

移动电源规格书

Specification of Power Bank

日期 Date: 2024-12-06

To: BST503

From: DBK

型号 Model No: P1150

规格 Specification: (19.25WH) 3.85V/5000mAh(1S1P)

输入: Type-C (5V/2.4A, 9V/1.6A)

Input: Type-C (5V/2.4A, 9V/1.6A)

输出:

1.Type-C 端口输出: 5V/2.4A.

2.无线充端口输出: 5W、7.5W、10W、15W (电池电压 3.95V 以上输出 15W, 3.95V 以下输出 10W max) .

3.边充边放模式无线充输出 15W (使用 30W 以上的适配器供电) .

4.无线充和 Type-C 端口同时使用时, 优先无线输出.

Output:

1.Type-C Port output: 5V/2.4A

2.Wireless charging Port output: 5W、7.5W、10W、15W(Battery voltage above 3.95V output 15W, 3.95V output below 10W max).

3.Charge while play mode Wireless charge output 15W (using an adapter above 30W)

4.When the wireless charger and Type-C port are used at the same time, the output of port C is preferred

总页数共 41 页(含封面): Total 41 pages including this cover sheet.

客户回签 Signature by Customer

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Customer		

DBK 会签 Signature by Supplier

制订部门	文件签收		
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	☒ 体系管理部	☐ 财务部	☐ 部

电子拟定 Written/Date	结构审核 Checked/Date	DQE 部审核 Checked/Date	项目部审核 Checked/Date	研发中心批准 Approved/ Date

Version.版本: A/0

分发厂区	☐ 深圳迪比科(观澜)	☒ 东莞迪比科(清溪)	☐ 越南
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Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址:东莞市清溪镇昌达路 1 号

邮编: 523622

Tel.电话: 07-693-3806999

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更新履历 Update History

[illegible]

备注：V 阶段属研发试制受控阶段，A 阶段属体系运行受控阶段。

Note: Stage V belongs to the controlled stage of R&D and trial production, while Stage A belongs to the controlled stage of system operation.

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1. 产品参数 Product Parameters

1.1	产品型号 Model No	P1150
1.2	电芯类型 Cell Type	锂离子电池 Lithium-ion Battery
1.3	电芯型号 Cell Model	536385-5000mAh
1.4	输出参数 Output Parameters	1.Type-C 端口输出: 5V/2.4A 2.无线充端口输出: 5W、7.5W、10W、15W (电池电压 3.95V 以上输出 15W, 3.95V 以下输出 10W max) . 3.边充边放模式无线充输出 15W (使用 30W 以上的适配器供电) . 4.无线充和 Type-C 端口同时使用时, 优先无线输出. 5.所有输出端口具有负载识别功能. 1.Type-C Port output: 5V/2.4A 2.Wireless charging Port output: 5W、7.5W、10W、15W(Battery voltage above 3.95V output 15W, 3.95V output below 10W max). 3.Charge while play mode Wireless charge output 15W (using an adapter above 30W). 4.When the wireless charger and Type-C port are used at the same time, the output of port C is preferred 5.All output ports have load identification.

Electronics technology

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		放电 discharge: 1. PCB 板温度高于 60℃, 无线充降功率 5W 输出; 低于 50℃ 无线充恢复 15W 输出. 2. 电芯表面温度高于 55℃ 降功率, TYPE-C 端口输出 5V1A, 无线充输出 5W (TYPE-C 端口和无线充端口同时带载时优先无线充输出, 关闭 TYPE-C 端口); 电芯表面温度低于 45℃, 恢复 TYPE-C 端口输出 5V2.4A, 无线充输出 15W (TYPE-C 端口和无线充端口同时带载时优先无线充输出, 关闭 TYPE-C 端口). 3. 电芯表面温度低于 1℃ 降功率, TYPE-C 端口输出 5V1A, 无线充输出 5W (TYPE-C 端口和无线充端口同时带载时优先无线充输出, 关闭 TYPE-C 端口); 电芯表面温度高于 5℃, 恢复 TYPE-C 端口输出 5V2.4A, 无线充输出 15W (TYPE-C 端口和无线充端口同时带载时优先无线充输出, 关闭 TYPE-C 端口). 1. PCB board temperature is higher than 60℃, wireless charging power reduction 5W output; Wireless charging restores 15W output below 50 ° C. 2. When the surface temperature of the cell is higher than 55℃, the power is reduced, the TYPE-C port outputs 5V1A, and the wireless charge output is 5W (when the TYPE-C port and the wireless charge port are loaded at the same time, the wireless charge output is preferred, and the TYPE-C port is closed); When the surface temperature of the battery cell is lower than 45 ° C, restore the output of TYPE-C port 5V2.4A and the wireless charge output of 15W. (When the TYPE-C port and the wireless charge port are loaded at the same time, the wireless charge output is preferred and the TYPE-C port is closed.) 3. The battery cell surface temperature is lower than 1℃ to reduce power, TYPE-C port output 5V1A, wireless charge output 5W (when the TYPE-C port and wireless charge port are loaded at the same time, wireless charge output is preferred, and TYPE-C port is closed); When the surface temperature of the battery cell is higher than 5 ° C, restore the output of TYPE-C port 5V2.4A and the wireless charge output of 15W. (When the TYPE-C port and the wireless charge port are loaded at the same time, the wireless charge output is preferred and the TYPE-C port is closed.)
1.5	充电参数 Charging Parameters	1. 电芯表面温度 0~15℃, Type-C 端口输入: 5V/0.5A. 2. 电芯表面温度 16~40℃, Type-C 端口输入:

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Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址: 东莞市清溪镇昌达路 1 号

邮编: 523622

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		5V/2.4A,9V/1.6A. 3.电芯表面温度 41~44℃, Type-C 端口输入: 5V/1A,9V0.5A. 1.Cell surface temperature 0 ~ 15℃, Type-C port input: 5V/0.5A. 2.Cell surface temperature 16 ~ 40℃, Type-C port input: 5V/2.4A,9V/1.6A. 3.Cell surface temperature 41 ~ 44℃, Type-C port input: 5V/1A,9V/0.5A. 备注: 充电电流依据充电管理 CC/CV 模式变化 Note: the charging current according to the charging management CC/CV mode change.
1.6	Input Maximum Voltage 充电限制电压(OVP)	10V
1.7	Charge cut-off current 充电截止电流	xx mA
1.8	Cut-off Voltage 放电截止电压(U do)	3V
1.9	标称容量 Typical Capacity	3.85V/5100mAh at 0.2C
1.10	最小容量 Minimum Capacity	3.85V/5000mAh at 0.2C
1.11	移动电源工作温度范围 Mobile power supply working temperature range	充电:0~35℃ Charge:0~35℃ 放电:-10~45℃ Discharge: -10~45℃
1.12	存储温度 Storage Temperature	-20℃~45℃ 小于 3 个月 Less than 3 months -20℃~25℃ 小于 12 个月 Less than 12 months
1.13	湿度范围 Humidity Range	工作湿度范围: 小于 75% RH 存储湿度: 小于 75% RH Operation humidity range: Less than 75% RH Storage humidity range: Less than75% RH
1.14	保修期 Warranty Period	从购买之日起 12 月内保修 Twelve months limited warranty from date of purchase.
1.15	重量 Weight	xx ± 10g
1.16	产品认证 product Certification	CE/CB

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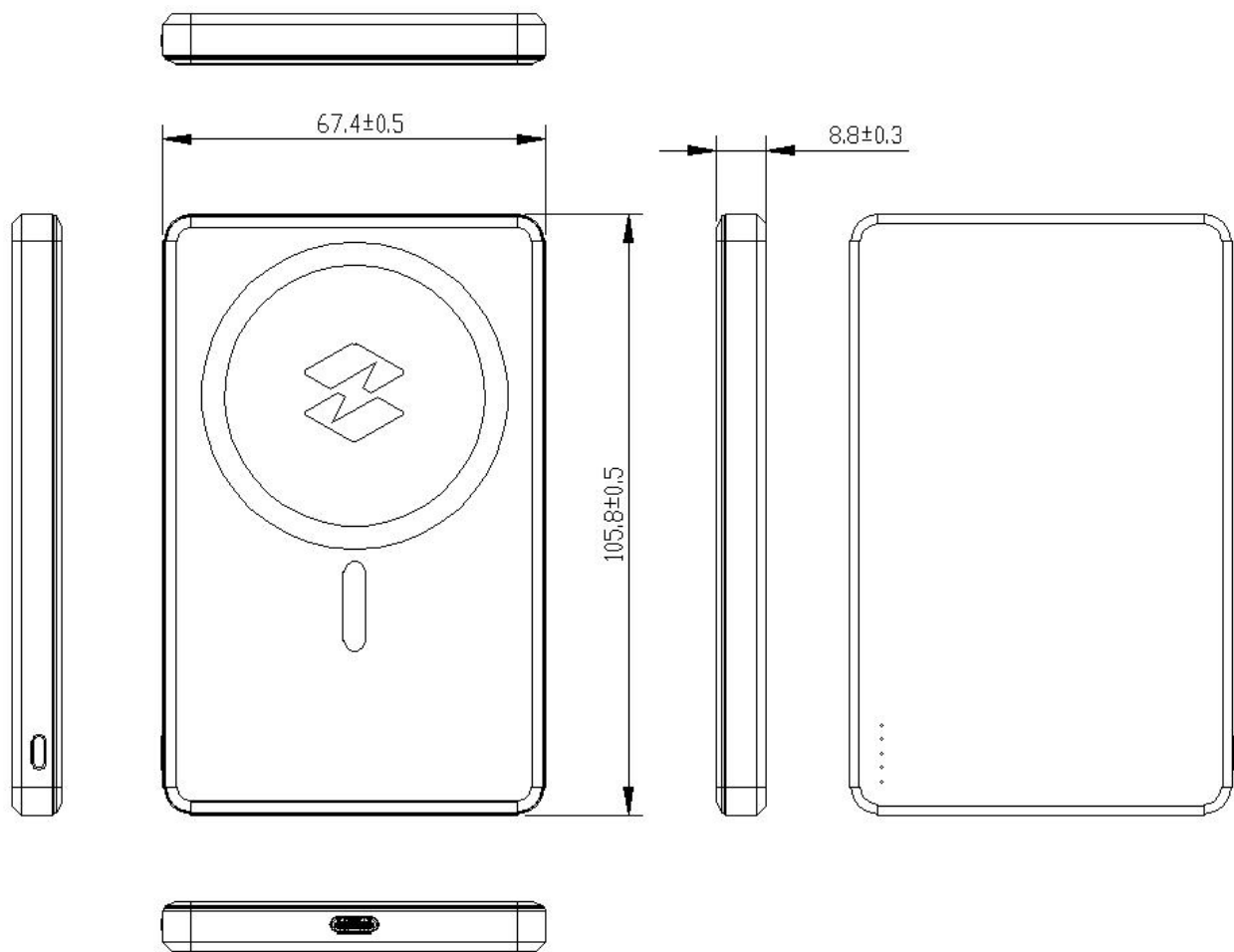
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2. 机械性 Mechanical

2.1 机械图(单位:mm 公差: $\pm 0.3\text{mm}$)

Mechanical Drawing (Unit: mm Tolerance: $\pm 0.3\text{mm}$)



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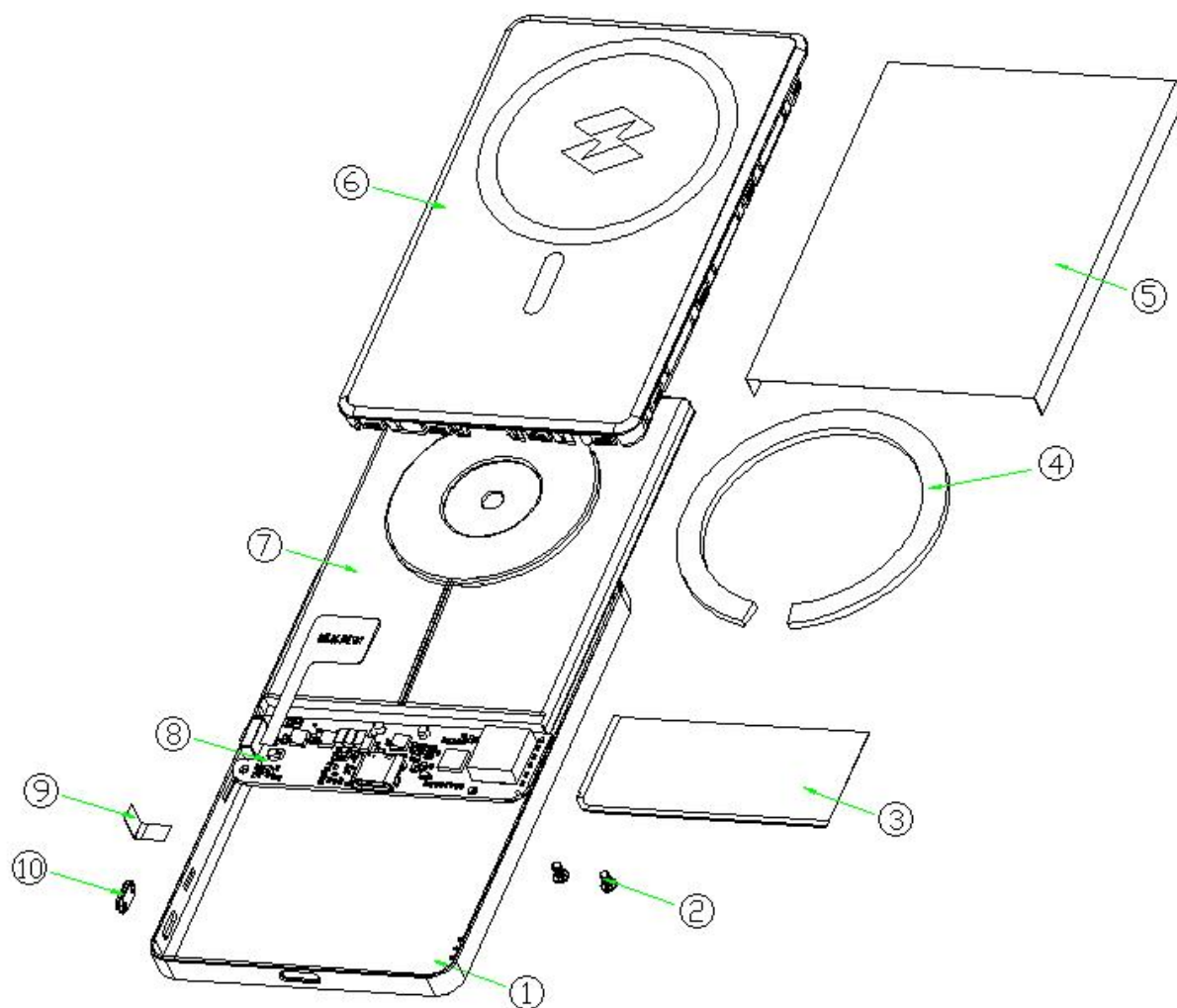
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2.2 装配示意图 Assembly Diagram



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10	按键		PC+ABS	1PCS	烟灰色
9	青稞纸3		青稞纸	1PCS	青色
8	PCBA			1PCS	
7	电芯			1PCS	
6	面壳		PC+ABS	1PCS	烟灰色
5	青稞纸1		青稞纸	1PCS	青色
4	环形磁铁		钕铁硼	1PCS	本色
3	青稞纸2		青稞纸	1PCS	青色
2	螺丝		碳钢1018#	2PCS	黑色
1	底壳		铝材	1PCS	烟灰色
编号	零件名称	零件编号	材质规格	用量	备注
未注公差		DBK® 迪比科 Electronics technology			
从 (MM)	到 (MM)	公差范围	产 品 型 号 P1150	制作	
0	50	0.050		审核	
50	100	0.100		批准	
100	200	0.150		日期	2024-11-23
200	500	0.200		THIRD ANGLE PROJECTION  	
			共 1 页 第 1 页		

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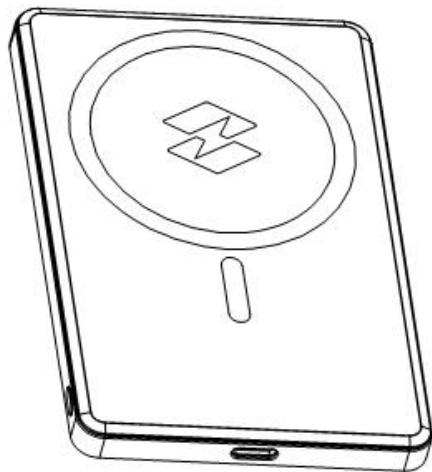
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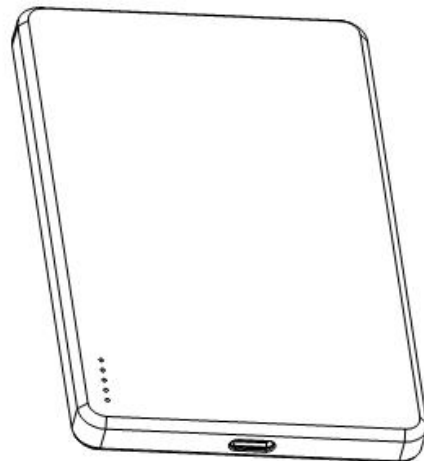
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2.3 产品图片及端口定义 Photo of the Product and Pin Assignment

<正面 Top side view>



<反面 Bottom side view >



<端口定义 Port Definitions>



无线充端口输出: 5W、7.5W、10W、15W.

Wireless charging Port output: 5W、7.5W、10W、15W.

按键
button

Type-C 端口输入: 5V/2.4A,9V/1.6A

Type-C Port input: 5V/2.4A,9V/1.6A

Type-C 端口输出: 5V/2.4A

Type-C Port output: 5V/2.4A

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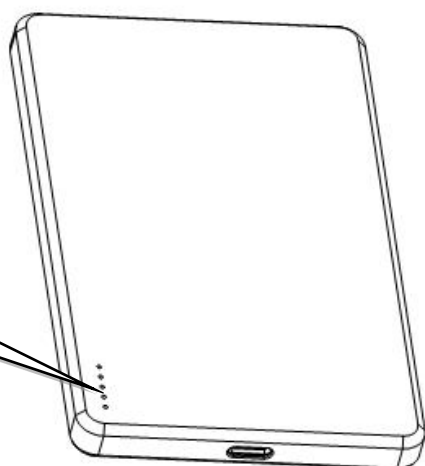
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LED 电量指示灯
LED power indicator



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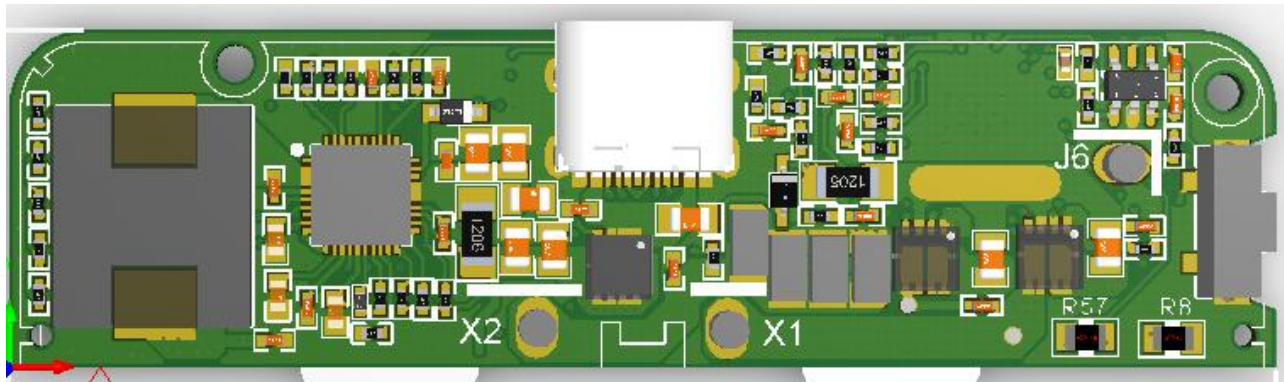
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3. PCBA 丝印图及 CDF 清单 PCBA Screen Printing and CDF List

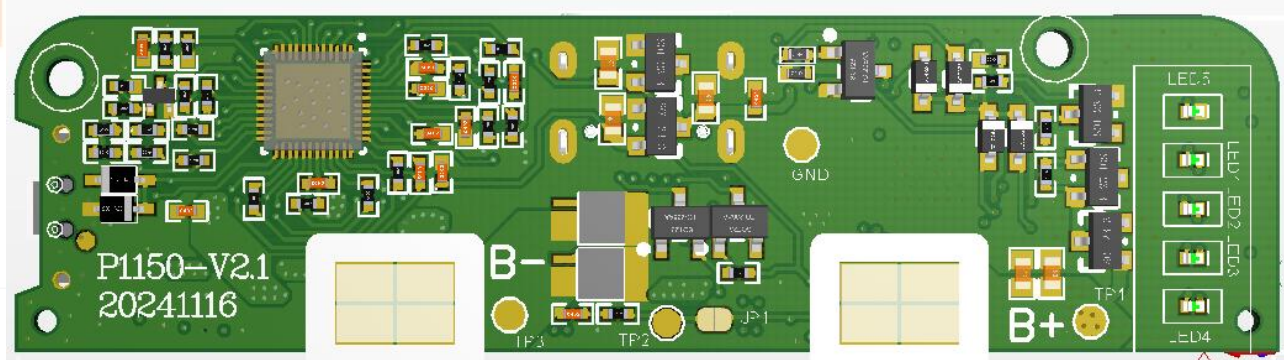
3.1.1 PCB:

P1150-MA

正面 TOP



反面 BOTTOM



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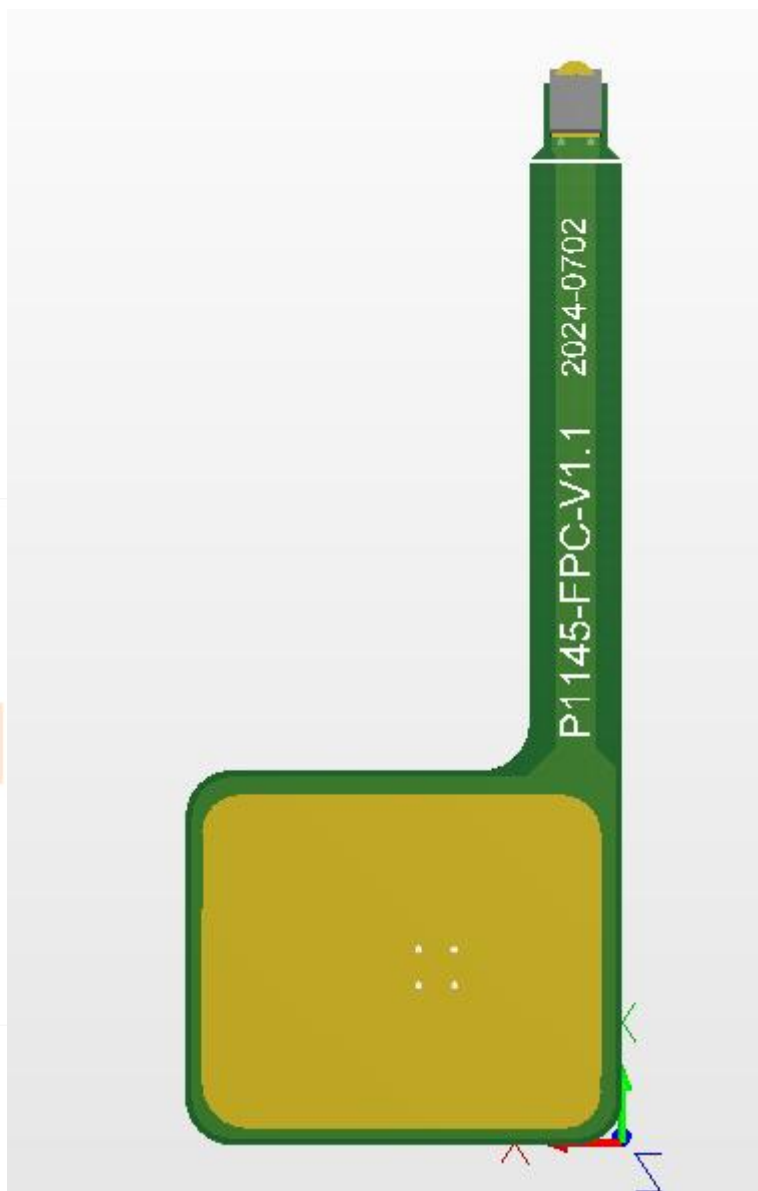
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正面 TOP



3.2 CDF 清单 CDF List

Object/part No 关键件 名称/位号	Manufacturer/ trademark 商标/生产者/生产 企业	Type/model 型号	Technical data 技术参数	Standard 标准	Mark(s)of conformit y 证书号码
外壳材料 Housing Ma terial	/	/	/	/	/
PCB	GOLDENMAX INTERNATIONAL TECHNOLOGY (ZHUHAI) LTD	ILM-R1	94 V-0, 130℃	UL 94 UL796	E330731
	KINGBO ARD LAMINATES HOLDINGS LTD	KB-616(X)	94 V-0, 130℃	UL 94 UL796	E123995
Inductor (CL1)	Dongguan City west united dry city technology Co., LTD	6.5uH	6.5uH±10% 39(Min) DCR: 90mΩ Max 100KHz/1.0V	--	Test with appliance
				--	Test with appliance
				--	Test with appliance
				--	Test with appliance
				--	Test with appliance
				--	Test with appliance

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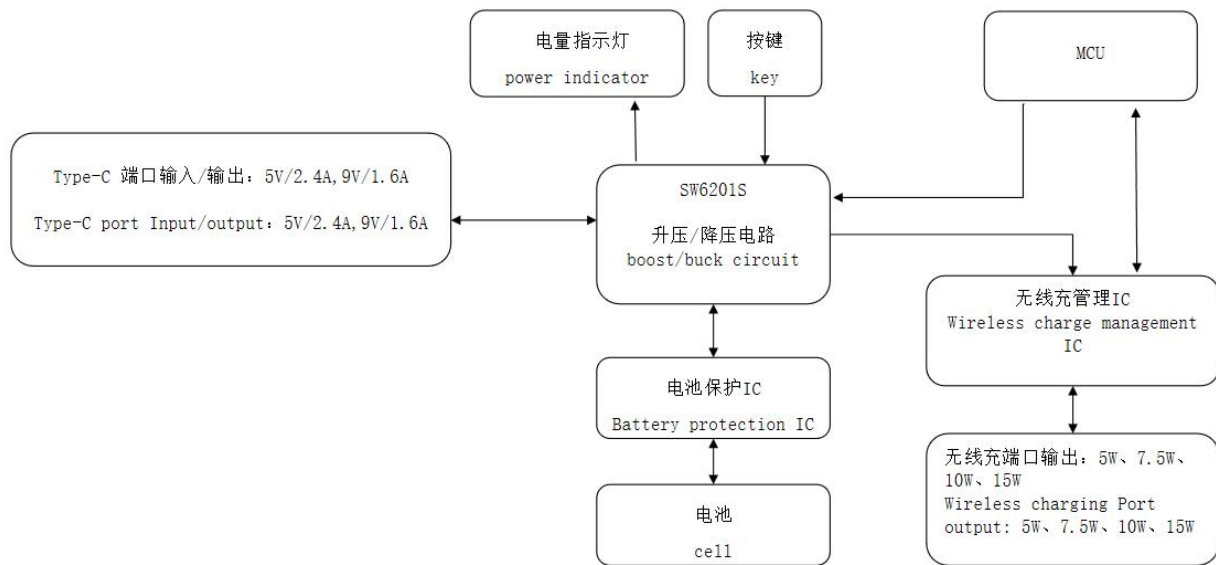
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4. 电气方框图 Electrical Block Diagram



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5. 测试标准 Testing Standard

5.1 PCBA 测试标准 (at 25℃) PCBA Test Standard (at 25℃)

序号 No.	测试项目 Test item	测试标准 Test standard	备注 Remark
5.1.1	保护板测试 PCM Test:		
	过充检测电压 Overcharge Testing Voltage	4.425V±100mV	/
	过放检测电压 Over discharge testing Voltage	2.4V±100mV	/
	过流保护电流 Over-current protection	11A-21A	/
5.1.2	Type-C 端口用适配器充电 Type-C port is charged with an adapter	电池容量:0%-75% Battery capacity:0%-75%	输入功率: 10W-16W Input power: 10W-16W
		电池容量:76%-100% Battery capacity:76%-100%	输入功率: 16W-0.05W Input power: 16W-0.05W
		备注: 环境温度 20~35℃ 充电测试. Remark: Ambient temperature 20 ~ 35℃ charging test.	
		5V	充电电流(电量 0%-25%):2.0-2.5A 充电电流(电量 26%-50%):2.0-2.5A 充电电流(电量 51%-75%):2.0-2.5A 充电电流(电量 76%-100%):2.5-0.05A Charging current (power 0%-25%) :2.0-2.5A Charging current (power from 26% to 50%) : 2.0-2.5A Charging current (power from 51% to 75%) : 2.0-2.5A Charging current (power from 76% to 100%) : 2.5-0.05A
		9V	充电电流(电量 0%-25%):1.1-1.7A 充电电流(电量 26%-50%):1.1-1.7A 充电电流(电量 51%-75%):1.1-1.7A 充电电流(电量 76%-100%):1.7-0.05A Charging current (power 0%-25%) :1.1-1.7A Charging current (power from 26% to 50%) :1.1-1.7A Charging current (power from 51% to 75%) :1.1-1.7A Charging current (power from 76% to 100%) :1.7-0.05A
	Type-C 端口 5V 直流电源充电 Type-c port 5V DC power for charging	电池容量:0%-75% Battery capacity:0%-75%	输入功率: 6.5W-10.5W Input power: 6.5W-10.5W
		电池容量:76%-100% Battery capacity:76%-100%	输入功率: 10.5W-0.05W Input power: 10.5W-0.05W
		备注: 环境温度 20~35℃ 充电测试. Remark: Ambient temperature 20 ~ 35℃ charging test.	

Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址:东莞市清溪镇昌达路 1 号

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Tel.电话: 07-693-3806999

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		5V	充电电流(电量 0%-25%):2.0-2.5A 充电电流(电量 26%-50%):2.0-2.5A 充电电流(电量 51%-75%):2.0-2.5A 充电电流(电量 76%-100%):2.5-0.05A Charging current (power 0%-25%) :2.0-2.5A Charging current (power from 26% to 50%) : 2.0-2.5A Charging current (power from 51% to 75%) : 2.0-2.5A Charging current (power from 76% to 100%) : 2.5-0.05A		
5.1.3	充电指示灯状态 Charging indicator status	显示方式: 充电递增闪, 充电饱全亮. Charge indicators circulate horse race. ◎○○○→●◎○○→●●◎○→●●●◎→●●●●			
		◎○○○	电池容量:<25% Battery capacity: < 25%	第一个灯闪 The first light flashes	
		●◎○○	电池容量:26%-50% Battery capacity: 26%-50%	亮一个灯, 第二个灯闪 Light a lamp, a second light flash	
		●●◎○	电池容量:51%-75% Battery capacity: 51%-75%	亮两个灯, 第三个灯闪 Two light, the third light flash	
		●●●◎	电池容量:76%-99% Battery capacity: 76%-99%	亮三个灯, 第四个灯闪 Three bright lights, a fourth lights flashing	
		●●●●	电池容量:100% Battery capacity: 100%	亮四个灯 Four LED on	
5.1.4	放电电量指示状态 Discharge battery indicator status:	显示方式: 放电递减. Display mode: diminishing discharge. ●●●●→●●●○→●●○○→●○○○→◎○○○			
		无线充端口输出, 无线充指示灯 (绿色) 常亮。 Wireless charging port output, wireless charging indicator (orange) steady on.			
		●●●●	电池容量:76%-100% Battery capacity: 76%-100%	亮四个灯 Four LED on	
		●●●○	电池容量:51%-75% Battery capacity: 51%-75%	亮三个灯 Three LED on	
		●●○○	电池容量:26%-50% Battery capacity: 26%-50%	亮二个灯 Two LED on	

Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址:东莞市清溪镇昌达路 1 号

邮编: 523622

Tel.电话: 07-693-3806999

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		●○○○	电池容量:6%-25% Battery capacity: 6%-25%	亮一个灯 One LED on
		◎○○○	电池容量:<5% Battery capacity: < 5%	电池低电压报警 Low battery voltage alarm
		○○○○	没电:No power	无电量 No power
5.1.5	边充边放 While filling	支持 support 边充边放模式无线充输出 15W（使用 30W 以上的适配器供电） Charge while play mode Wireless charge output 15W (using an adapter above 30W)		
5.1.6	边充边放电量指 示 Discharge indicator while charging	显示充电状态，无线充指示灯常亮。 Display charging status, wireless charging indicator is steady on.		
5.1.7	开机/关机 ON/OFF	1.短按按键打开输出，无负载（或负载移除后），无线充指示灯 3±1S 熄灭，电量指示灯 32±5 秒熄灭，同时关闭输出。 备注（无线充指示灯亮起，需要有设备连接的状态下才会亮起） 1.Press the button to turn on the output, no load (Or after the load is removed), the wireless charging indicator is off 3±1S, the power indicator is off 32±5 seconds, and the output is off. Note (The wireless charging indicator is on, and it will only be on when there is a device connected) 2.开机状态下双击按键关闭输出。 2. Double click the button to turn off the output. 3.无线充和 Type-C 端口都具有负载识别开机功能。 3.Wireless charging and Type-C ports have load identification boot function.		
5.1.8	Type-C 输出电压 5V Type-C Output Voltage 5V	空载电压 with no-load voltage	4.75V-5.25V D+:0.8±0.2V D-:0.8±0.2V	电压值为 PCBA 板端电 压 The voltage value is the PCBA plate terminal voltage
		带载 CC=2.4A With load CC=2.4A	4.75V-5.25V	
5.1.9	无线充输出 Wireless charge output	带载 With load 5W	无线充测试架带载 5W 测试 pass Wireless charging test rack with 5W test pass	单电池模式测试无线 充带载 Single battery mode test wireless charging with load
		带载 With load 7.5W	无线充测试架带载 7.5W 测试 pass Wireless charging test rack with 7.5W test pass	

		带载 With load 10W	无线充测试架带载 10W 测试 pass Wireless charging test rack with 10W test pass	
		带载 With load 15W	无线充测试架带载 15W 测试 pass Wireless charging test rack with 15W test pass	
		带载 With load 5W	无线充测试架带载 5W 测试 pass Wireless charging test rack with 5W test pass	边充边放模式测试无线充带载 (使用 30W 以上适配器供电) Charging while discharging mode test wireless charging with load (30W or above adapter power supply)
		带载 With load 7.5W	无线充测试架带载 7.5W 测试 pass Wireless charging test rack with 7.5W test pass	
		带载 With load 10W	无线充测试架带载 10W 测试 pass Wireless charging test rack with 10W test pass	
		带载 With load 15W	无线充测试架带载 15W 测试 pass Wireless charging test rack with 15W test pass	
		耦合距离 4mm Coupling distance 4mm	在 4mm 距离以内, 要求可以正常充电 Within a distance of 4mm, it is required to charge normally	/
		FOD 异物检测 FOD foreign body detection	无线充 3S 内检测到异物关闭输出 (无线充指示灯闪烁 5 次后熄灭) A foreign object is detected in the wireless charger 3S. The output is turned off (the wireless charger indicator flashes 5 times and then turns off).	不能出现无线充发热等异常现象。 No abnormal phenomena such as wireless charging and heating can occur.

Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址: 东莞市清溪镇昌达路 1 号

邮编: 523622

Tel. 电话: 07-693-3806999

Http://www.dbk.com.hk

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		无线充开启方式 Wireless charging on mode	轻触按键开启/无线充自动识别开启输出，双击按键关闭无线充输出 Touch the button to open/wireless charge automatic identification to open the output, double click the button to close the wireless charge output	在无线充开启状态下未检测到负载接入，电量指示灯 32 ± 5 秒熄灭，同时关闭输出。 If no load is detected when the wireless charge is on, the power indicator is off for 32 ± 5 seconds and the output is turned off.
5.1.10	Type-C 端口输出过流 Type-C port output over current	5V 过流值为 $3.4A \pm 0.3A$ (电流增加，输出电压会相应降低)，输出超出过流值（3 秒内），输出关闭，4 颗 LED 灯同时闪烁报警 5 次后熄灭，解除过流后重新拔插恢复输出。 5V over current value is $3.4A \pm 0.3A$ (the current increases, the output voltage will decrease accordingly), the output exceeds the over current value (within 3 seconds), the output is turned off, the 4 LED lights blink at the same time, the alarm is turned off for 5 times, and the output is restored after the over current is removed and re-plugged.		
5.1.11	输出短路保护 Output short circuit protection	Type-C 端口输出短路保护，输出关闭，4 颗 LED 灯同时闪烁报警 5 次后熄灭，解除故障，短按按键或重新拔插负载激活。 Type-C port output short-circuit protection, output off, 4 LED lights at the same time flashing alarm 5 times after the extinguish, remove the fault, short press the key or re-plug the load activation. RX 模块输出短路保护后，如果短路未解除，则关闭 TX 输出；RX 负载重置可重启 TX 输出。 After the RX module outputs short circuit protection, if the short circuit is not removed, turn off the TX output; RX load reset restarts TX output.		
5.1.12	电池低电保护 Low battery protection	当电芯电压低于 3V 时启动低压保护，此时短按按键，LED1 闪烁 5 次后关机，需将电芯电压充到 3.3V 以上才能开机，继续升压工作。 When the voltage of the battery cell is lower than 3V, the low-voltage protection is started. At this time, press the key, and the LED1 flashes for 5 times to shut down. The battery voltage must be charged to more than 3.3V before the battery can be turned on.		
5.1.13	PCBA 自耗电 PCBA Self consumption	$<150\mu A$ (PCBA 段测试) $<150\mu A$ (PCBA section test)		
5.1.14	PCBA 输出转换效率 output conversion efficiency	1.Type-C $>80\%$ 2.无线充 Wireless charging $>75\%$		

5.1.15	电池温度保护 Battery temperature protection	1.充电时,当检测到电芯温度 $\geq 44\pm 3^{\circ}\text{C}$,启动保护停止充电(4颗LED灯同时闪烁);当电芯温度恢复到 $\leq 40\pm 3^{\circ}\text{C}$ 时,恢复正常。 1.When charging, when the detection of battery temperature $\geq 44\pm 3^{\circ}\text{C}$, start the protection to stop charging(4 LED lights flashing simultaneously); When the core temperature returns to $\leq 40\pm 3^{\circ}\text{C}$, it returns to normal.
		2.充电时,当检测到电芯温度 $\leq -2\pm 3^{\circ}\text{C}$,启动保护停止充电(4颗LED灯同时闪烁);当电芯温度恢复到 $\geq 3\pm 3^{\circ}\text{C}$ 时,恢复正常。 2.When charging, when it is detected that the core temperature is $\leq -2\pm 3^{\circ}\text{C}$, start protection and stop charging(4 LED lights flashing simultaneously); When the cell temperature returns to $\geq 3\pm 3^{\circ}\text{C}$, it returns to normal.
		3.放电时,当检测到电芯温度 $\geq 59\pm 3^{\circ}\text{C}$,启动保护停止放电(LED灯同时闪烁10次后熄灭);当电芯恢复到 $\leq 55\pm 3^{\circ}\text{C}$ 时,重新开机才能恢复输出。 3.When discharging, when it is detected that the core temperature is $\geq 59\pm 3^{\circ}\text{C}$, start the protection and stop discharging(LED light flashes 10 times at the same time and then goes off); When the cell is restored to $\leq 55\pm 3^{\circ}\text{C}$, the output can be restored only after restart.
		4.放电时,当检测到电芯温度 $\leq -15\pm 5^{\circ}\text{C}$,启动保护停止放电(LED灯同时闪烁10次后熄灭);当电芯恢复到 $\geq -10\pm 5^{\circ}\text{C}$ 时,重新开机才能恢复输出。 4.When discharging, when it is detected that the core temperature is $\leq -15\pm 5^{\circ}\text{C}$, start the protection and stop discharging(LED light flashes 10 times at the same time and then goes off); When the cell is restored to $\geq -10\pm 5^{\circ}\text{C}$, the output can be restored only after restart
5.2.12	纹波电压 Ripple voltage	Type-C 端口 5V/2.4A 输出纹波 $<100\text{mV}$ Type-C Port 5V/2.4A output ripple $<100\text{mV}$
5.2.13	整机转换效率 Overall conversion efficiency	1.Type-C 5V/2.4A $>75\%$ 2.无线充 Wireless charging 5W $>75\%$
5.2.14	真机测试 Real machine test	第一步:将三星手机通过连接线插入USB端口,三星手机应有充电显示 第二步:将iPad手机通过连接线插入USB端口,iPad应有充电显示 The first step: Samsung mobile phone through the connecting wire insertion USB port, Samsung mobile phones have charging display The second step: When the iPad is connected to USB port by connecting wire, the telephone shall have the charging indication.
备注:LED灯用“●”代表亮,用“◎”代表闪烁,“○”表示不亮。 1.测试线环路内阻小于100毫欧。 2.纹波测试条件:示波器带宽为20MHz,并且使用旁路电容连接负载(旁路电容使用一个0.1uF陶瓷电容和一个10uF/50V的铝电解电容并联)。 3. Type-c 端口输出测试需配PD专用测试板测试。		

Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址:东莞市清溪镇昌达路 1 号

邮编: 523622

Tel.电话: 07-693-3806999

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Remark: “●” means on, “◎” means flashing, “○” means off.

1. Test line loop internal resistance is less than 100 milliohms.
2. Ripple test conditions: The oscilloscope bandwidth is 20MHz and the load is connected by a bypass capacitor (the bypass capacitor is connected in parallel with a 0.1uF ceramic capacitor and a 10uF/50V aluminum electrolytic capacitor).
3. The type-c port output test needs to be tested with a dedicated PD test board.



Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

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地址: 东莞市清溪镇昌达路 1 号

邮编: 523622

Tel. 电话: 07-693-3806999

Http://www.dbk.com.hk

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6. 丝印内容文件及标准 Screen Printing Content Documents and Standards



Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址: 东莞市清溪镇昌达路 1 号

邮编: 523622

Tel. 电话: 07-693-3806999

[Http://www.dbk.com.hk](http://www.dbk.com.hk)

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7. 外观检测标准 Appearance Inspection Standard

7.1 PCBA外观检查 Appearance Inspection for PCBA

插元件时必须装插到位,不可插错位、少件、多件等不良现象。目检焊脚不可有连锡、虚焊、空焊、锡尖、堆锡、锡点不饱满、污垢等不良现象

During operation, all components must be installed correctly. And the solder point must be smooth and has not burrs and other defects.

7.2 外观检查 Appearance Inspection

参照《移动电源通用外观检验标准》

Refer to 《General appearance inspection standard for mobile power》



8. 老化测试标准 Cycle Test Standard

8.1 充放电老化测试（环境温度 $25\pm 2^{\circ}\text{C}$ ）：

8.1.1.放电：Type-C端口输出5V/2.4A放电至0%电量。

8.1.2.充电：Type-C端口用5V3A适配器充电直到LED指示灯全亮，充电截止电流 $< \text{xxmA}$ ；充电时间 $< \text{xxH}$ 。

8.1.3.放电：Type-C端口输出5V/2.4A放电至0%电量；放电时间 $> \text{xxH}$ 。

8.1.4.充电：Type-C端口用9V2.22A适配器充电直到LED指示灯全亮，充电截止电流 $< \text{xxmA}$ ；充电时间 $< \text{xxH}$ 。

8.1.5.放电：无线充端口输出5W放电至0%电量；放电时间 $> \text{xxH}$ 。

8.1.6.充电：Type-C端口用9V2.22A适配器充电直到LED指示灯全亮，充电截止电流 $< \text{xxmA}$ ；充电时间 $< \text{xxH}$ 。

8.1.7.放电：无线充端口输出15W放电至0%电量（无线充15W放电会自动降功率，老化阶段按照产品自动放完电即可）。

8.1.8.充电：Type-C端口用5V3A适配器充电直到电池电量达到70%为止（即出货电量,也可根据客户需求而定）

8.1 Charge and discharge aging test (Environmental temperature $25\pm 2^{\circ}\text{C}$) :

8.1.1. discharge: Type-C port output 5V/2.4A discharge to 0% power.

8.1.2. charging: Charge the Type-C port with 5V3A adapter until the LED indicator is fully on, and the charging cutoff current is $< \text{xxmA}$; Charging time $< \text{xxH}$.

8.1.3. discharge: Type-C port output 5V/2.4A discharge to 0% power; Discharge time $> \text{xxH}$.

8.1.4. charging: Charge the Type-C port with 9V2.22A adapter until the LED indicator is fully on, and the charging cutoff current is $< \text{xxmA}$; Charging time $< \text{xxH}$.

8.1.5. discharge: Line charge port output 5W discharge to 0% power; Discharge time $> \text{xxH}$.

8.1.6. charging: Charge the Type-C port with 9V2.22A adapter until the LED indicator is fully on, and the charging cutoff current is $< \text{xxmA}$; Charging time $< \text{xxH}$.

8.1.7. discharge: Wireless charging port output 15W discharge to 0% power (wireless charging 15W discharge will automatically reduce power, aging stage according to the product can automatically discharge power).

8.1.8. charging: Charge type-C port with PD 5V3A adapter until battery capacity reaches 70% (i.e., shipment capacity can also be determined according to customer demand)

Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址:东莞市清溪镇昌达路 1 号

邮编: 523622

Tel.电话: 07-693-3806999

Http://www.dbk.com.hk

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9. 附录 Appendix

成品检验				
测试项目	必测项	抽测项	非测项	备注
充电电流	*	/	/	
充电灯显	*	/	/	
开机/关机	/	*	/	抽取2PCS
输出空载	*	/	/	
输出带载	*	/	/	
短路保护	*	/	/	
过流保护	*	/	/	
低电保护	/	/	*	封样测试
温度保护	/	/	*	封样测试
PCBA自耗电	/	/	*	PCBA测试
纹波电压	/	*	/	抽取2PCS
转换效率	/	/	*	封样测试
真机测试	/	*	/	抽取2PCS
外观检查	*	/	/	

备注:半成品依据 SOP 工位测

Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

地址:东莞市清溪镇昌达路 1 号

邮编: 523622

Tel.电话: 07-693-3806999

Http://www.dbk.com.hk

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Dongguan DBK Electronics Technology Co., Ltd 东莞市迪比科能源科技有限公司

Add: No1, Changda Rd, Luoma Community, Qingxi Town, Dongguan 523622, Guangdong, China

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邮编: 523622

Tel. 电话: 07-693-3806999

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