



深圳市金芯微电子有限公司

SHENZHEN GOLDICWELL ELECTRONIC CO.,LTD.

产品规格书

Product specification

产品名称 Model Name	MPU 控制板
型号规格 Specification	XHWL-MPU-DC
产品编码 Product Code	
文件版本 File Version	V1.2
生效日期 Effective Date	2022-12-10

客户 Customer:

审核 Checked _____ 日期 Date _____

批准 Approved _____ 盖章 Stamp _____

制造商 Manufacturers: 深圳市金芯微电子有限公司

审核 Checked 林伟京 日期 Date 2022-12-10

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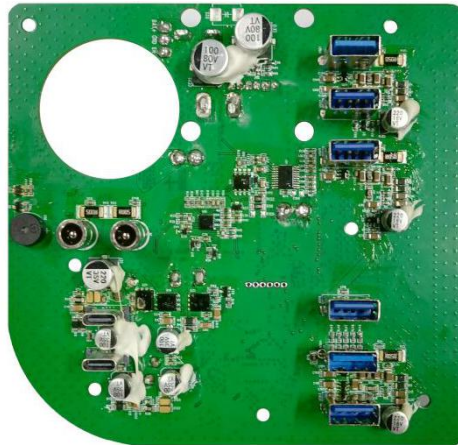
更新履历 Update history

序号 No.	版本 Version	日期 Date	更新说明 Updated instructions
1	V1.0	2021-12-14	制定 Initial release
2	V1.1	2022-08-11	产品图更新 Product chart update
3	V1.2	2022-12-10	客户认证要求更改降低点烟器输出电压 Customer certification requires change to reduce cigarette lighter output voltage



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1. 产品描述 The product description

类别 Category	项目 Project	规格要求 Specifications	备注 Note
电池组 The battery pack	电芯组合方式 Combination mode of cell	14S	
	电池规格 The battery specification	标称电压: 50.4V, 充满电压: 58.8V Nominal voltage: 50.4V, full voltage: 58.8V	
输出功能 Output function	USB A1、USB A2	支持 QC2.0/3.0 Support QC2.0/3.0 5V@3.6A, 9V@2.5A, 12V@2A	任意插一个是 QC,同时插各 5V2.4A Any one inserted is QC, and 5V@2.4A is inserted at the same time
	USB A3、USB A4	支持 QC2.0/3.0 Support QC2.0/3.0 5V@3.6A, 9V@2.5A, 12V@2A	任意插一个是 QC,同时插各 5V2.4A Any one inserted is QC, and 5V@2.4A is inserted at the same time
	USB A5、USB A6	支持 QC2.0/3.0 Support QC2.0/3.0 5V@3.6A, 9V@2.5A, 12V@2A	任意插一个是 QC,同时插各 5V2.4A Any one inserted is QC, and 5V@2.4A is inserted at the same time
	Type-C1	支持 PD 快充协议 (PD2.0/3.0) Support PD Fast Charging protocol (PD2.0/3.0) 5V@3A, 9V@3A, 12V@3A, 15V@3A, 20V@3A/20V@5A	单向, 100W One-way, 100W 20V@5A 需要 E-mark 线 20V@5A requires E-mark wire
	Type-C2	支持 PD 快充协议 (PD2.0/3.0) Support PD Fast Charging protocol (PD2.0/3.0) 5V@3A, 9V@3A, 12V@3A, 15V@3A, 20V@3.25A	单向, 65W One-way, 65W
	DC1 12V	12V5A 60W	总功率 120W

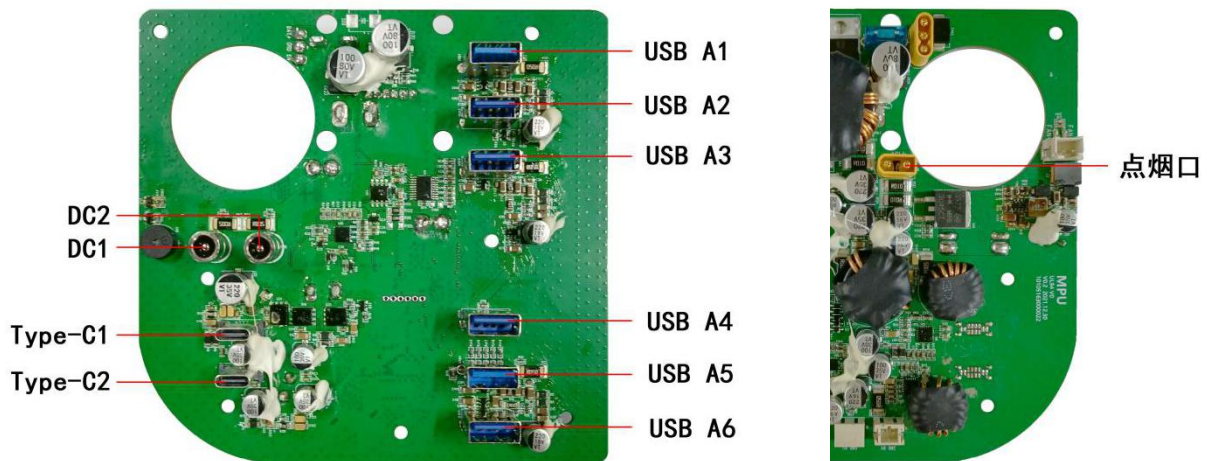


	DC2 12V	12V5A 60W	Total power 120W
	点烟口放电 Smoke outlet discharges	12V10A 120W	

1.1 基本性能 Basic performance

项目 Project	备注 Note
板端转换效率 Board end conversion efficiency	DC 最大效率 95%; TYPE C 及 USB 最大效率 95% DC maximum efficiency 95%; The maximum efficiency of TYPE C and USB is 95%
温度、湿度范围 Temperature and humidity range	存储: 0~25℃ 1 年; -10~45℃ 3 个月, -20~60℃ 1 个月; 湿度范围: 小于 75%RH Storage: 0 ~ 25℃ for 1 year; -10 ~ 45℃ 3 months, -20 ~ 60℃ 1 month; Humidity range: less than 75%RH
尺寸 size	125*130*35mm

1.2 各端口输出参数 Port output parameters



序号 No.	测试项目 Test project	测试内容 The test content	判定标准 Decision criteria	
1	点烟口输出端口 (板端) 12V Smoke port output port(The plate end)	输出电压 Output voltage	11.60V-13.30V	
		标准功率 Standard power	120W(12V10A)	超功率时显示报警 Display alarm when overpower
		过流点 Point of flow	10.3 -11.3A	超功率显示报警并关闭输出 Overpower display alarm and turn off output
2	DC1 12V 5521 输出端口 (板端) Output port(The plate end)	输出电压 Output voltage	11.60V-13.30V	
		标准功率 Standard power	60W(12V5A)	超功率时显示报警 Display alarm when overpower
		过流点 Point of flow	5.3 -6.3A	超功率显示报警并关闭输出 Overpower display alarm and turn off output



3	DC2 12V 5521 输出端口 (板端) Output port(The plate end)	输出电压 Output voltage	11.60V-13.30V	
		标准功率 Standard power	60W(12V5A)	超功率时显示报警 Display alarm when overpower
		过流点 Point of flow	5.3 -6.3A	超功率显示报警并关闭输出 Overpower display alarm and turn off output
4	USB A1、USB A2 5V@3.6A (板端) (The plate end)	输出电压 Output voltage	4.75V-5.25V	Apple2.4A USB-DCP-5V-1.5A QC2-9V-12V QC3.0 Samsung-AFC-9V-12V Huawei-FCP-9V-2A Huawei-SCP-4.5V-5A
		输出过流 Output flow	3.7—4.2A	
	USB A1、USB A2 9V@2.5A (板端) (The plate end)	输出电压 Output voltage	8.55V-9.45V	
		输出过流 Output flow	2.7—3.2A	
	USB A1、USB A2 12V@2A (板端) (The plate end)	输出电压 Output voltage	11.40V-12.60V	
		输出过流 Output flow	2.1—2.6A	
5	USB A3、USB A4 5V@3.6A (板端) (The plate end)	输出电压 Output voltage	4.75V-5.25V	Apple2.4A USB-DCP-5V-1.5A QC2-9V-12V QC3.0 Samsung-AFC-9V-12V Huawei-FCP-9V-2A Huawei-SCP-4.5V-5A
		输出过流 Output flow	3.7—4.2A	
	USB A3、USB A4 9V@2.5A (板端) (The plate end)	输出电压 Output voltage	8.55V-9.45V	
		输出过流 Output flow	2.7—3.2A	
	USB A3、USB A4 12V@2A (板端) (The plate end)	输出电压 Output voltage	11.40V-12.60V	
		输出过流 Output flow	2.1—2.6A	
6	USB A5、USB A6 5V@3.6A (板端) (The plate end)	输出电压 Output voltage	4.75V-5.25V	Apple2.4A USB-DCP-5V-1.5A QC2-9V-12V QC3.0 Samsung-AFC-9V-12V Huawei-FCP-9V-2A Huawei-SCP-4.5V-5A
		输出过流 Output flow	3.7—4.2A	
	USB A5、USB A6 9V@2.5A (板端) (The plate end)	输出电压 Output voltage	8.55V-9.45V	
		输出过流 Output flow	2.7—3.2A	
	USB A5、USB A6 12V@2A (板端) (The plate end)	输出电压 Output voltage	11.40V-12.60V	
		输出过流 Output flow	2.1—2.6A	



		Output flow		
7	Type-C1 5V@3A (板端) (The plate end)	输出电压 Output voltage	4.75V-5.25V	PD2.0 PD3.0 PPS Apple2.4A Samsung-5V-2A USB-DCP-5V-1.5A QC2-9V-12V-20V QC3.0 Samsung-AFC-9V-12V Huawei-FCP-9V-2A Huawei-SCP-4.5V-5A
		输出过流 Output flow	3.1—4.2A	
	Type-C1 9V@3A (板端) (The plate end)	输出电压 Output voltage	8.55V-9.45V	
		输出过流 Output flow	3.1—4.2A	
	Type-C1 12V@3A (板端) (The plate end)	输出电压 Output voltage	11.40V-12.60V	
		输出过流 Output flow	3.1—4.2A	
	Type-C1 15V@3A (板端) (The plate end)	输出电压 Output voltage	14.25V-15.75V	
		输出过流 Output flow	3.1—4.2A	
	Type-C1 20V@3A/5A (板端) (The plate end)	输出电压 Output voltage	19.00-21.00V	
		输出过流 Output flow	5.1—6.1A(E-mark 线) (E - mark line)	
	Type-C1 (板端) (The plate end)	PPS 电压 PPS voltage	3.3-21.0V	
		输出电流 Output current	3A	
8	Type-C2 5V@3A (板端) (The plate end)	输出电压 Output voltage	4.75V-5.25V	USB-DCP-5V-1.5A Huawei-SCP-4.5V-5A
		输出过流 Output flow	3.1—4.2A	
	Type-C2 9V@3A (板端) (The plate end)	输出电压 Output voltage	8.55V-9.45V	
		输出过流 Output flow	3.1—4.2A	
	Type-C2 12V@3A (板端) (The plate end)	输出电压 Output voltage	11.40V-12.60V	
		输出过流 Output flow	3.1—4.2A	
	Type-C2 15V@3A (板端) (The plate end)	输出电压 Output voltage	14.25V-15.75V	
		输出过流 Output flow	3.1—4.2A	
	Type-C2	输出电压	19.00-21.00V	



20V@3.25A (板端) (The plate end)	Output voltage	3.35—4.35A
	输出过流 Output flow	

1.3 端口定义 Port definitions

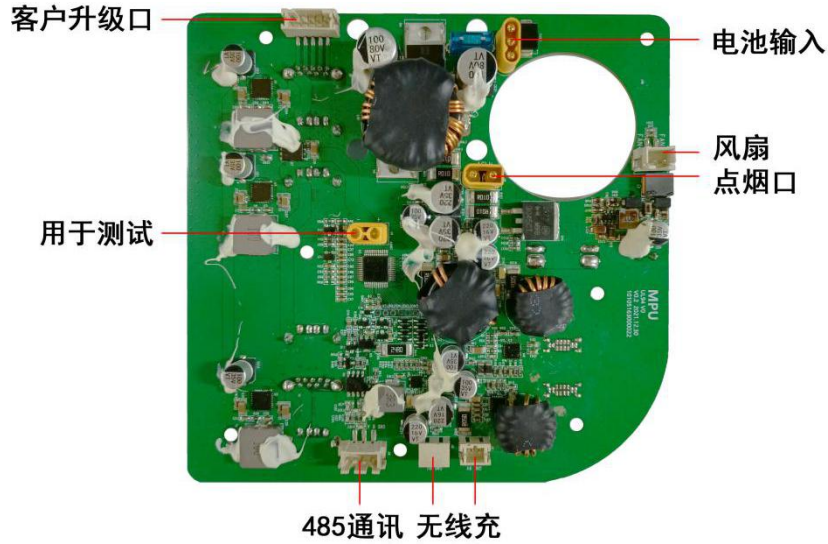


图 Figure	位号 A no.	端口说明 The port that
负极  正极 J10	风扇端口 (如图, 从左往右依次) Fan ports (as shown, from left to right) p1-FAN- p2-FAN+	
正极  负极 J11	点烟口端口 (如图, 从左往右依次) Cigarette lighter port (as shown, from left to right) p1-12V+ p2-12V-	
 J7	电池输入端口 (如图, 从左往右依次) Battery input port (as shown, from left to right) p1-EN p2-GND p3-BAT+	
 J4	485 通讯端口 (如图, 从左往右依次) 485 Communication Port (as shown, from left to right) p1-GND p2-B p3-A	
 J5 J8	2 个无线充端口 (如图, 从左往右依次) Two wireless charge ports (as shown, from left to right) p1-9V p2-GND	

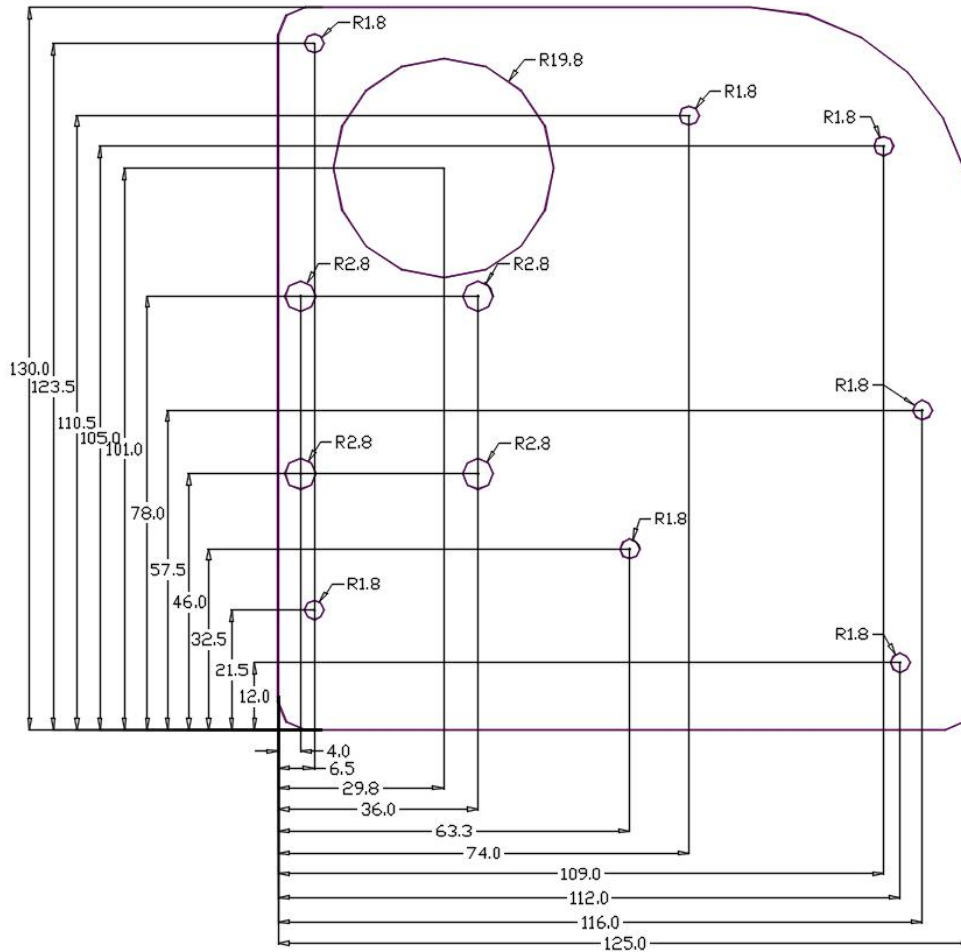


2. 工作环境参数 Working environment parameters

项目 Project	最小值 Min	标准 Standard	最大值 Max	备注 Note
工作温度 Working temperature	-10℃	---	40℃	产品正常工作的环境温度 Ambient temperature at which the product works normally
存储温度 Storage temperature	-20℃	---	70℃	产品不工作在存储温度范围内, 适用于存储 The product does not work in the storage temperature range, suitable for storage
工作湿度 Working humidity	0%	---	65%	产品正常工作的环境湿度 Ambient humidity for normal operation of the product
存储湿度 Store humidity	0%	---	70%	产品不工作在存储湿度范围内, 适用于存储 The product does not work in the storage humidity range, suitable for storage

3. 图 Figure

3.1 安装孔及 PCB 尺寸 Mounting hole and PCB size



尺寸:长(125mm)*宽(130mm)

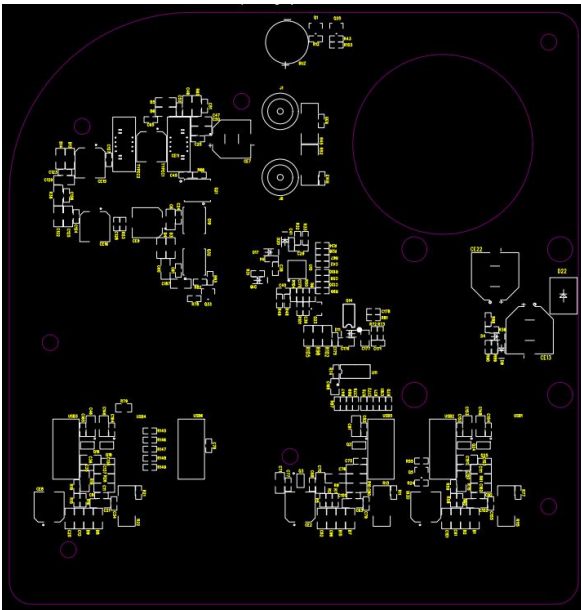
Size: L (125mm)* W (130mm)

3.2 元器件丝印图 Silkscreen of components



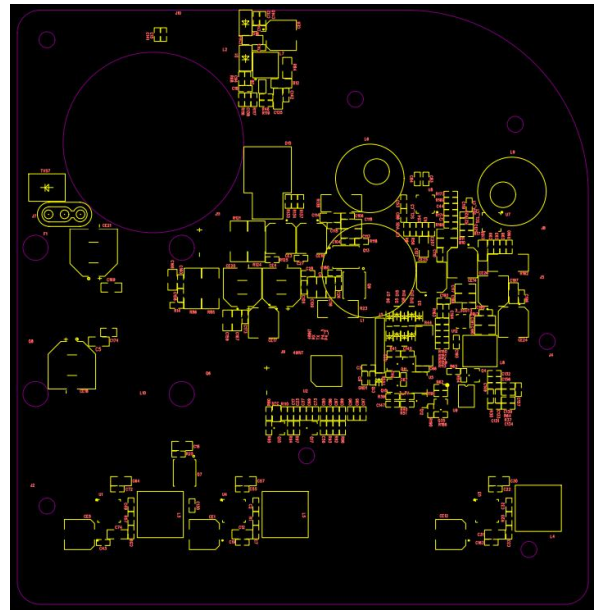
顶层丝印图

Top screen printing



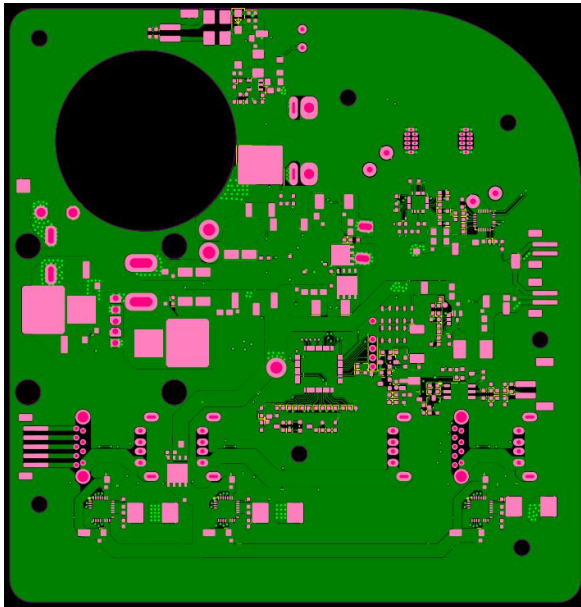
底层丝印图

Bottom screen printing

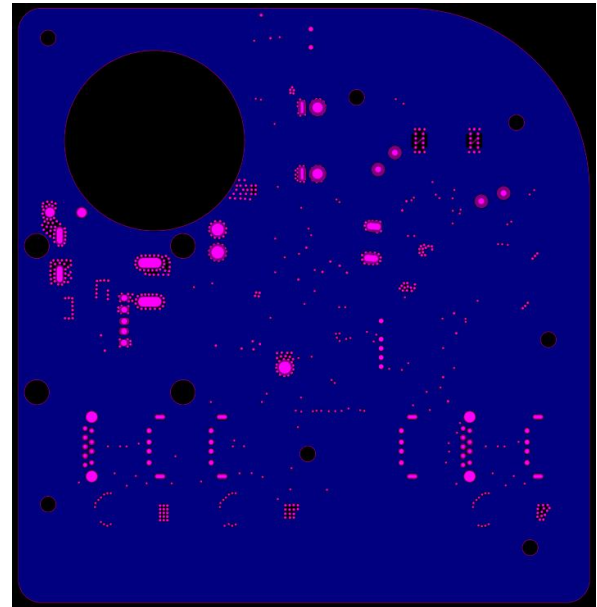


3.3 布线图 Wiring diagram

1 层
1 layer

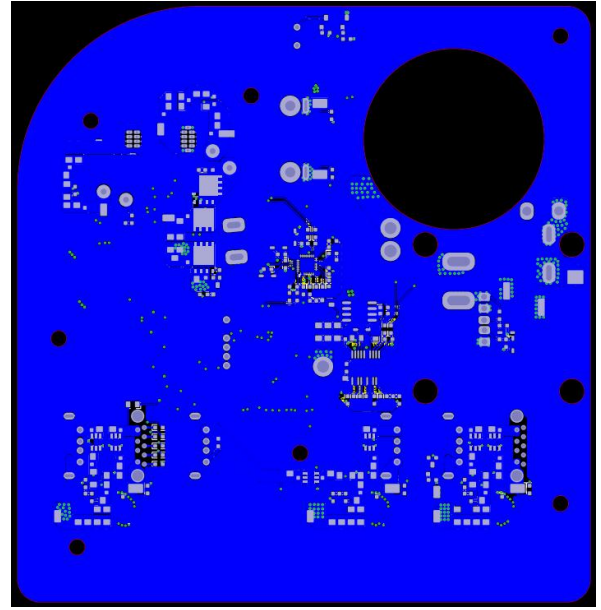
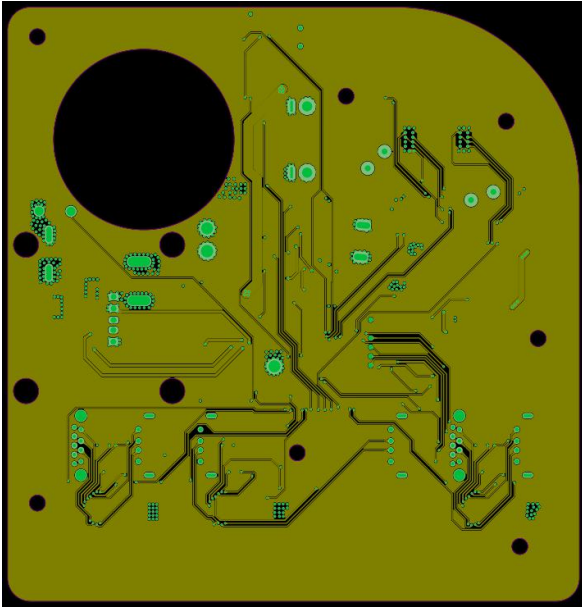


2 层
2 layer



3 层
3 layer

4 层
4 layer



4. 包装规格 Packing specification

外箱尺寸: 521mm*360mm*236mm

Outer box size: 521mm*360mm*236mm

箱内刀卡尺寸: 长刀卡 511mm*220mm /短刀卡 350mm*220mm

Knife card size: long card 511mm*220mm/short card 350mm*220mm

材质: K636K

Material: K636K

包装方式: 一箱装 14 个, 每个板子气泡袋包裹, 刀卡隔开

The packing way: box of 14, each board wrapped in bubble bags, separated by knife cards