

上海宝盈电子有限公司送样承认书

sample acceptance letter of Shanghai Baoying electronic Co., LTD.

DATA
SHEET

W01 无线充电 wireless charging

PCBA 规格书 specification

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BJX - 02 - 2232 PCBA 送样承认书

BJX - 02 - 2232 PCBAsample acceptance letter

客户名称 customer name:

产品名称 Product name: W01 无线充

产品型号 General Specifications: BJB - 02 - 2232

版 本 Version of this: BJB - 02 - 2232 (REV1.5)

项目编号 Project No.: BJB - 02 - 2232

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承 认 印 Admit to print

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目录 catalog

1 产品概述 Product Overview	4
2 特点 Features	4
3 应用场合 applications	4
4 功能参数 Function Parameters.....	5
4.1 应用方案电气参数 Electrical parameters of application scheme	5
4.2 参考线路充电效率 Reference line charging efficiency	5
5 外形 3D 图 (尺寸: 43mm*39.7mm) Outline 3D drawing (size: 43mm*39.7mm).....	5
6 发射线圈参数 Transmitting coil parameters.....	6
7 磁吸充电接口板尺寸与引线连接示意图 Schematic diagram of the size and lead connection of the magnetic charging interface board	6

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1 产品概述 Product overview

本模组是一款专门针对符合 **Qi** 标准无线接收要求的发射器模组。模组兼容 **WPC1.2.4** 标准,性能稳定,待机功耗低等特点,采用独特的 **PWM** 调制模式,使得转换效率大幅提升。轻松实现无线带来的方便, 模组输出效率高, 内置发射功率与无线接收功率比对, 更能准确控制发射能量的损失。 模组元器件数量少, 性价比高, 非常适合用于符合 **Qi** 标准认证的各类无线充电设备上, 模组还带有一路 **5V/1.0A** 输出的有线磁吸充电, 可用于外部设备磁吸充电。

This module is a transmitter module specially designed to meet the Qi standard wireless receiving requirements. The module is compatible with the WPC1.2.4 standard, with stable performance and low standby power consumption. It adopts a unique PWM modulation mode, which greatly improves the conversion efficiency. The convenience brought by wireless is easily realized, the module output efficiency is high, and the built-in transmit power is compared with the wireless receive power, which can more accurately control the loss of transmit energy. The module has a small number of components and high cost performance. It is very suitable for various wireless charging devices that meet the Qi standard certification. The module also has a 5V/1.0A output wired magnetic charging, which can be used for magnetic charging of external devices.

2 特点 Features

- 集成度高, 内置片内运放、片内比较器, 外围元器件少。 电路简单, 价格优势明显。
High integration, built-in on-chip op amp, on-chip comparator, less peripheral components. Simple circuit, obvious price advantage.
- 稳定性高, 兼容性强。 High stability and compatibility.
- 兼容 **WPC(Wireless Power Consortium)** 国际无线充电联盟 **WPC1.2** 版 **Qi** 标准。 Compatible with WPC (Wireless Power Consortium) International Wireless Power Consortium WPC 1.2 Qi standard
- 兼容所有 **Qi** 标志的无线充电接收器。 Compatible with all Qi-marked wireless charging receivers.
- 兼容所有 **Qi** 标志的手机接收端。 Compatible with all Qi-marked mobile phone receivers
- **OCP(Over Current Protection)** 过流保护。 OCP (Over Current Protection) over current protection.
- **DPL(Dynamic Power Limiting)** 动态电源限制功能, 通过无缝优化受限输入电源上可用功率的用量提高用户体验。 DPL (Dynamic Power Limiting) function, which improves user experience by seamlessly optimizing the amount of available power on limited input power sources.
- 外来物体检测 **FOD(Foreign Object Debris)**, **PMOD** 增强性寄生金属检测, 从而防止由于在 无线电源传输场中错误放置金属物体而导致的电源损耗。 FOD(Foreign Object Debris), PMOD

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enhances parasitic metal detection to prevent power loss due to misplaced metal objects in wireless power transfer fields.

- 输入电压 **9V**，输入电流 **0.5A~2A**。Input voltage 9V, input current 0.5A~2A
- 无线充电输出电流 **0.35A~1A**。Wireless charging output current 0.35A~1A
- 有线磁吸充电输出电流 **1.0A**。Wired magnetic charging output current 1.0A.
- 集成 **QC** 模组。Integrated QC module.
 - 支持 **PD** (已通过 **PD** 认证的适配器需要兼容)。PD supported (PD certified adapters need to be compatible).
 - 支持手机 (最大 **15W**)，支持 **1** 路 **5V/1.0A** 输出的有线磁吸充电接口，可供外部设备充电。
Support mobile phone (maximum 15W), support 1-way 5V/1.0A output wired magnetic charging interface, can charge external devices.

3 应用场合 Applications

- **Qi** 标准安卓智能手机。Qi standard Android smartphone.
- **Qi** 标准苹果智能手机。Qi standard Apple smartphone.
- **Qi** 标准手持式设备。Qi standard handheld device.
- **Qi** 标准手机周边配件 (例如: 蓝牙音响设备, **TWS** 耳机盒等)。Qi standard mobile phone peripheral accessories (eg: Bluetooth speaker device, TWS earphone box, etc.).
- **Qi** 标准无线充电移动电源。Qi standard wireless charging power bank.
- **Qi** 标准消费类电子产品。Qi standard consumer electronics.
- **Qi** 标准电子工具类。Qi standard electronic tool class.
- **Qi** 标准车载配件。Qi standard car accessories.
- **Qi** 标准桌面充电器。Qi standard desktop charger.

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4 功能参数 Functional parameter

4.1 应用方案电气参数Electrical parameters of application scheme

项目item	参数 parameter
供电电压 Supply voltage	DC、QC、PD 9V/3A
输出功率 Output Wattage	无线充最大 15W，有线磁吸输出最大 5V/1.0A Wireless charging maximum 15W, wired magnetic output maximum 5V/1.0A
发射频率 transmit frequency	115K-205KHz
无线距离 (发射线圈与接收线圈之间)Wireless distance (between transmitting coil and receiving coil)	最大接收距离 5mm, 2-3mm 最佳 Maximum receiving distance is 5mm, 2-3mm is best
转换效率 transformation efficiency	70%-80%左右
纹波电压 Ripple voltage	<50mV
保护功能 Protection function	输入过压、欠压、过流保护、直流 5V 输出短路保护 input over-voltage, under-voltage, over-current protection, DC 5V output short-circuit protection
LED 指示灯 LED indicator	无线充电待机常亮、工作呼吸、异常保护时闪烁 wireless charging standby always on, working breathing, flashing when abnormal protection
兼容性 Compatibility	兼容符合 QI 无线接收的产品 Compatible with products that comply with QI wireless reception
工作温度与湿度 Operating temperature and humidity	0℃-75℃ , 10-85%
储存温度与湿度 Storage temperature and humidity	-40℃-85℃ , 95%
USB 接口插拔耐久测试	插拔测试 10000 次以上合格

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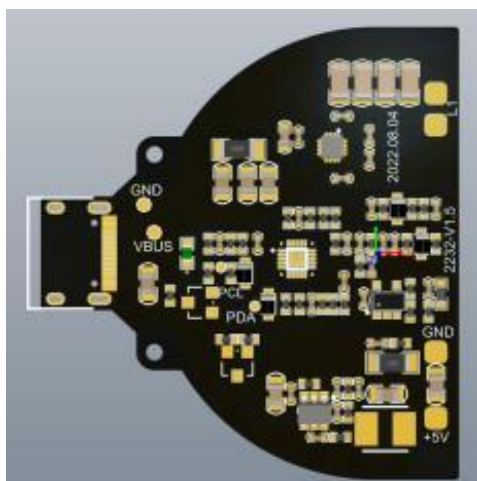
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4.2 参考线路充电效率 Reference line charging efficiency

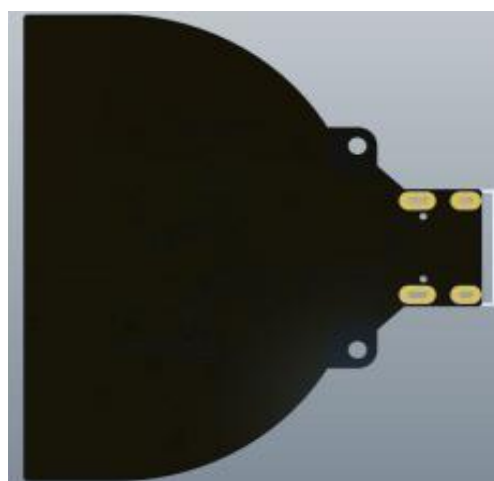
测试在 **9V** 供电时,用测试架发射与接收线圈之间距离为 **2mm** 时测试输出 **9V/1A** 时的转换效率约 **80%**, 注意使用不同的接收端,效率会不同。

When the test is powered by 9V, when the distance between the transmitter and the receiver coil of the test stand is 2mm, the conversion efficiency when the test output is 9V/1A is about 80%. Note that the efficiency will be different when using different receivers.

5 外形 3D 图 (尺寸: 43mm*39.7mm) Shape 3D drawing (size: 43mm*39.7mm)



PCBA 正面 front view



PCBA 反面 reverse side

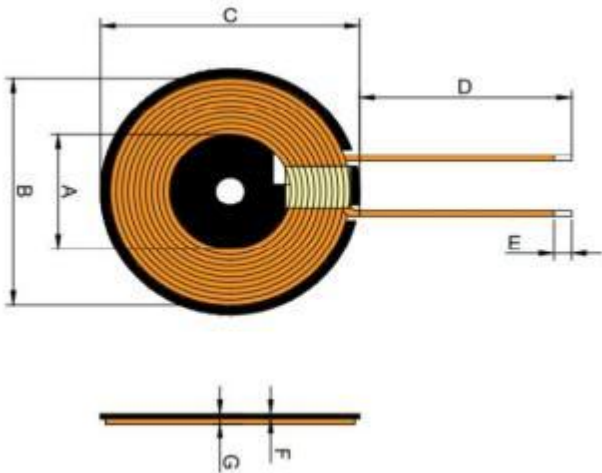
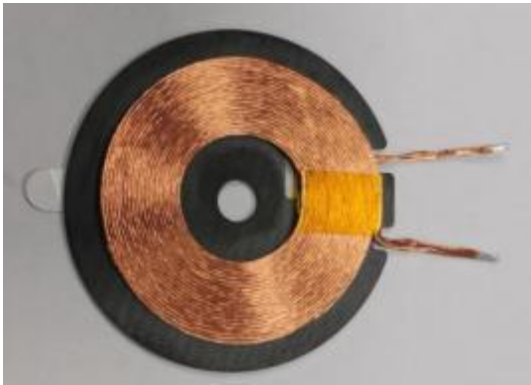
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6 发射线圈参数

Transmit coil parameters

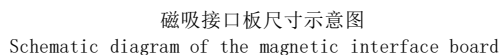


	A	B	C	D	E	F	G
尺寸(mm)	16±0.5	35.5±0.5	43±0.5	16±1	3±1.5	0.45±0.5	1.5±0.1
磁片Every disk: 43*4*0.65铁氧体硬磁片，一片双面胶； Ferrite hard magnetic sheet A piece of double-sided tape							
线圈coil panel: ∅ 1.6*0.08—*24P*2P*12TS							

7 磁吸充电接口板尺寸与引线连接示意图

Schematic diagram of magnetic charging interface board size and lead connection

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磁吸充电接口板与主板之间连接 The connection between the magnetic charging interface board and the motherboard:

C+5V: 26# AWG red silicone wire, wire length 35mm, 2.0mm stripped at both ends, tin immersion

GND: 26# AWG black silicone wire, 35mm long, 2.0mm stripped at both ends, tinned

采用的 7 芯硅胶线剥皮线头处浸锡再后焊，与板子焊接线头处不允许 7 芯线有 1 条线断。
The 7-core silicone wire used is immersed in tin at the peeled end of the wire and then soldered. One of the 7-core wire is not allowed to be broken at the welding end of the board.

磁吸板上的磁铁圈表面不能有缺口、凹点、划痕；焊盘位不能有氧化生锈迹象，上锡要饱满均匀；磁铁圈和顶针要居中焊接牢固。

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The surface of the magnet ring on the magnetic suction board should not have gaps, pits and scratches; the pads should not have signs of oxidation and rust, and the tin should be full and even; the magnet ring and the thimble should be firmly welded in the center