



**BMX**

**7inch APL SurfaceMount  
Phase3**

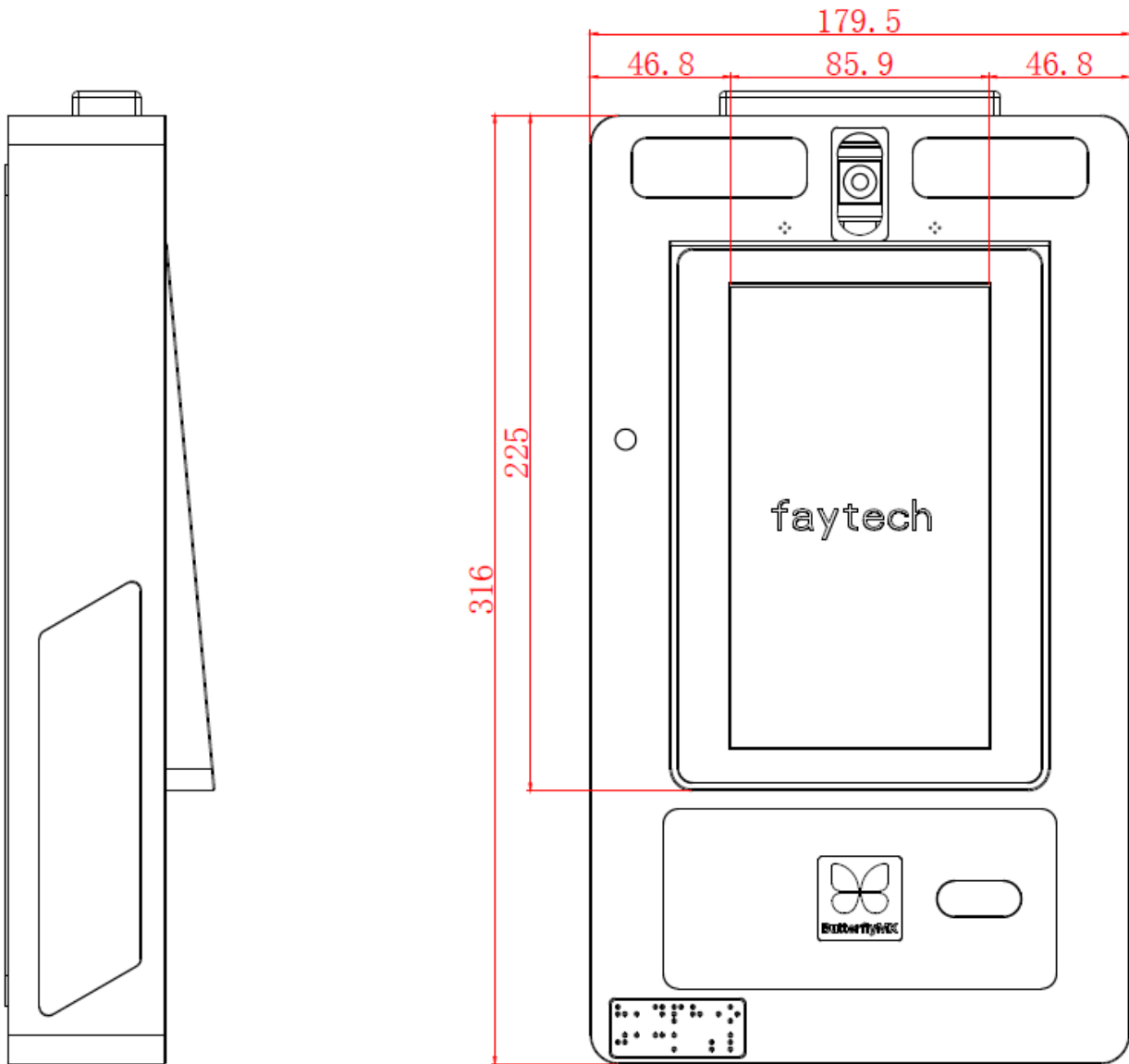
**07N4200APLBMX**

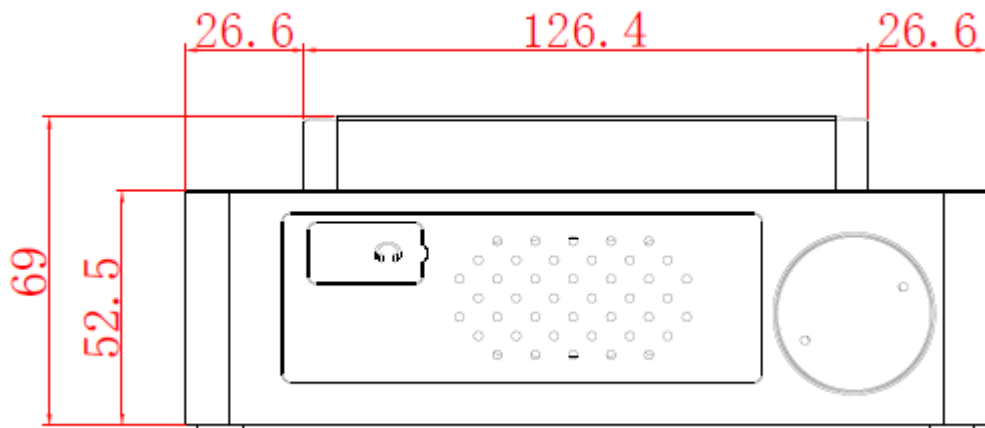
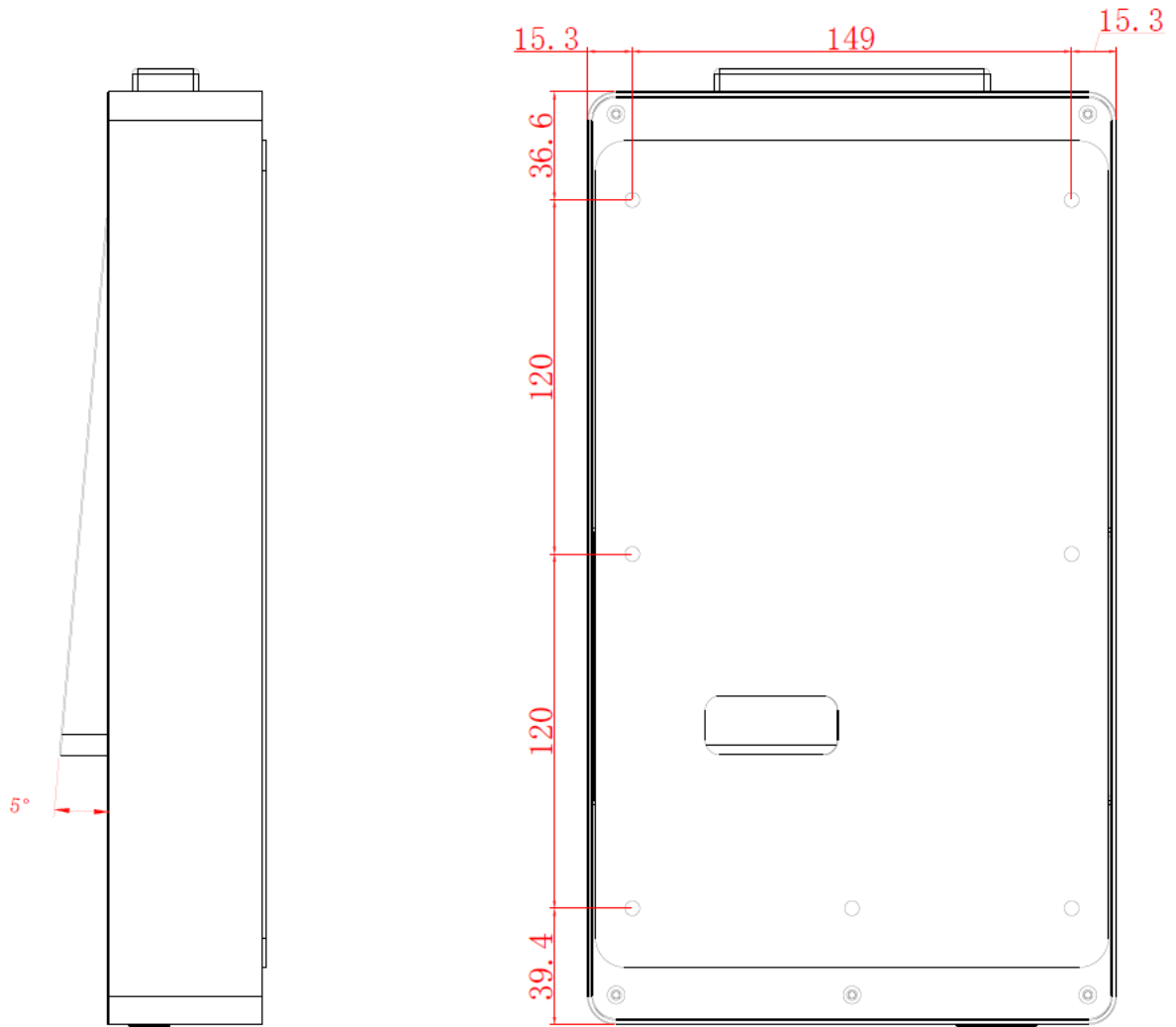
**Manual**

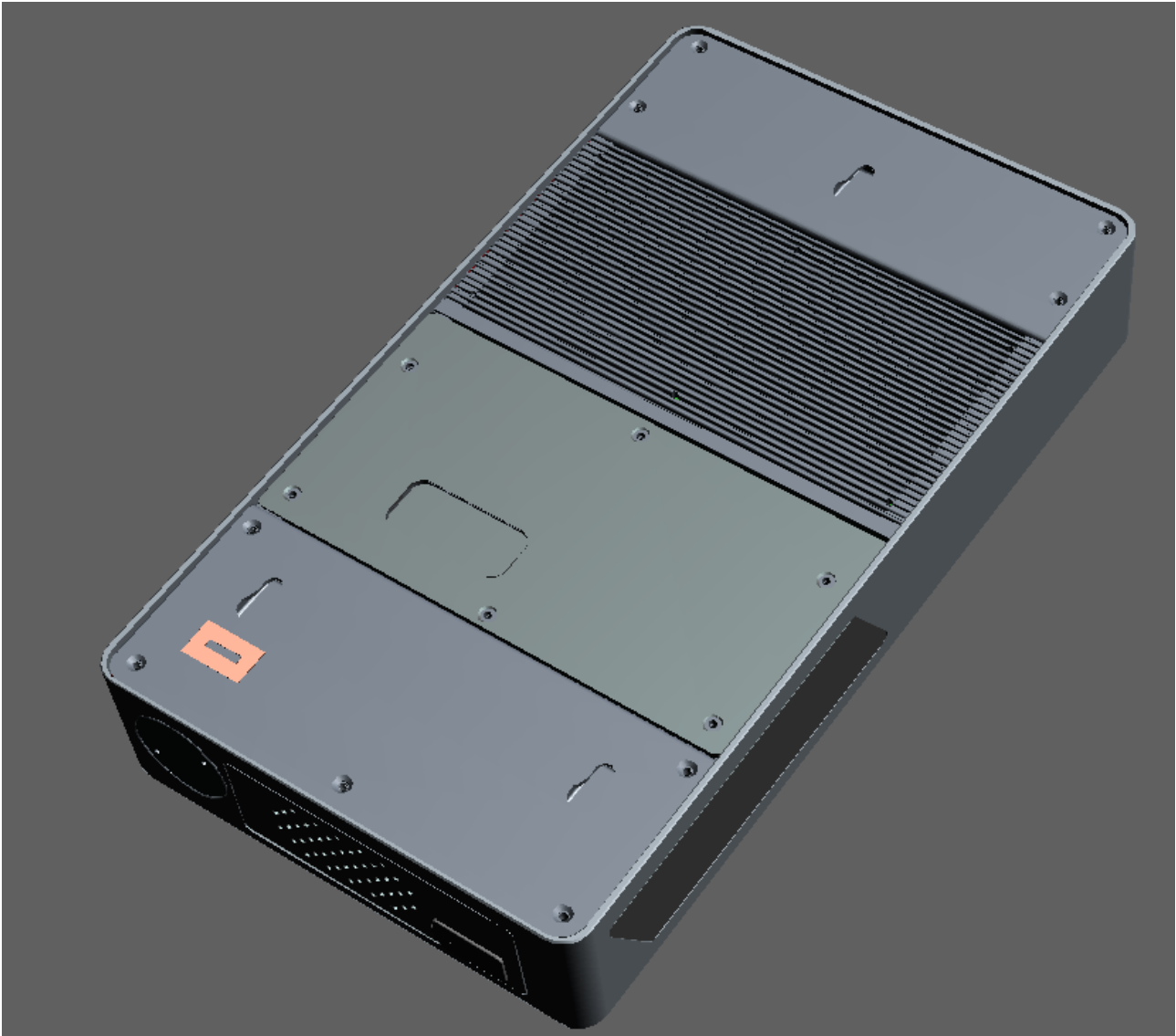
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# 1 1. Mechanical specifications







## 2 Technical Speciation

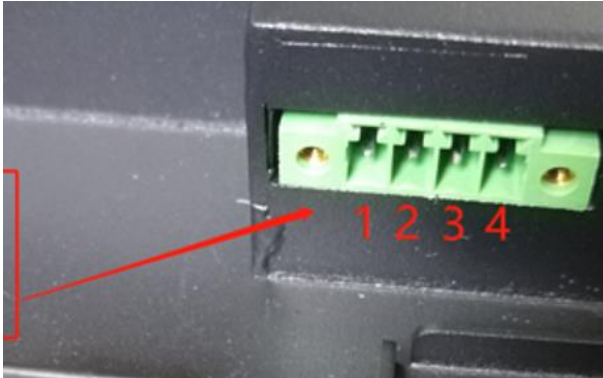
Housing	Dimension	316.00*179.50*69.00mm
	Material	Aluminum
	Color	Silver, Matt
	Cooling	Adding in cooling profile on the back


LCD Panel	size	7" 16:9
	Resolution	1024*600
	Luminance	Typ. 1000nits
	Luminance Uniformity	85%
	Contrast	800:1
	Viewing Angle	75/75/70/75
	Response Time	10/15
Touch Panel	Type	PCAP Capacitive Touch
	Surface Treatment	Anti Glare
	Cover Glass Thickness	1.8mm
	Surface Hardness	7H
	transparenc y	>85%
	Touch Controller	COB EXC80W60
	Touch Driver	EETI touch controller / driver <a href="http://home.eeti.com.tw/LinuxDriverDownload.html">http://home.eeti.com.tw/LinuxDriverDownload.html</a>
Mainboard: FAY-APL	CPU	Apollo Lake N4200, (4C @ 2.50GHz CPU (Burst Mode), 750MHz GFX (Turbo), ~6W TDP)
	Memory	1 x SO-DIMM, max. 4GB, DDR3L 1333/1600/1867 non-ECC  Single channel memory
	Graphics	Intel® HD Graphics


	I/O Chipset	NUVOTON NCT6116D
	LAN	1 x LAN1 connector (POE LAN RJ45 connector, POE power connect to 2x2 2.54mm pin header)
	Audio	1 x Realtek Realtek/ALC3251
	TPM	NPCT75XXX
	WatchDog Timer	1~255 step by software program
	Wake On LAN / PXE	Yes (WOL / PXE)
	Power State	S3, S4, S5
	Graphics chipset	Intel® HD Graphics
	Graphics Multi display	eDP or LVDS
	eDP	Up to 1920 x 1080@60 Hz, (colay LVDS, BOM OPTION)
	LVDS	Up to 1920 x 1200 @ 60Hz ,Resolution read from EEPROM, LCD Default 640*480
	LVDS Inverter Control	Voltage / PWM, 1 x DC 5V/12V for LCD backlight inverter board
	Battery	Lithium battery
	Power Requirement	1 x onboard 2 pin Power input connector (12 VDC ±10%)
System	RAM	4GB DDR3L
	SSD	mSATAIII M.2 2242 64GB
	OS	Customized Windows 10 Pre-Installed
Camera	Brand/Model #	Logitech C930c
	Pixel	1080P

	Focusing	Auto
	LEN	FOV : D= 90°
	Interface	USB2.0, support USB3.0
	Angle	Motor for angle adjustment available
Relay	Yoctopuce	Supplied by the customer
	channel	4x Channel
RFID	Operating frequency	125kHz, 13.56MHz
	Outer Dimension	50x35mm, with the latest firmware approved by BMX
	Interface	USB HID, WG
	Support Cards	EM4100、S50、NFC P2P、HID26/34/35/36/37
	Support system	Windows, Linux, mac, ios, Android
	Read distance	5cm
	Output format	8H10D, P2P 16D
4G (Optional) ( this product don't has 4G module )	Brand/Model	Sierra MC7455
Speaker		2x 803W
Microphone		HD-6050P
Movement Sensor	Sensing Distance	80CM
Braille		Yes
Front Panel Lightening	8 Colors available	Red, Orange, Yellow, Green, Cyan, Blue, Purple, White
Ambient Light sensor	3 Status available	Standard Lowest Brightest



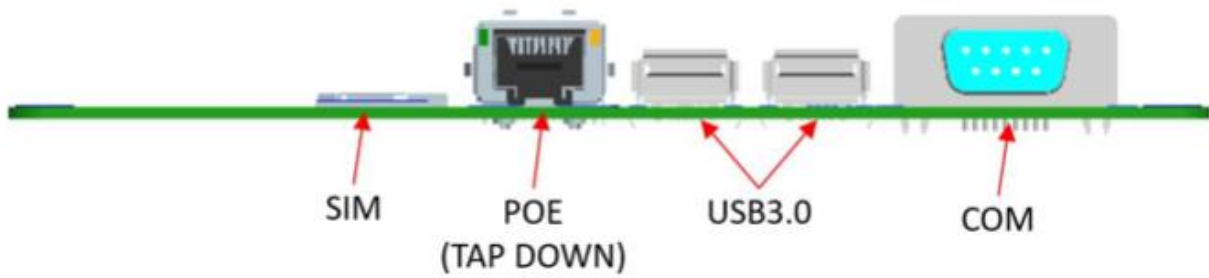
Ibeacon	UUID	Self-setting allowed
	Transmission Power	Self-setting allowed
	Input Voltage	5V
	frequency	2.4G
External Interface		2x USB 3.0
		1x COM port
		1xRJ45 (POE)
		1x SIM Slot
		1x24V DC-IN: Pin 1/2: D+, Pin3/4: D-
		
		1x 3pin Weigand Out
	4x Relay Channel	
	1x Power Button	
Environment	IP rating	IP65
	IP Sealing Sponge Specification	Model #: E-4088

		<table border="1"> <thead> <tr> <th rowspan="2">Item</th> <th colspan="4">E-4088</th> </tr> <tr> <th>Unit</th> <th>Result</th> <th>Specification</th> <th>Test Method</th> </tr> </thead> <tbody> <tr> <td>Physical</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Hardness</td> <td></td> <td>6</td> <td>7±5</td> <td>ASKER-C</td> </tr> <tr> <td>Tensile Strength</td> <td>MPa</td> <td>0.49</td> <td>0.25以上</td> <td>JIS K 6767</td> </tr> <tr> <td>Elongation</td> <td>%</td> <td>220</td> <td>200以上</td> <td>JIS K 6767</td> </tr> <tr> <td>Apparent Density</td> <td>g/cm<sup>3</sup></td> <td>0.11</td> <td>0.10±0.03</td> <td>JIS K 6767</td> </tr> <tr> <td>Compression Se</td> <td>%</td> <td>29.7</td> <td>40以下</td> <td>ASTM D 1056</td> </tr> <tr> <td>Shrinkage Against Heat</td> <td>%</td> <td>1.5</td> <td>2以下</td> <td>70°C×4hr</td> </tr> <tr> <td>Water Absorption Test</td> <td>%</td> <td>1.8</td> <td>5以下</td> <td>ASTM D 1056</td> </tr> <tr> <td>Compression Load Flexibility Test (25°C)</td> <td>kPa</td> <td>37.4</td> <td>14.7~44.1</td> <td>ASTM D 1056</td> </tr> </tbody> </table>	Item	E-4088				Unit	Result	Specification	Test Method	Physical					Hardness		6	7±5	ASKER-C	Tensile Strength	MPa	0.49	0.25以上	JIS K 6767	Elongation	%	220	200以上	JIS K 6767	Apparent Density	g/cm <sup>3</sup>	0.11	0.10±0.03	JIS K 6767	Compression Se	%	29.7	40以下	ASTM D 1056	Shrinkage Against Heat	%	1.5	2以下	70°C×4hr	Water Absorption Test	%	1.8	5以下	ASTM D 1056	Compression Load Flexibility Test (25°C)	kPa	37.4	14.7~44.1	ASTM D 1056
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Accessories		1x 24V/4A Power Supply, cable length=1.5meter																																																						
		1x AC Cable 1.5meter																																																						
																																																								
	Power Adapter Cable	100mm as standard, and length can be customized																																																						

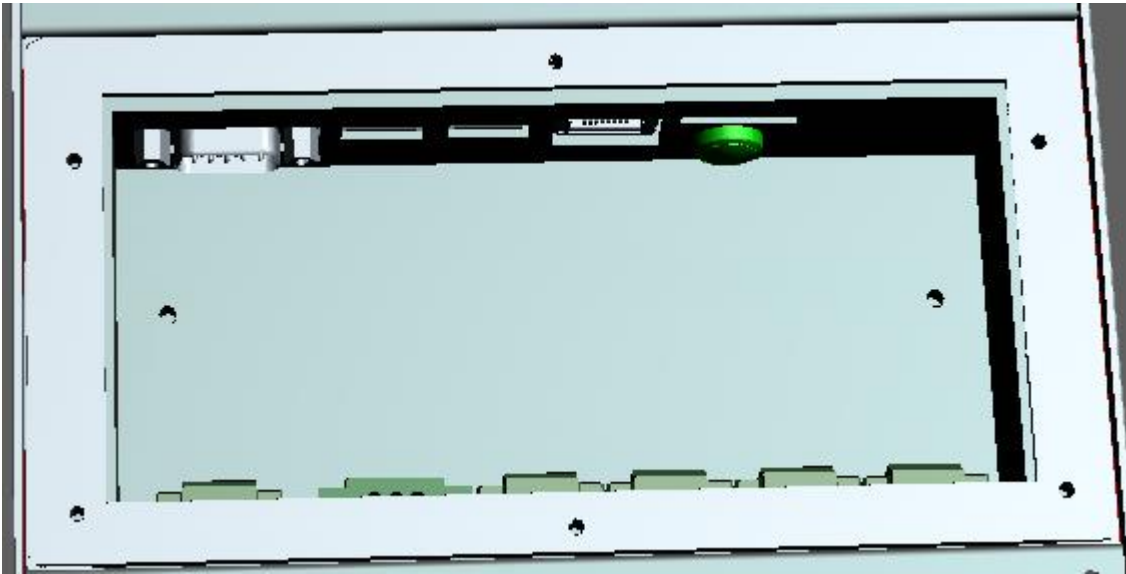
		
		1x Wallmount Plate
		1x Lock Key
Certification	FCC	To Be Applied

### 3 Explanation

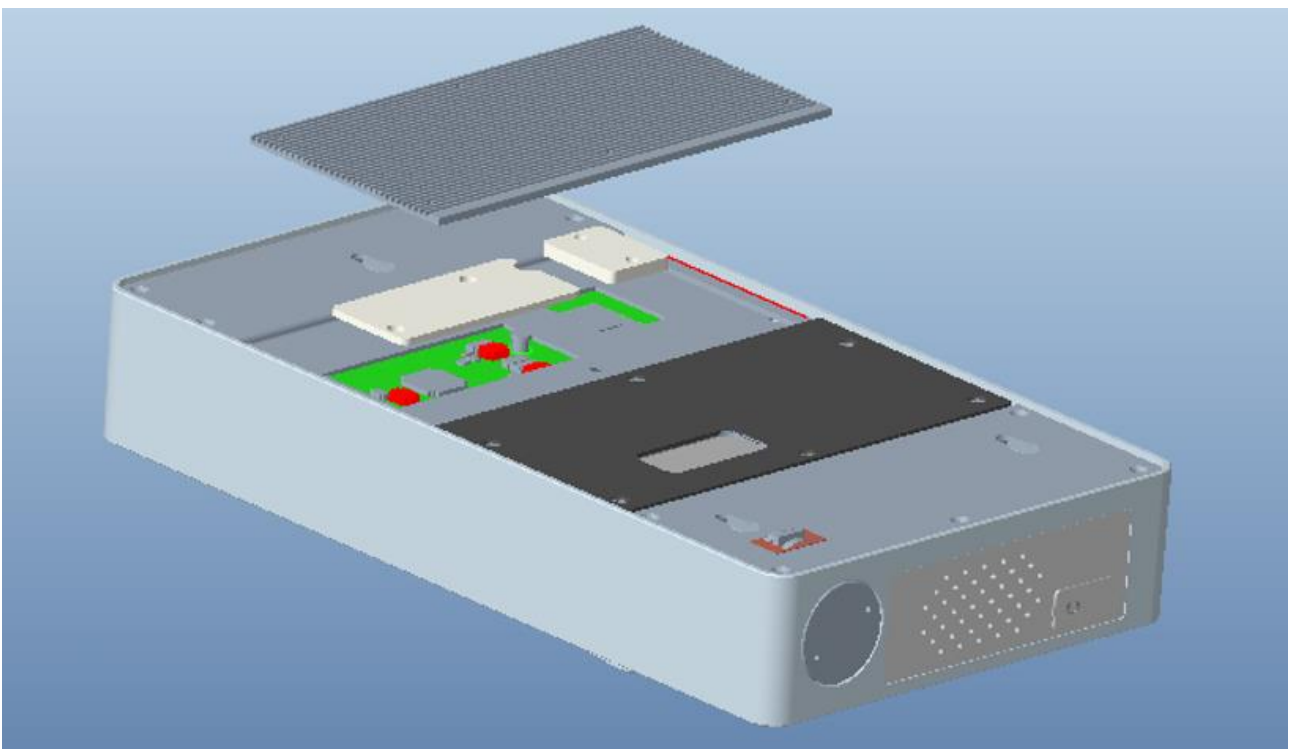
#### 3.1. Mainboard External I/O



### 3.2. Device External I/O



### 3.3. CPU Cooling



### 4. Function Explanation

The product is pre-installed windows system, power on after the normal use.

If want to connect the device through Bluetooth, you need to turn on the Bluetooth switch in the system setting option, and search for the device to be paired and the connection.

If you want to connect to the wireless network through WiFi, the system has enabled the WiFi function by default, select the corresponding wireless network to use. There is a card swiping area on the front of the product. You can use the card type supported by this device about 5cm close to the swiping area.



### **5.FCC compliance 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.

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 or more 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 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 and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## 6. Changelog

- 16.04.2022 Nathan Lu created
- 12.07.2022 Nathan Lu updates
  - Adding in RFID dimension (50x35, the smaller version we used on keypad and 7inch ABS)
  - RFID printing icon update, and latest firmware approved by BMX
  - Cooling profile on the back
  - Adding in explanation on CPU cooling, camera cooling, the lock overlap