

英飞尔电子有限公司
Infell Electronics

——Intelligent Drive Expert

BLDC control | Remote| Home appliance | Phone App Control| Cloud

Jerry.Peng

2020.1

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1 COMPANY INTRODUCTION

2 PRODUCTS

3 SOLUTIONS AND SERVICES

4 CAPBILITIES AND COMPETENCE

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COMPANY INTRODUCTION

Shenzhen Infell Electronics Co., Ltd. is located in Longhua New District, Shenzhen. It is a high-tech enterprise dedicated to the research and development, manufacturing home appliance controllers and consumer electronics solutions. It provides customers with one-stop home appliance and consumer electronics software and hardware solution. Motor drive control, Internet of Things and artificial intelligence access solutions, smart home and other technical support and product support.

Shenzhen Infell Electronics Co., Ltd. is driven by innovative technology. At present, it has formed complete solutions: AC motor controller, DC variable frequency drive controller and paired wireless remote control. It is suitable for motor drives, fans, industrial fans, kitchen and bathroom, Environmental electrical appliances and other motor applications; has smart solutions such as mobile phone App access and artificial intelligence speaker access.

Shenzhen Infell Electronics Co., Ltd. R & D team members, who graduated from prestigious universities such as the University of Science and Technology of China, Shanghai Jiaotong University and South China University of Technology in the early years, have more than ten years of experience in high-end product development. manager and the like.



BUSINESS SCOPE

Support Product

Buy or OEM Infell product

1

Products

2

Customization

3

New products

4

Service

New Product / New Solution

According to customer needs, provide one-stop PCBA and software control package customized R & D and manufacturing services . Flexible cooperation methods:

- 1.Support PCBA ,*
- 2.Support Chips*
- 3.License*

Customization for products

Modify or customization infell product

Technology and Services

According to customer needs, combined with Infell technical capabilities, output technical services to help customers improve product functionality, performance, intelligent transformation and other technical consulting services.



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PRODUCT INTRODUCTION(1) ——— *Full product*



DC fan light controllers and remotes

Controller : DC variable frequency FOC control output. and lighting LED lights.

Remote : 433Mhz RF



Traditional AC fan light controllers and remotes

Controller : AC fans controller and lighting LED lights.

Remote : 433Mhz RF



Mobile phone control and artificial intelligence speaker docking (Alexa and the like)

Make traditional home appliances with mobile phone App control function and artificial intelligence speaker voice operation function.

PRODUCT INTRODUCTION(2) ——— *Controller*



D C Controller

Function :

DC variable frequency
FOC motor controller

A02001



**AC With 1* light
Controller**

Function:

AC motor controller
Lighting LED

A01001



**AC With 2* light
Controller**

Function:

AC motor controller
Lighting LED
Night light or Bluetooth
speaker switch

A01002



**Horseshoe
DC inverter
controller**

Function:

DC FOC Motor
Controller-
Horseshoe

A02007



**Phone App
Controller**

Function:

Mobile App Control
Function
Artificial intelligence AI
speaker access

F02001

PRODUCT INTRODUCTION(3) ——— *Remote*



**Remote
(9 Level)**

Function :

*DC remote control
LED lighting control*

*9 level speed control
Time setting*

F01008



**Remote
(6 Level)**

Function :

*DC remote control
LED lighting control*

*6 level speed control
Time setting*

F01001-1



**Remote
(3 Level)**

Function :

*AC remote control
LED lighting control*

*3 level speed control
Time setting*

F01001-2



**Remote
(2*Light)**

Function :

*AC remote control
LED lighting control
Night light / anion*

*3 level speed control
Time setting*

F01002-2



**Remote
(1*Light)**

Function :

*AC remote control
LED lighting control*

*3 level speed control
Time setting*

F01002-1

PRODUCT INTRODUCTION(4) ———Remote



**Remote
(1*light)**

Function :

DC remote control
LED lighting control

6 level speed control
Time setting

F01003



**LED
Remote**

Function :

DC remote control
LED lighting control

6 level speed control
Time setting

F01005



**Wall install
Remote**

Function :

DC remote control
LED lighting control

6 level speed control
Time setting

F01006



**Touch Control
Remote**

Function :

DC remote control
LED lighting control

9 level speed control
Time setting

F01004



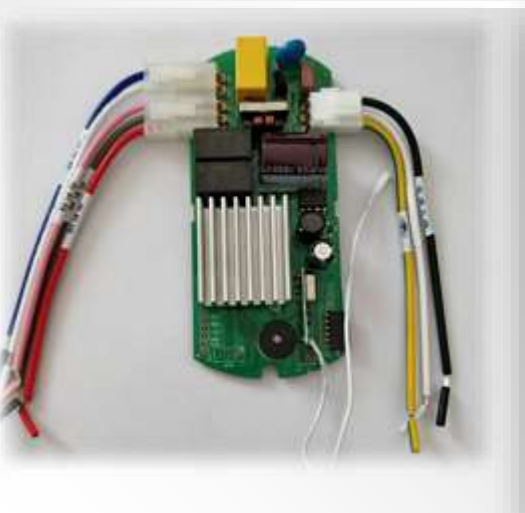
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SOLUTION INTRODUCTION(1) ——— *High Voltage BLDC Control*

DC, Variable Frequency Motor Controller, Field Oriented Control (FOC)



A02001



A02007



A02004

Item	Features
Function	BLDC & LED Light Controller
Capacity	15~98W
Control	Sinewave, FOC
Remote	433Mhz RF control
Err, Protection	Stall protection / under voltage protection / over voltage protection / over current protection...
Optional	Bluetooth/WIFI



SOLUTION INTRODUCTION(2) ——— *High Voltage BLDC Control*

DC, Variable Frequency Motor Controller, Field Oriented Control (FOC)



Item	Features
Function	BLDC & LED Light Controller
Capacity	0~38W
Control	Sinewave, FOC
Remote	433Mhz RF control
Err, Protection	Stall protection / under voltage protection / over voltage protection / over current protection...
Optional	Bluetooth/WIFI



SOLUTION INTRODUCTION(3)

——High Voltage BLDC Control(Large Capacity)



A02013



A02006



A02005

Item	Features
Function	BLDC control
Capacity	30~800W
Control	Sinewave, FOC
Remote	433Mhz RF control
Err, Protection	Stall protection / under voltage protection / over voltage protection / over current protection...
Optional	Bluetooth/WIFI



Cooling Fans



Blow fans



Large Ceiling Fans



Fans without blde



Water Cooling fans



HVAC

SOLUTION INTRODUCTION(4)

— High Voltage into Low Voltage BLDC Control



A05003



20W Motor
36W LED Drive



A04001



A04009



Item	Features
Function	BLDC & LED Light Controller
Capacity	0~38W
Motor	12V 20W 20V 20W 24V 30W
Speed	1300rpm
Control	Sinewave, FOC
Remote	433Mhz RF control
Err, Protection	Stall protection / under voltage protection / over voltage protection / over current protection...
Optional	Bluetooth/WIFI

SOLUTION INTRODUCTION(5) — DC Low Voltage BLDC Control

DC, Variable Frequency Motor Controller, Field Oriented Control (FOC), LOW VOLTAGE



A03002



A03003



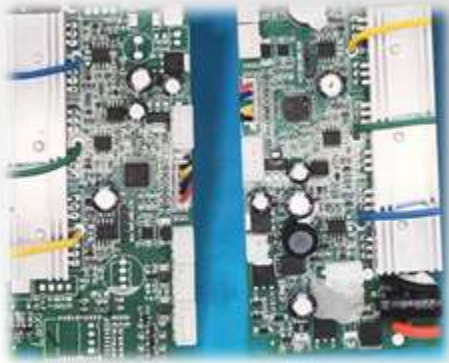
A03004

Item	Features
Function	12V, 24V DC Low voltage
Capacity	0~100W
Control	FOC
Remote	PWM、VSP、UART
Application	Exhaust fans, cooling fans, pressure motors, stand fans, children fans, leafless fans, hand tools, water pumps, personal care tools, etc.



SOLUTION INTRODUCTION(6) — *Large Capacity & High Speed*

DC, Variable Frequency Motor Controller, FOC



A06001

Electric bicycle



A06002

Balance car



A02012

Super high speed hair
dryer (100,000 rpm)

Item	Features
Function	BLDC Controller
Capacity	0~600W
Control	Sinewave, FOC
Remote	433Mhz RF control
Err, Protection	Stall protection / under voltage protection / over voltage protection / over current protection...

SOLUTION INTRODUCTION(7) — AC Fans Control

AC FAN Controller



A01001



A01002



A01004

Item	Features
Function	AC Motor & LED Light Controller
Capacity	0~300W
Control	Capacity reduce voltage
Remote	433Mhz RF control
Optional	Bluetooth/WIFI



BLDC Technique Application Summary

PRODUCTION APPLICATIONS

Home Appliance



- Fan: ceiling fan / table fan
- Range hood, washing machine
- Vacuum cleaner, mixer, hair dryer
- Automatic doors, curtains



Person Caring



- Massage sticks, shavers,
- Electric push knife, electric toothbrush



Industry & Tools



- Electric grinder, electric wrench
- Sweeping car, cleaning car
- DC Electric Drill
- Water pump, blower
- Turntable, lathe



Motion Control



- Electric car
- Electric skateboard, Balance car
- Four-wheel drive
- Aeromodelling, toys



Hospital Tools



- Centrifuge
- Bone saw
- Dental electric grinder



Car Industry



- Car window and sunroof

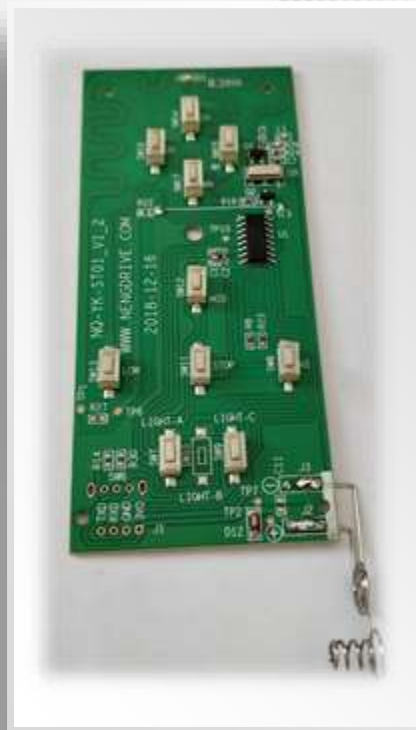


SOLUTION INTRODUCTION(8) ——— 433MHz Remote

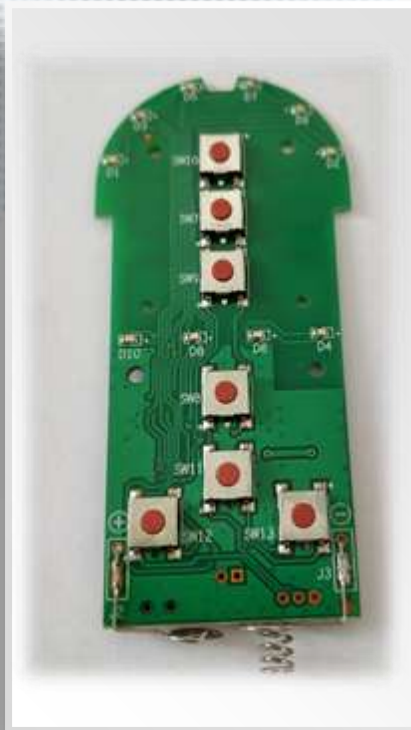
433MHz WIRELESS REMOTE CONTROLLER



F01000



F01001



F01002

Items	Features
Function	Wireless remote
Power consumption	<9uA
Radio frequency	433MHz
Modulation	Switched Amplitude Modulation OOK
Distance	>25m
Life	>50000 times

SOLUTION INTRODUCTION(9) ——— *Remote*

433MHz WIRELESS REMOTE CONTROLLER/RECEIVER



Remote

Function:
Touch remote control
433Mhz OOK

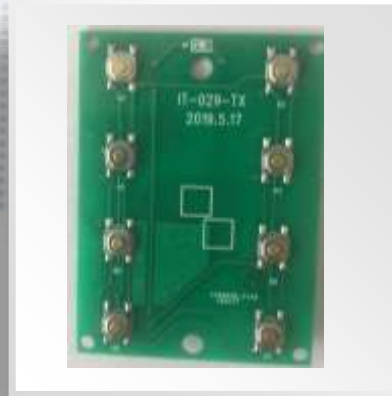
F01004



Remote

Function:
LED Display
433Mhz OOK

F01005



**Remote
(6 speed)**

Function:
Wall Control
6 Speed control
LED Light control

433 Mhz OOK

F01006



Receiver

Function:
Receive 433 Mhz Sign
External spiral antenna or 17cm ordinary antenna

M02001



Receiver

Function:
Receive 433 Mhz Sign
On-board antenna

M02002

SOLUTION INTRODUCTION(10) *Coffee Machine Control Board*

COFFEE MACHINE



G01001



G01002

Items	Features
Function	Coffee Machine
Capacity	80W, 200W, 300W
Control	Button Control
Ways	Heating, Pump, Flow, Pressure
Others	Automatic detection / automatic protection



Successful Case



SOLUTION INTRODUCTION(11) — *Exported to Japan holding furnace controller*

AUTOMATIC HEAT-PRESERVATION-TYPE COOKER



E01001

Touch HMI

Constant temperature heating

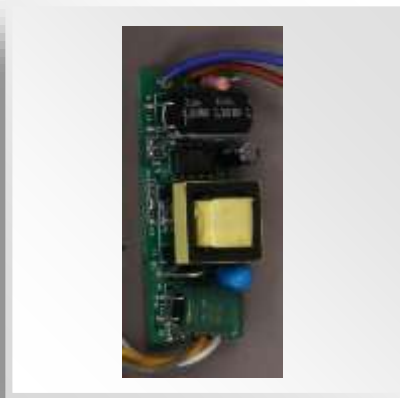


Successful Case

Items	Features
Function	Hotel kitchen holding stove
Capacity	0~300W
Control	Touch HMI
Ways	Load heating, touch control
Others	Wide voltage 220V and 110V universal

SOLUTION INTRODUCTION(12) — LED Drive

LED POWER DRIVER



18W

Function:

Isolated Power
Constant current
Dual color temperature
Switch segmented color
temperature Debug
18W

D01001

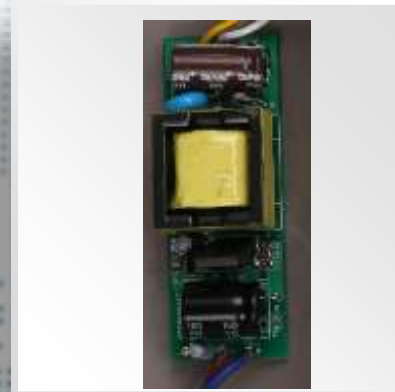


24W

Function:

Isolated Power
Constant current
Dual color temperature
Switch segmented color
temperature Debug
24W

D01002



36W

Function:

Isolated Power
Constant current
Dual color temperature
Switch segmented color
temperature Debug
36W

D01003



48W

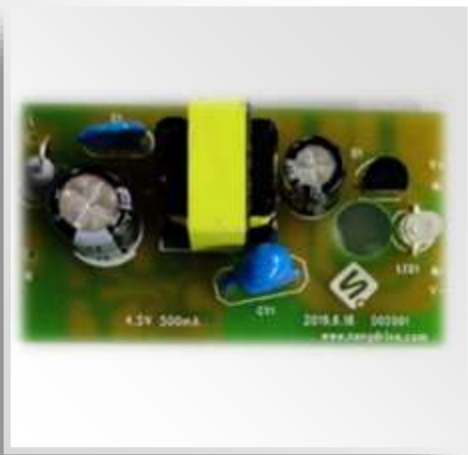
Function:

Isolated Power
Constant current
Dual color temperature
Switch segmented color
temperature Debug
48W

D01004

SOLUTION INTRODUCTION(13) — *Power Adapter*

LED POWER DRIVER



500mA

D02001



1000mA

D02002

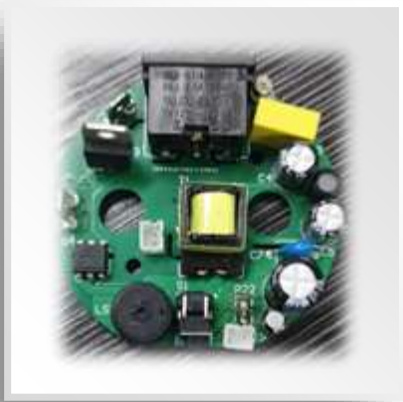


2100mA

D02003

SOLUTION INTRODUCTION(14) —— *Consumer Products*

BICYCLE TAIL LIGHTS



Portable hot water cup

Function:

Portable hot water cup master

Rapid heating

Insulation function

G02001



warm water bag

Function:

Explosion-proof warm water bag adapter

LCD display

Temperature function

D03001



Battery Fans

Function:

Lithium battery type handheld small fan

Optional 500mA, 1A, 2A

charging input

A08001



Smart Bike Light

Function:

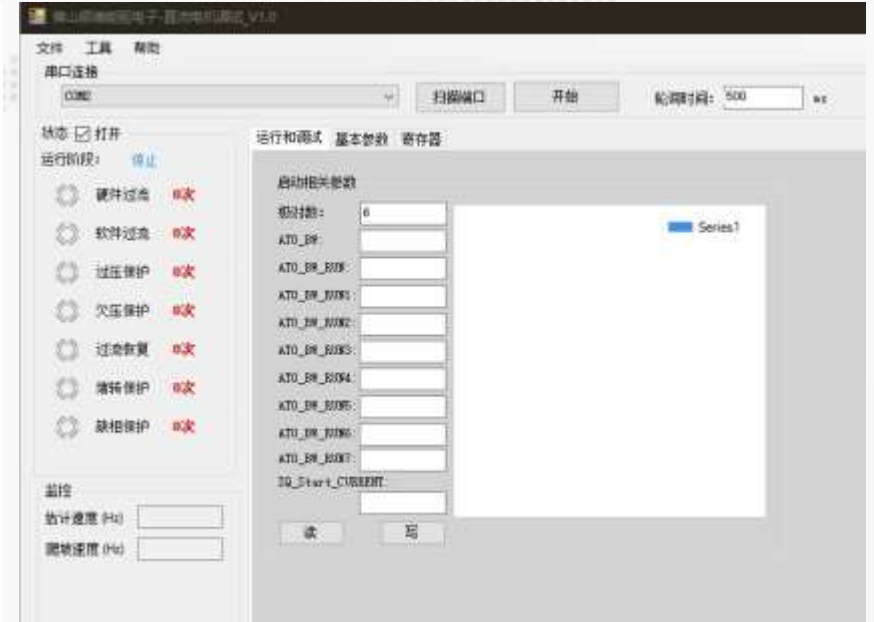
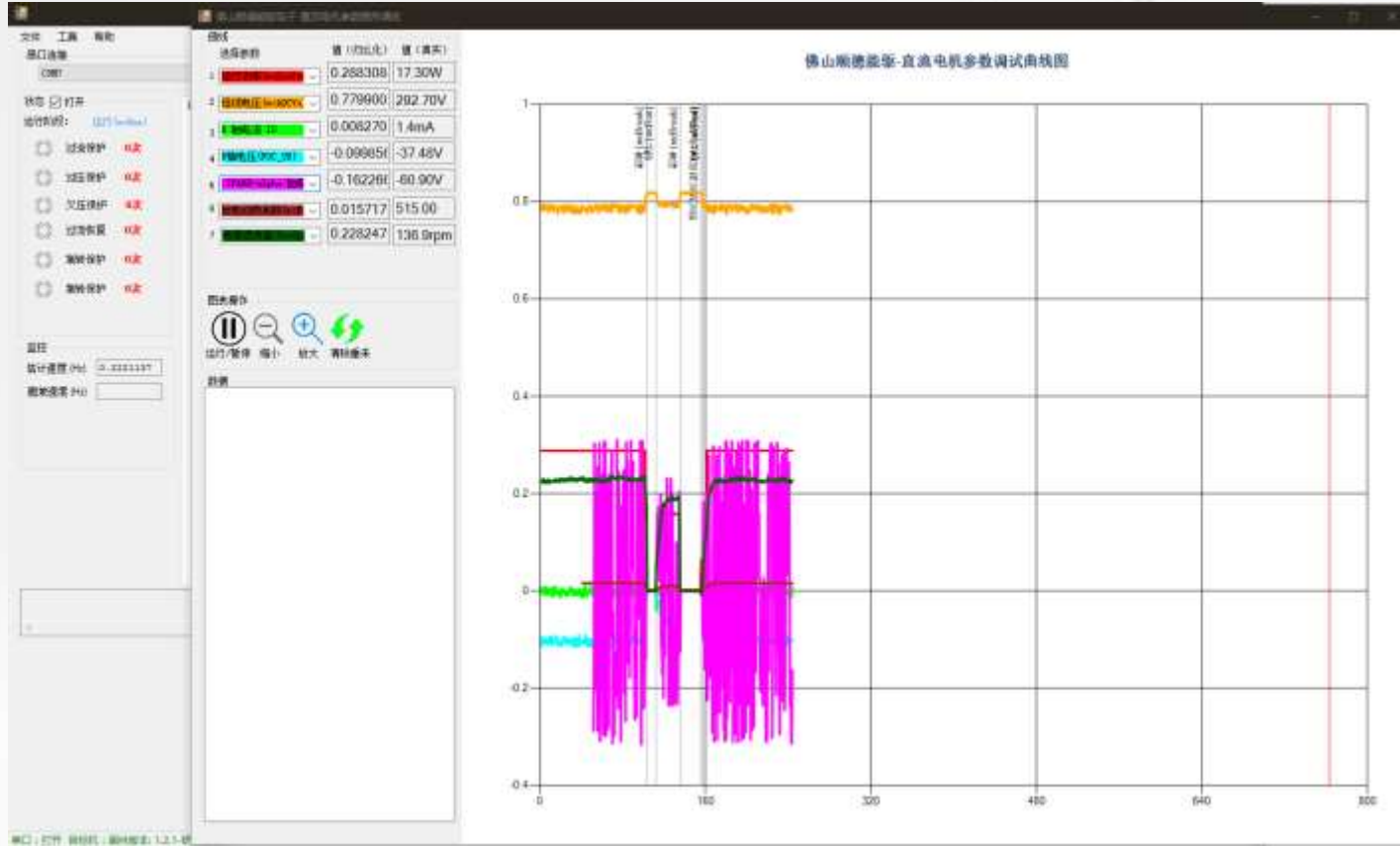
Rechargeable three-segment bicycle tail light

Optical sensor, automatic opening

D09002

Software

SOFTWARE AND SERVICE



- 1.Driver design, commissioning and theoretical algorithms of DC variable frequency motors
- 2.Home appliance control solution, home appliance intelligent update plan
- 3.Design and debugging of radio frequency and remote control
- 4.Mobile App Control and Smart Home Appliance Cloud Service Solution



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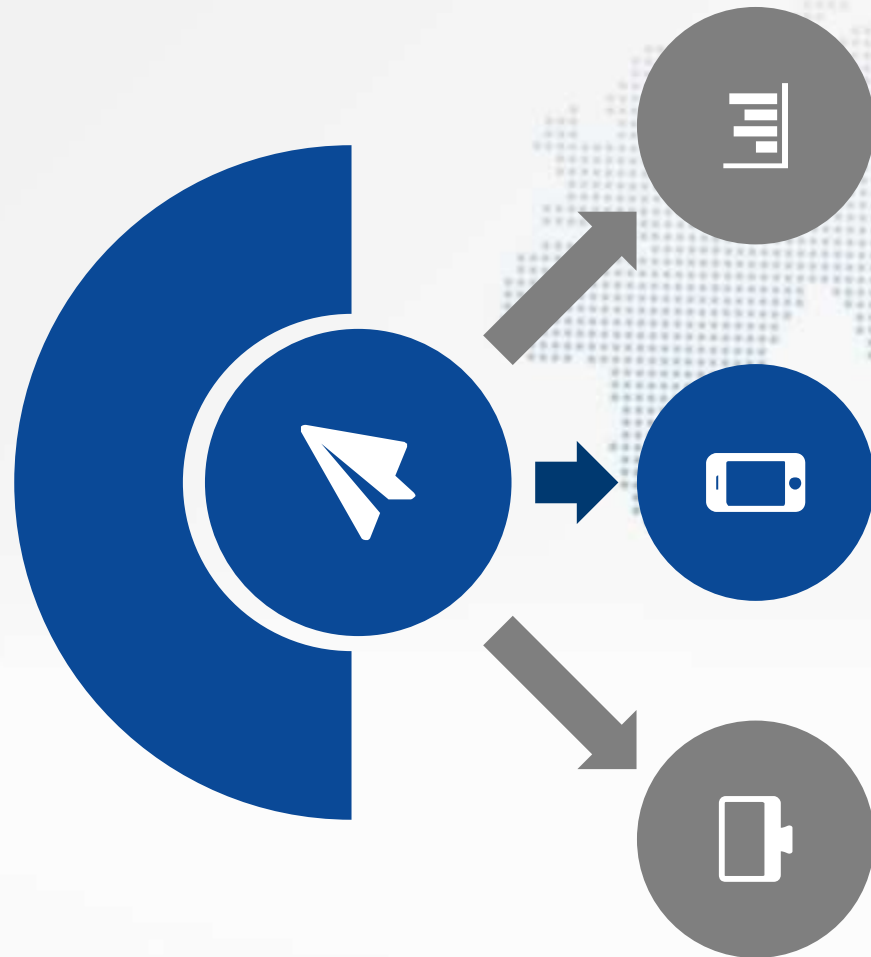
2 PRODUCTS

3 SOLUTIONS AND SERVICES

4 **CAPBILITIES AND COMPETENCE**

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CAPBILITIES AND COMPETENCE



Comprehensive R & D and test equipment

In addition to the outsourced necessary R & D and test equipment, we also developed self-developed test equipment for customers.

Rich experience in mid-to-high-end product development

The core members of the team have more than ten years of software and hardware research and development experience.

Strict quality management

Production process: IQC / OQC quality control process, SOP production management and inspection process.

Software development process: project management, code management, continuous integration management, integration testing, system testing, etc.

ENVIRONMENT & DEVICE



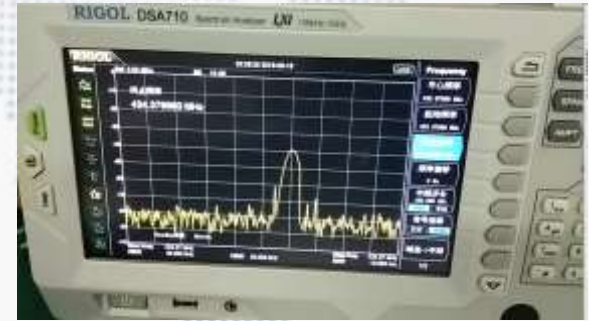
R & D Room



Electronic magnifier



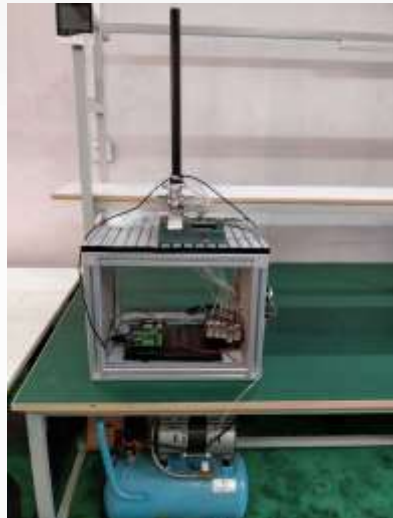
Scope equipment



Spectrum Analyzer



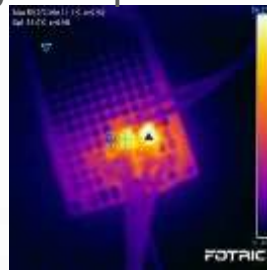
High and low temperature environment test



Ourselves design test equipment



High temperature test



Thermal Imager



Battery discharge equipment, signal waveform generator



VALUES AND VISION



Professional and enterprising



Honesty



Create Smart Life together



Thank you!

谢谢

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