw

Thermal Pad

Step 1 : Attach the Raspberry Pi to the acrylic plate!

Step 2 : Complete the IceCube! Note that the text on the two metal supports is facing upwards.

Step 3 : Put the Thermal Pads on the bottom of the IceCube.

M2.5 x 6 Screw

GND   5V

Step 4 : Attach the IceCube on the Raspberry Pi.

Step 5 : Power the IceCube.

For more information, please refer to the online tutorial: icecube.rtfd.io. In addition, you can learn how to replace the spare Non-RGB Fan.

SPECIFICATIONS

3.1 Mechanical and Electrical Parameters

Table 1: Mechanical and Electrical Parameters

External dimension	40 * 40 * 10MM
Weight	13.5±5g/pcs
Bearing	sleeve bearing
life	40,000 hours (Ambient temperature 25°C)

Table 2: Electrical Parameters

|	
Rated voltage	5V
Rated current	0.08 A(Max: 0.10 A)
Rated input power	0.40 W(Max: 0.50 W)

Table 3: Efficiency

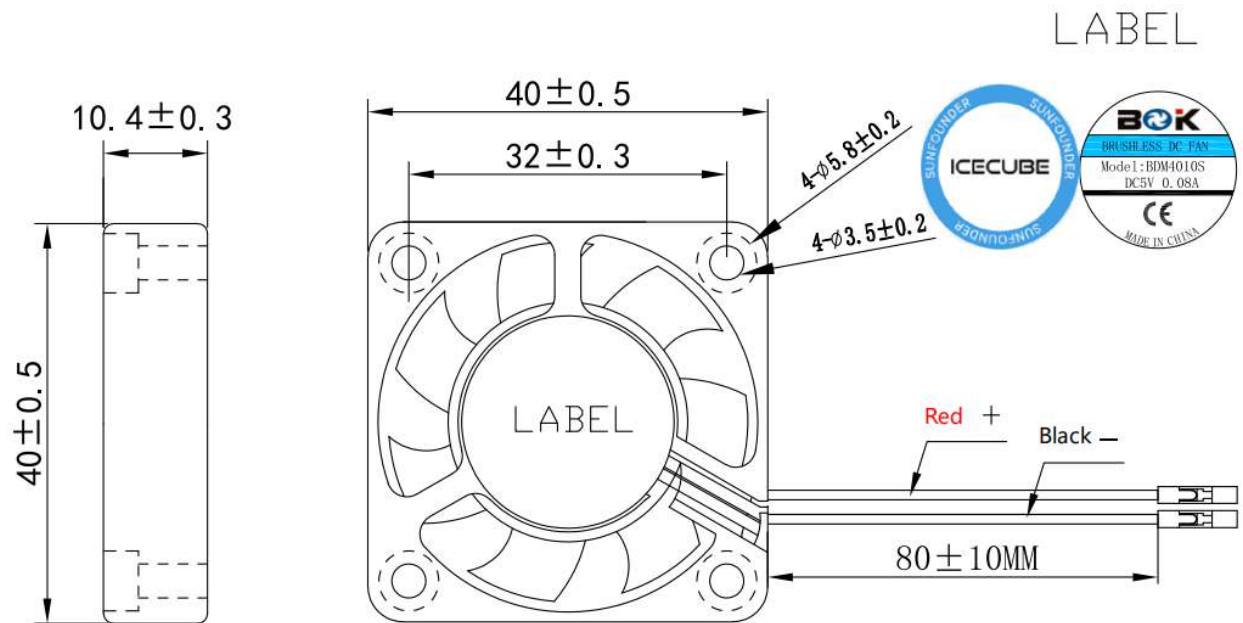|	
Rated speed	3500±10%RPM (tested in Ambient temperature 25°C after 3 minutes of operation)
Maximum air flow	2.46CFM
Maximum air pressure	0.62mm-H2O
Accoustic sound	22.31dBA

Table 4: Characteristics

Operating voltage range	3V ~ 5.5V
Starting voltage	3V
Operating temperature	-10°C ~ +70°C
Storage temperature	-30°C ~ +85°C

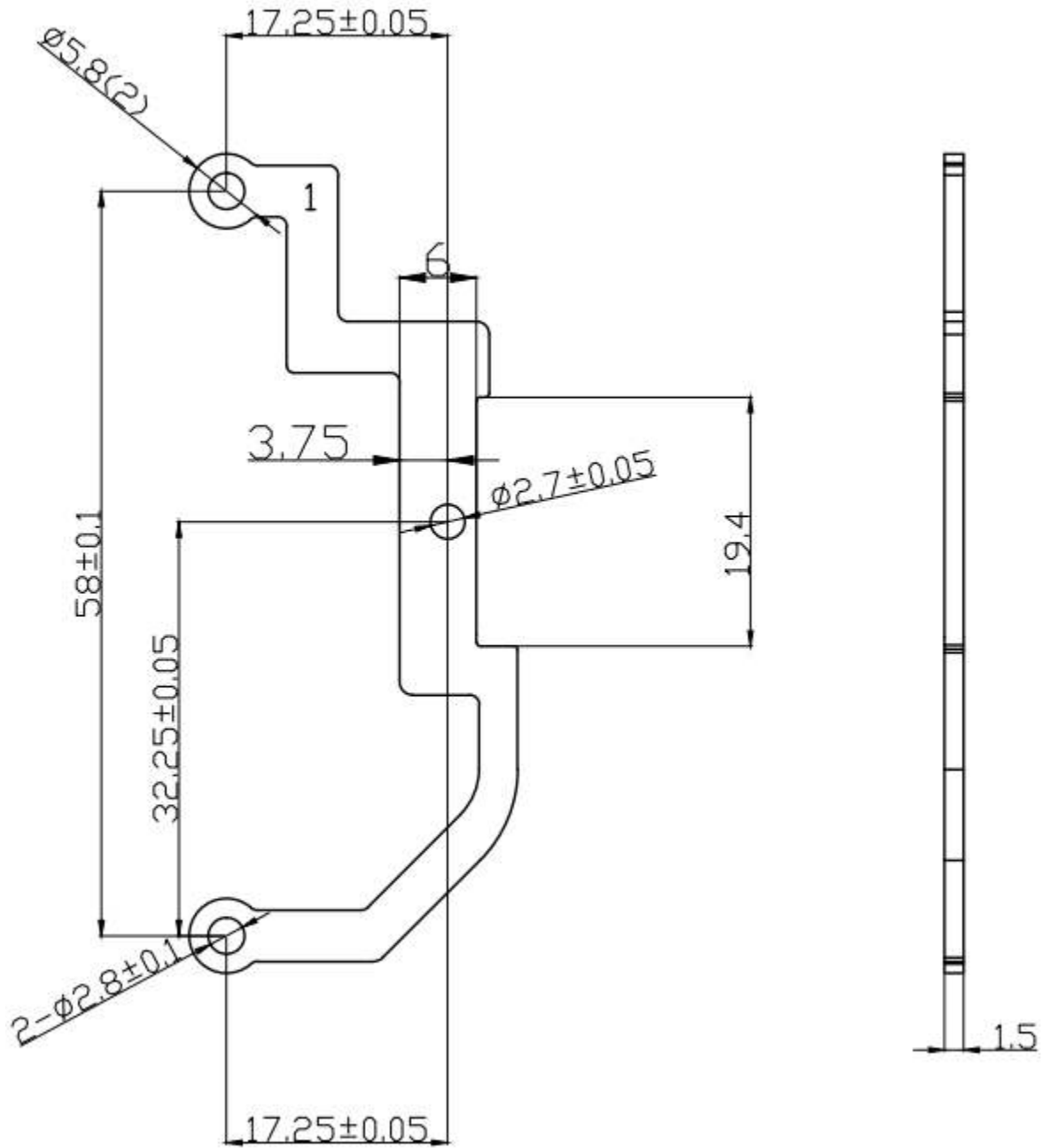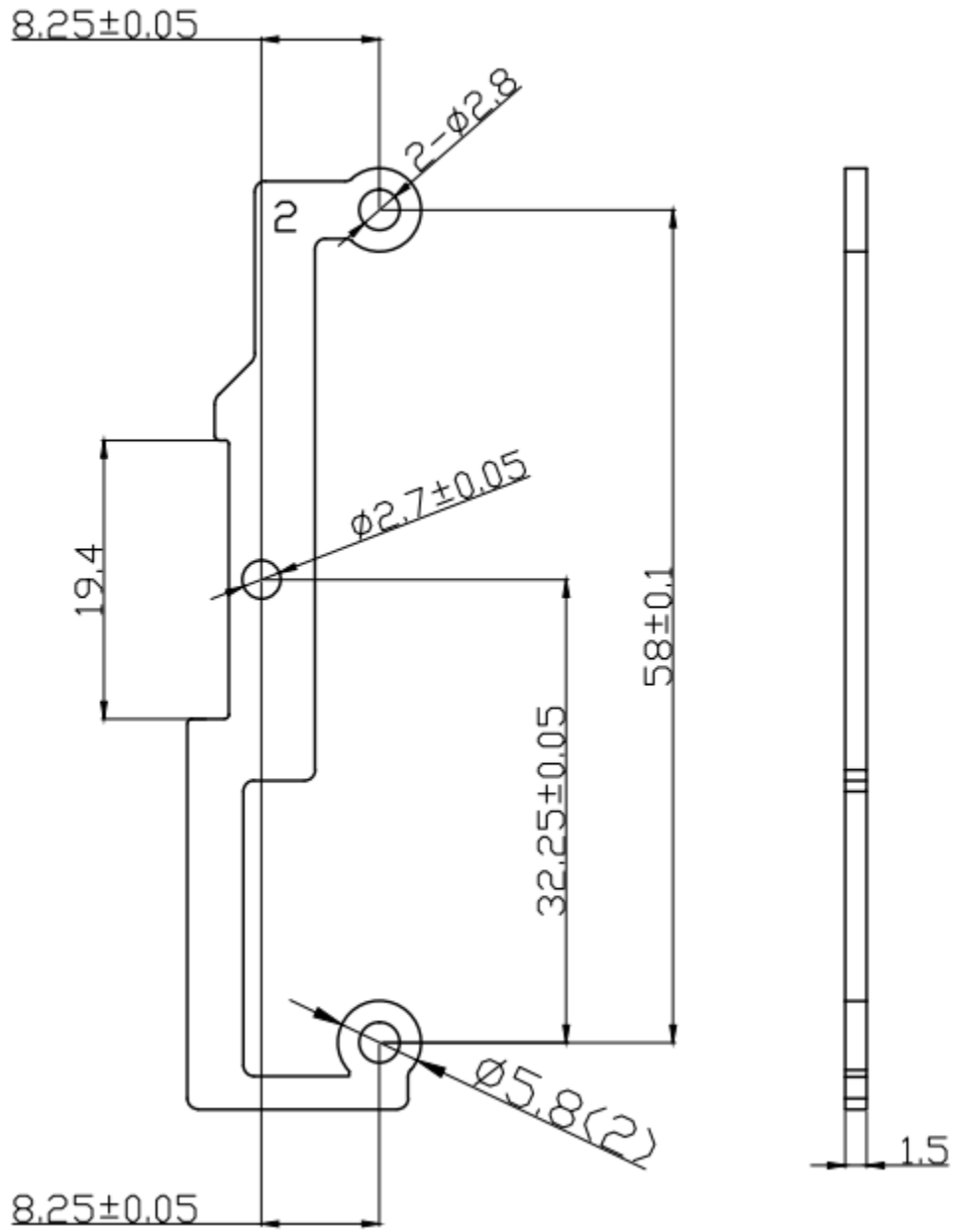## 3.2 Characteristic Curve
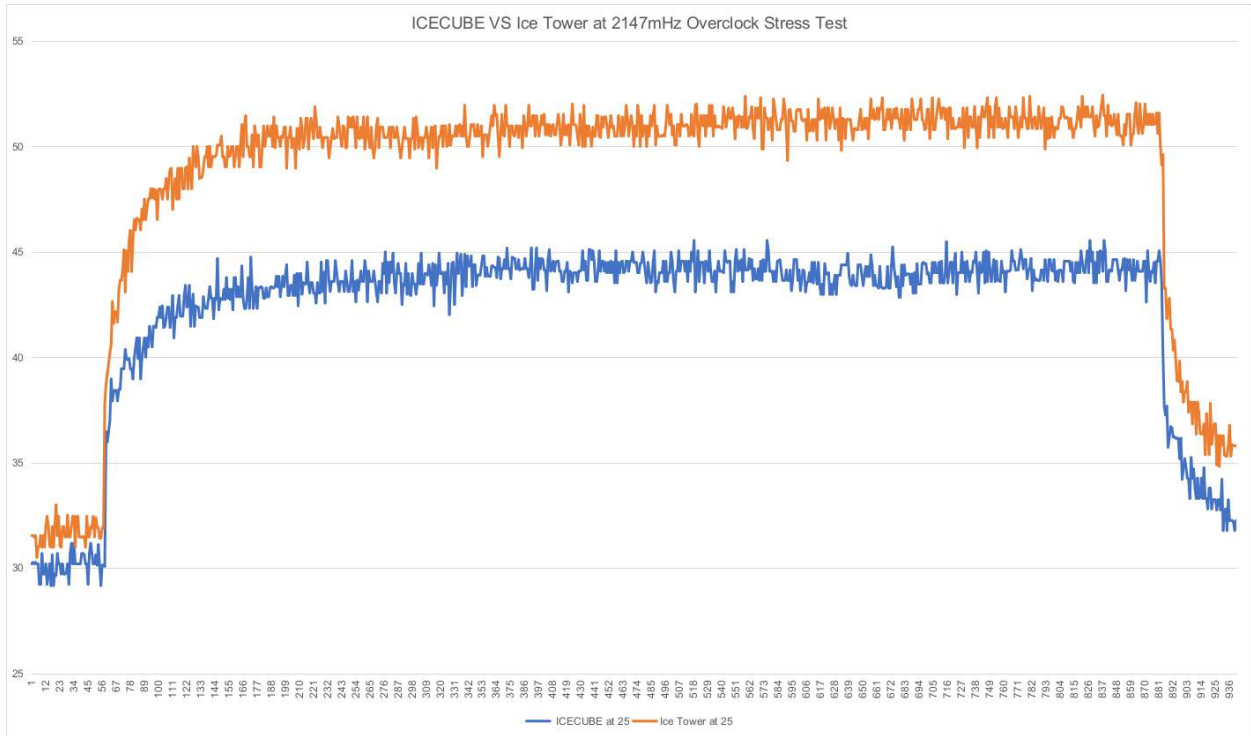
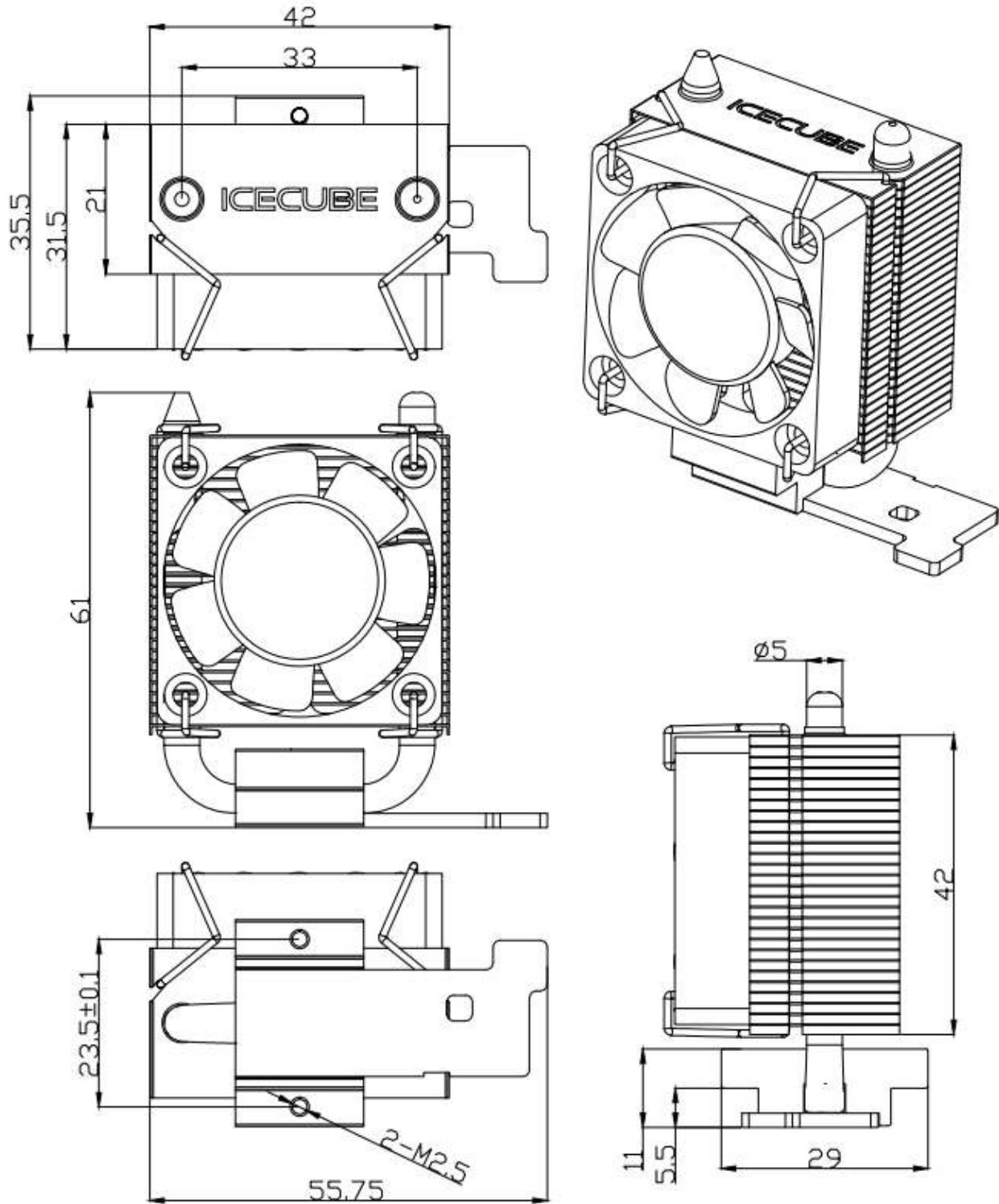## 3.3 Dimensional Drawing

Fan

Metal Support

Tower Cooler

3.4 Warning

- Do not touch the blades, or let the power wires wrap around the fan, or pull the power wires with force to avoid damaging the fan.

- Do not use in environments with flammable gases or any danger.

- When the fan is working, please do not try to lock the fan for a long time. If you do so, the fan will burn out due to the high heat generated by the continuous stoppage.

- When assembling the fan, please pay special attention to the noise generated by resonance or vibration.

- Do not drop the Icecube Tower Cooler from height, as this may affect the balance of the fan's blades.

FOUR

HOW TO REPLACE FAN

If you do not like this current fan with RGB or the pre-installed fan has broken, you can refer to the following tutorial to replace it.

Materials to prepare

- 1 x Non-RGB Fan
- 2 x Fan Clip
- 1 x Wrench

Note:

- Please power off the Raspberry Pi first.
- You need to be careful when removing the fan clip, it may pop out.
- Pay attention to the direction of the Non-RGB fan (black), the side with the label (ICECUBE) should be facing you.
- A wrench is used to keep the Fan Clip in the right position.

FIVE

COPYRIGHT NOTICE

All contents including but not limited to texts, images, and code in this manual are owned by the SunFounder Company. You should only use it for personal study,investigation, enjoyment, or other non-commercial or nonprofit purposes, under therelated regulations and copyrights laws, without infringing the legal rights of the author and relevant right holders. For any individual or organization that uses these for commercial profit without permission, the Company reserves the right to take legal action.