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飞荣达电源事业部

优势及竞争力



- 完整专业的研发团队
- 核心器件研发能力
- 纳微全球战略合作

- 完善质量体系
- 完备的监测能力
- CNAS认证实验室支持



中国认可
国际互认
检测
TESTING
CNAS L12628

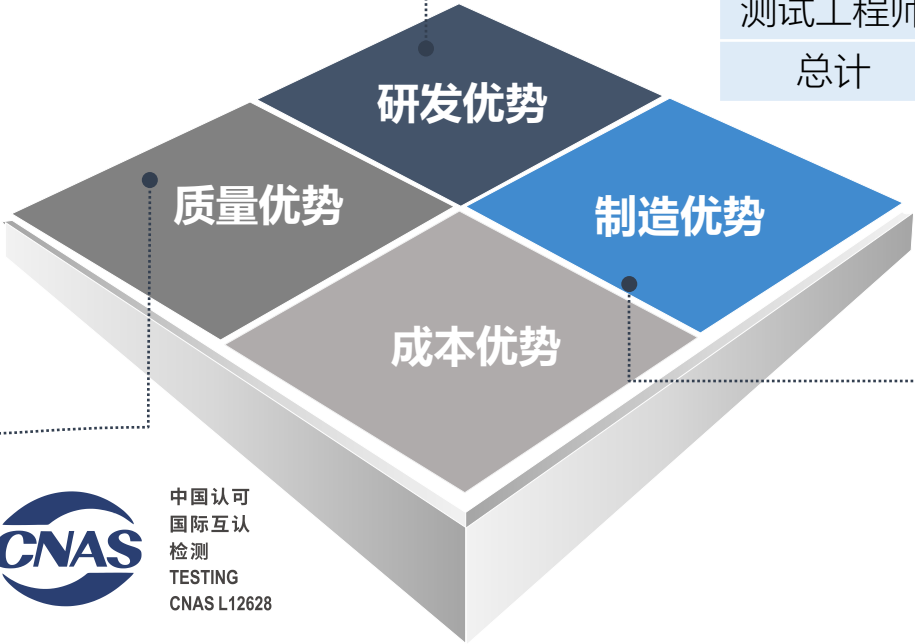
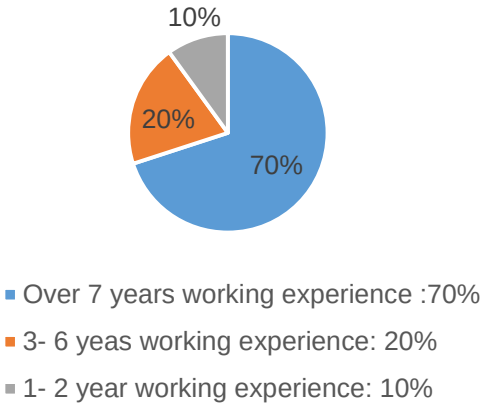
中国合格评定国家认可委员会

郑广月
18年电源研发经验
电源TOP5中的3家从业经验

魏涛
10年台达
电源研发经验

张昕
磁性器件专家
北航博士

研发团队	数量
电子工程师	12
结构工程师	8
工艺工程师	15
测试工程师	10
总计	45

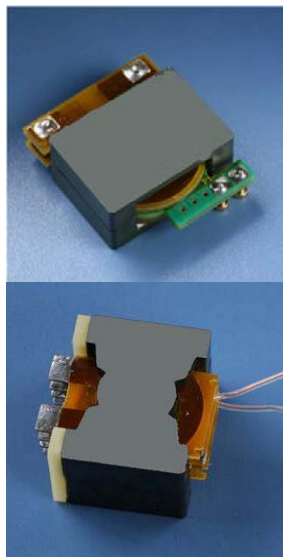


- 全产业链整合能力
- 自动化生产优势
- 完整制造能力



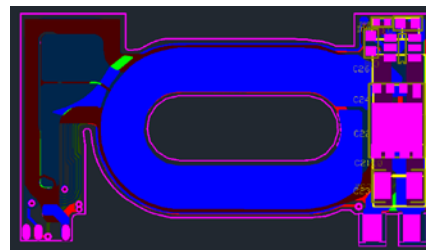
平面变压器研制

平面变压器

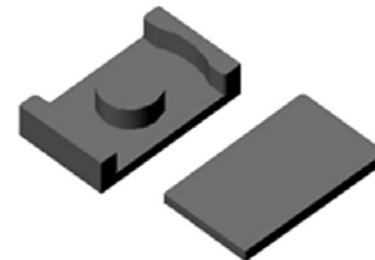


产品特点

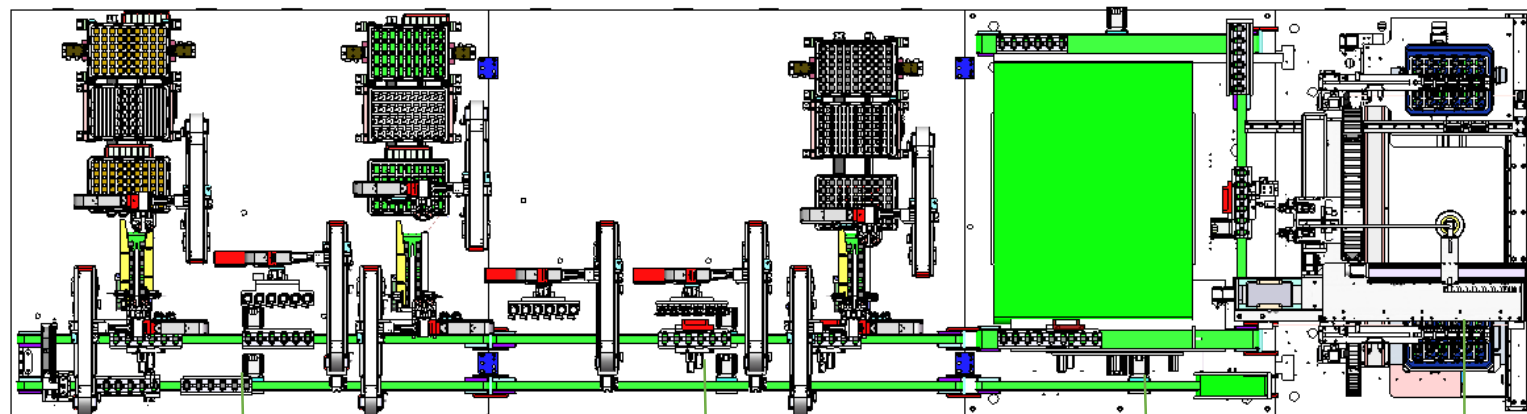
- 更高的转换效率
- 更低的温升
- 更小的电磁干扰
- 更小的噪声



PCB设计



铁氧体选型



底座上料、
点胶设备

底座与PCBA组合体
点胶、上盖组装设备

治具缓存固化区、
治具回流搬运设备

Tray盘下料设备

电源整机研发

65W GaN充电器

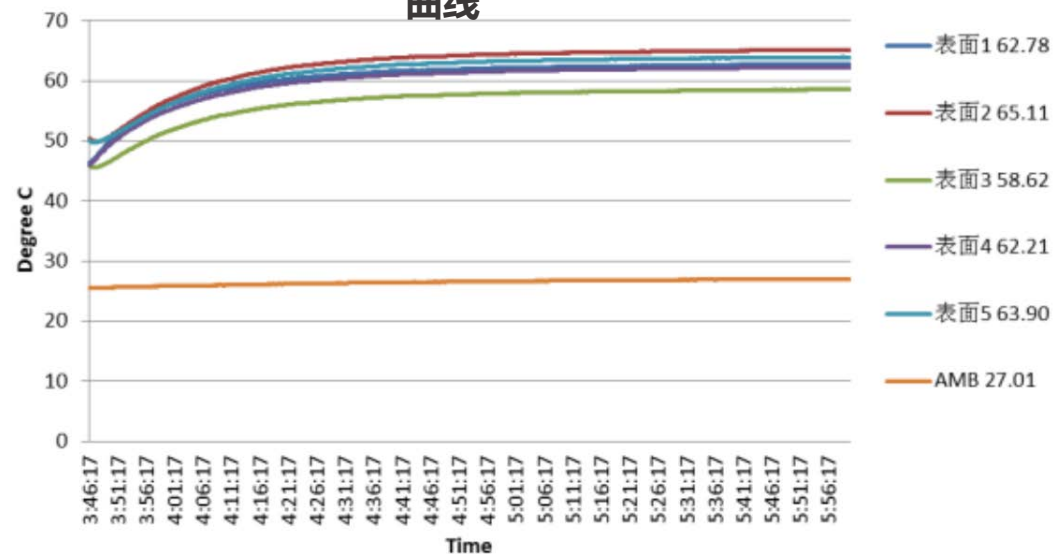


产品实物图
48x48x28mm

- 输入: 100 ~ 240V, 50 / 60Hz
- 功率芯片: NV6115 (160mΩ) GaN Power IC
- 控制芯片: QR = OnSemi NCP1342 ; SR = MPS MP6908A; PD = HUSB350
- 变压器类型: 传统变压器
- 工作频率: 180 ~ 300 kHz

产品电子方案

65W GaN充电器温升曲线



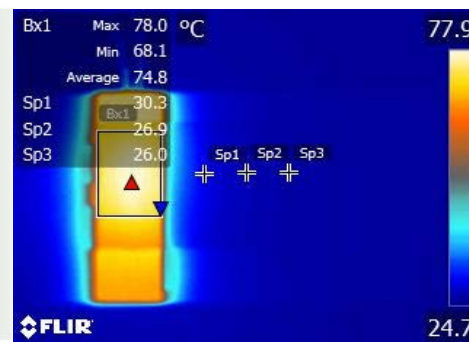
表面1: 固态电容位置; 表面2: 变压器位置; 表面3: 高压电容位置; 表面4: 同步整流MOS位置; 表面5: 氮化镓位置

电源整机EMC及热实验室

EMC测试系统



热性能分析系统

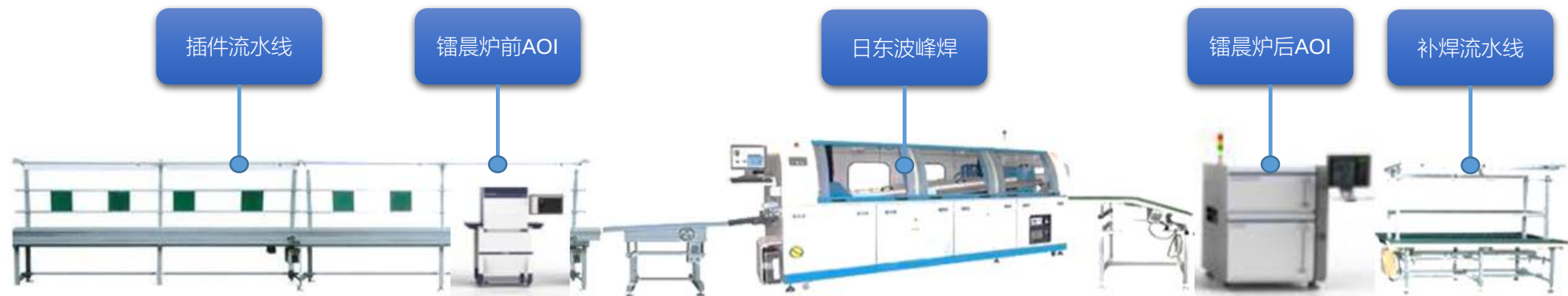


制造能力—主要设备

SMT生产线



DIP生产线



质量优势—完备的质量历体系



Yield bridge & FACA

MSA

PPAP

FEMA

Reliability

QA

QUALITY ASSURANCE

QE

QUALITY ENGINEERING

SPC

异常问题处理与解决

QC管理

Reliability



FRD具有经验丰富的QA以及QE团队，能够快速响应，迅速改善，严格执行客户要求的出货标准。

质量优势—可靠性测试设备



机械跌落试验机



振动试验机



冷热冲击试验箱



恒温恒湿试验机



高温试验箱



低温试验箱



盐雾试验机



三丰二次元



思瑞二次元



高倍显微镜



膜厚测试仪

成本优势

FRD 氮化镓电源方案



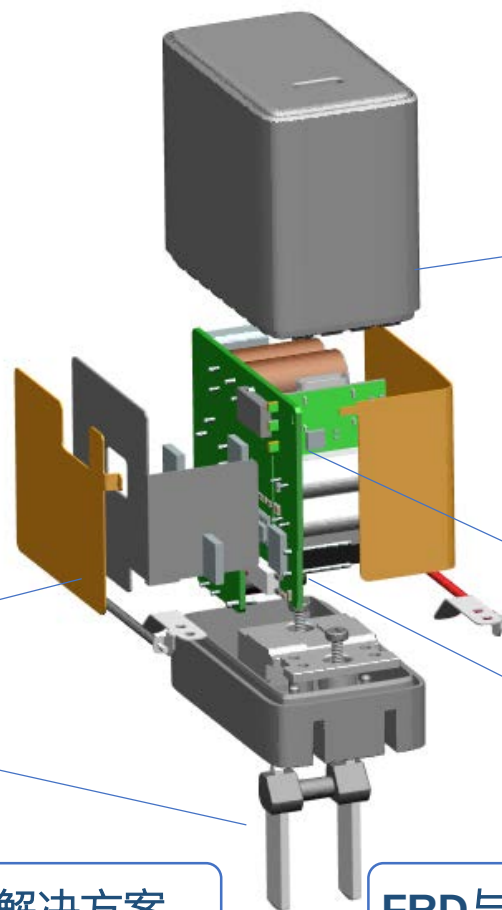
模切生产线

各类导热材料

金属冲压插针

FRD 整合供应能力

FRD 3D热解决方案



精密注塑生产

导热塑料

完整自有生产线

自动化插件生产线

FRD平面变压器

共模电感、差模电感

FRD与Navitas战略合作

常州整机组装车间





4

量产产品

磁性器件 电源整机

C020CN-01/C020US-01

20W

Specification

Input: AC100 - 240V ~ 50/60Hz 0.6A

Output: 5V/3A; 9V/2.22A; 12V/1.66A;

Protocol: PD3.0/APPLE/BC1.2/QC3.0/SAMSUNG-AFC/HUAWEI-FCP

Interface: 1x USB Type -C

Operation Temp: -10 – 35°C

Operation Humidity: 20% - 80%

Certificated: 3C; FCC; RoHS; Level VI

Dimensions: 28.6x28.6x31mm



33W

Specification

Input: AC100 - 240V ~ 50/60Hz 1A

Output: 5V/3A; 9V/3A; 11V/3A; 12V/2.75A

Protocol: PD3.0/APPLE/BC1.2/QC3.0/SAMSUNG-AFC/HUAWEI-FCP

Interface: 1x USB Type -C

Operation Temp: -10 – 25°C

Operation Humidity: 20% - 80%

Certificated: 3C; FCC; RoHS; Level VI

Dimensions: 30.9x30.9x35mm



Specification

Input: AC100 - 240V ~ 50/60Hz 1A

Output: 5V/3A; 9V/3A; 11V/3A; 12V/2.75A

PD: PD3.0/APPLE/BC1.2/QC3.0/SAMSUNG-AFC/HUAWEI-FCP

Interface: 1x USB Type -C

Operation Temp: -10 – 25°C

Operation Humidity: 20% - 80%

Certificated: 3C; FCC; RoHS; Level VI

Dimensions: 30.9x30.9x42.8mm



C065CN-01/C065US-01

65W

Specification

Input: AC100 - 240V ~ 50/60Hz 1.8A

Output: 5V/3A; 9V/3A; 12V/3A; 15V/3A; 20V/3.25A;

Protocol: PD2.0/PD3.0/PPS/QC3.0/QC4+/HUAWEI-FCP 5V 9V 18W

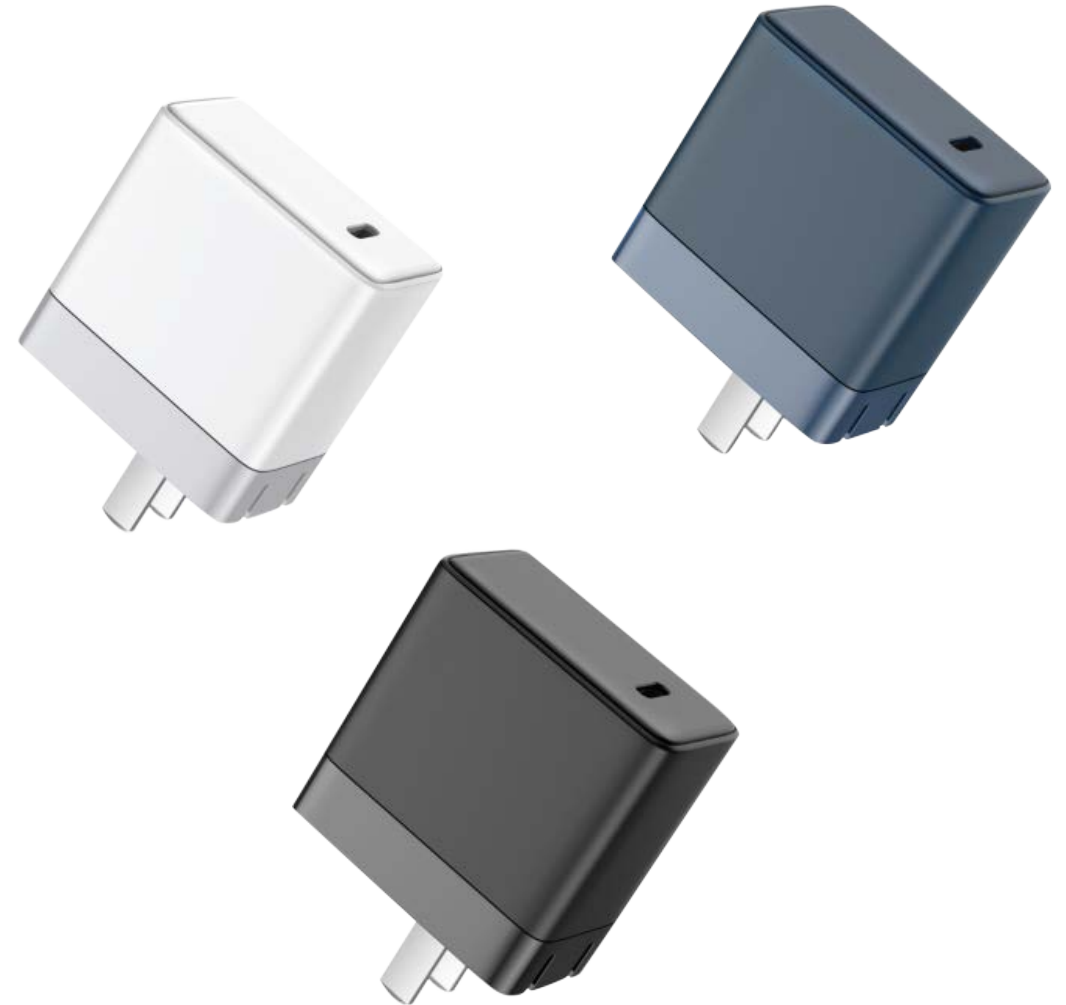
Interface: 1x USB Type -C

Operation Temp: -10 – 35°C

Operation Humidity: 20% - 80%

Certificated: 3C; FCC; RoHS; Level VI

Dimensions: 48.8x28x48.8mm



Specification

Input: AC100 - 240V ~ 50/60Hz 2A

Output:

1x USB-Type C: 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/5A

1x USB-A: 4.5V/5A, 5V/4.5A, 9V/3A, 12V/3A, 20V/3A

C1+C2: C1: 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3.25A
C2: 5V/3A, 9V/3A, 12V/2.5A, 15V/2A, 20V/1.5A

C1+A: C1: 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3.25A
A: 4.5V/5A, 5V/4.5A, 9V/3A, 12V/2.5A, 20V/1.5A

C2+A: C2: 5V/2.4A
A: 5V/2.4A

C1+C2+A: C1: 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3.25A
C2: 5V/2.4A
A: 5V/2.4A

Protocol: FCP/SCP/PD3.0/PPS/QC2.0/QC3.0/QC4+/AFC

Interface: 2x USB Type -C, 1x USB A

Operation Temp: -10 – 25°C

Operation Humidity: 20% - 80%

Certificated: 3C; FCC; RoHS; Level VI

Dimensions: 72.8x 31x48.8mm



C0100CN-20/C0100US-20

100W

Specification

Input: AC100 - 240V ~ 50/60Hz 2A

Output: PD3.0: 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/5A

Protocol: FCP/SCP/PD3.0/PPS/QC2.0/QC3.0/QC4+/AFC

Interface: 1x USB Type -C

Operation Temp: -10 – 35°C

Operation Humidity: 20% - 80%

Certificated: 3C; FCC; RoHS; Level VI

Dimensions: 72.8x 31x48.8mm



GaN Power Bank

Specification

Input: AC100 - 240V ~ 50/60Hz 1.5A

Output:

1x USB-Type C: 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3.25A

PPS:3.3-11V/5A

1x USB-A: 5V3A/9V3A/12V3A/20V3A

A+C: C: 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/2.25A

PPS:3.3-11V/4A

A: 5V/3A, 9V/2A, 12V/1.5A

Protocol: FCP/SCP/PD3.0/PPS/QC2.0/QC3.0/QC4+

Battery Capacity: 15000mAh

Interface: 1x USB Type -C

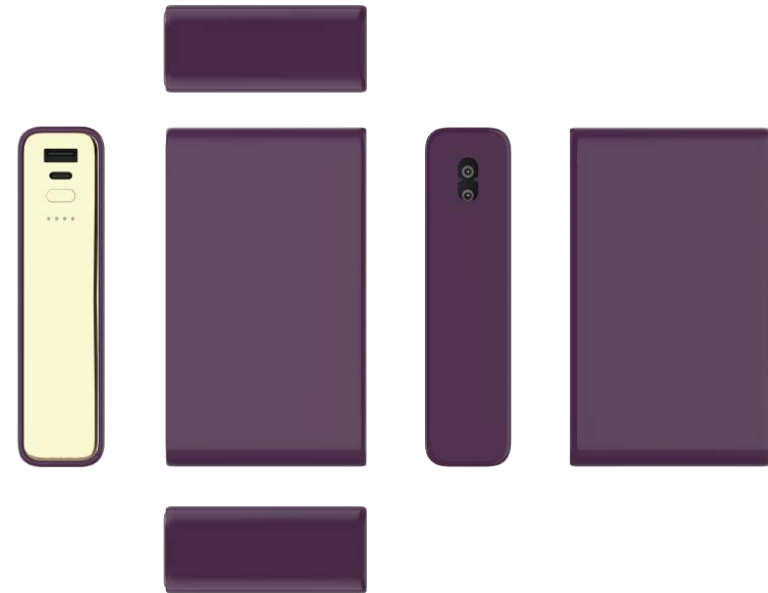
1x USB-A

Operation Temp: -10 – 40°C

Operation Humidity: 20% - 80%

Certificated: 3C; FCC; RoHS; Level VI

Dimensions: 127.05x32.5x75.7mm



Wireless charging products

360 kid's watch-kido X3

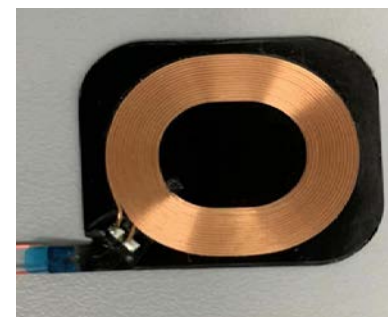


支持无线充电

● Kid's watch product solution

- Wireless charging Tx with battery
- Watch Rx module

Rx module for watch



- 2 strands coiling
- 3 layers Nano
- 75% efficiency @5W
- 8°C temp-rise @5W

Tx with battery



- 5W output for watch
- 8000mAh battery capacity
- 10W wireless output Max
- QC3.0 and PD for wired

Wireless charging products

wireless charging bracket in Bicycle



- BPP / EPP
- 85% @ 15W (12V, 1.25A)
- OVP/OCP/OTP/FODSup

Thanks!

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