

# Bienvenido a O-lider

O-lider se esfuerza por ser su socio de solución de parada en la cadena de suministro de EMS, incluido el diseño de PCB, la fabricación de PCB y el ensamblaje de PCB, proporcionamos parte de la tecnología PCB más avanzada, incluidos PCBS HDI, PCB de múltiples capas, PCBS rígidos y flexibles. Soporte desde el prototipo de giro rápido a la producción media y masiva.

En general, nuestros clientes globales están muy impresionados con nuestros servicios: respuesta rápida, precio competitivo y compromiso de calidad. Probar el servicio técnico más valioso y la solución general es la forma en que conduce hacia adelante.

Mirando hacia el futuro, la O-lider se concentrará en la innovación y el desarrollo de la tecnología de fabricación de electrónica como siempre, y realizará esfuerzos persistentes en el servicio One-STOP de PCB y PCBA para proporcionar servicios de primera clase y crear más valor para nuestros clientes.

Por favor haga clic aquí para obtener más información: [PAGProveedor de PCB flexible rígido rígido para Raspberry PI 4 ABS Case](#)

**O-LEADING**  
To Be Reliable, To Be Valuable

WE ALWAYS PROVIDE YOU

**BEST HIGH DENSITY INTERCONNECT PCB**

WE ALWAYS PROVIDE YOU

**BEST RIGID-FLEXIBLE CIRCUIT**

## Descripción del producto

Alphabot2 Video inalámbrico, robot inteligente, alimentado por Raspberry Pi 4 con PI4B-4GB

Industrias aplicables: planta de fabricación, granjas, tiendas de alimentos y bebidas, otros

Ubicación de la sala de exposición: ninguna

Nombre del producto: Robot inteligente

Uso: OEM Electronics

Certificado: Rosh. ISO 9001

Máscara de soldadura: verde. Rojo. Azul. Blanco. Amarillo negro

Servicio: One Stop Turkey Service

Características: Procesador de cuatro núcleos, LAN inalámbrica de doble banda, Bluetooth 4.2 / ble

## Raspberry Pi 4 Video Robot With PI4B

AlphaBot2 Wireless Video Smart Robot

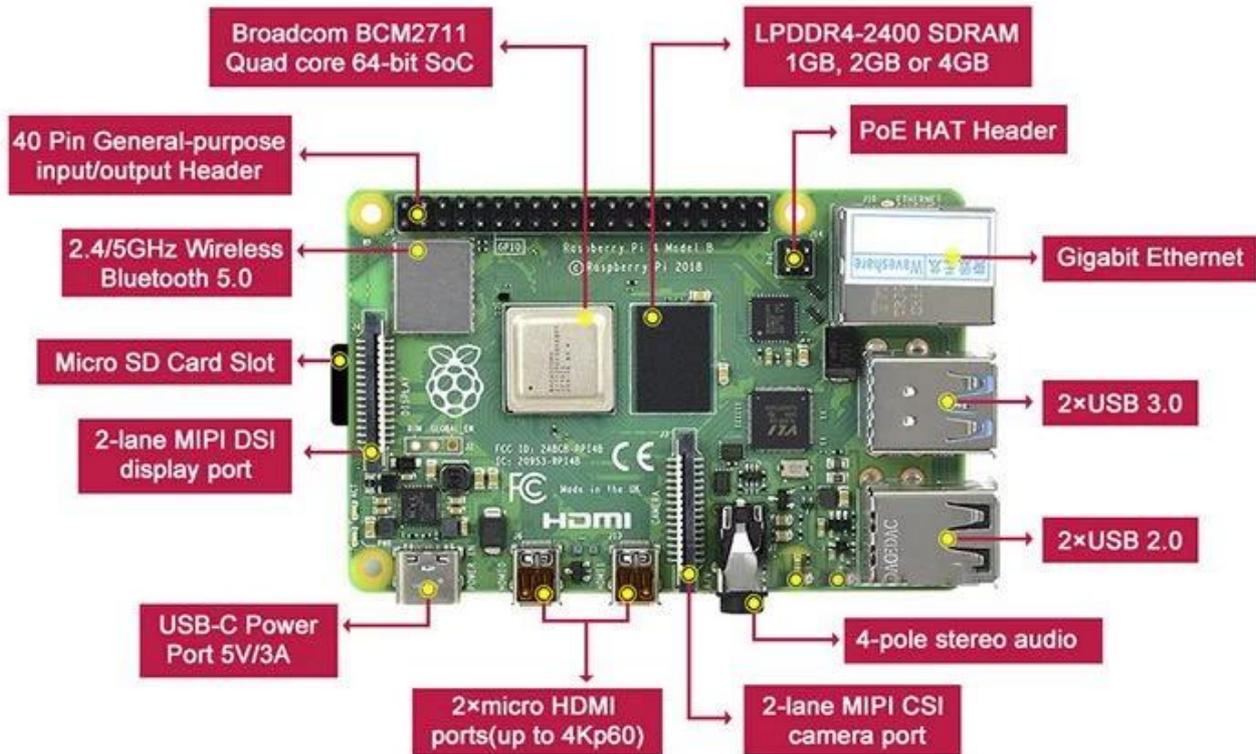
Obstacle Avoidance, Line Tracking, Wireless Remote Control, Video Monitoring...



\* The Raspberry Pi 4 is optional, up to your choice.

# Raspberry Pi 4 Completely Upgraded

More Powerful Processor, Richer Multi-Media Capability, Faster Networking

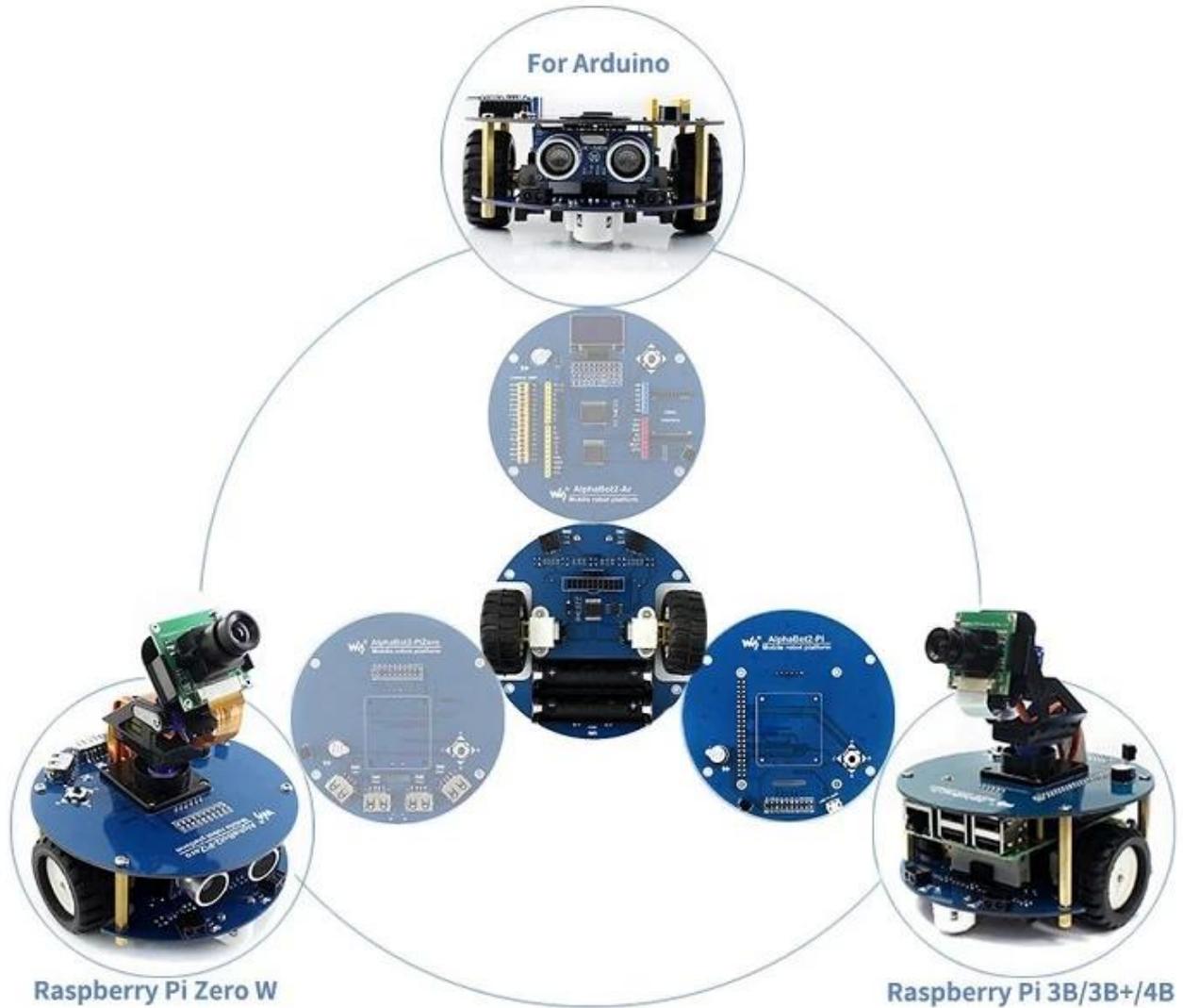


<p><b>BCM2711B0</b> 64-bit 1.5GHz Quad-core Processor</p>	<p><b>Choice Of RAM</b> 2GB / 4GB / 8GB</p>	<p><b>4K Dual HDMI</b> 4K High Resolution Dual Displays</p>
<p><b>Faster Networking</b> Gigabit ETH, Bluetooth 5.0, Dual-band WiFi</p>	<p><b>New USB3.0</b> 2xUSB3.0 + 2xUSB2.0</p>	<p><b>USB-C Power</b> Upgraded Power Supply, More Powerful</p>

# Versatile AlphaBot2 Chassis

Compatible With Multi Controllers Via Related Adapter Boards (Purchased Separately)

Easily Turn It Into A Pi Zero / Arduino Robot



# Modular Design, No More Messy Wiring

Highly Integrated AlphaBot2-Pi Adapter Board:

IR Obstacle Avoidance, 5-Ch Detector Li Tracking, Battery Charging Circuit, High Quality N20 Motor, Rubber Wheels, And Colorful RGB LED



# Raspberry Pi 5MP HD Camera, 1080P

The Leading Role For Vision Applications, Like Mjpg-Streamer Video Monitoring, And OpenCV Intelligent Recognition Driving



# Full Functionality, Common Examples

For More Possibilities, Refer To Example Code And Manual

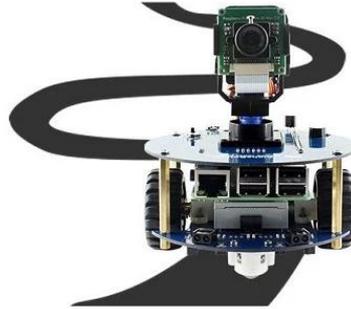


## Obstacle Avoidance

The module sends IR beam and detects objects by receiving the reflected IR beam, to easily avoid obstacles in the way.

## Auto Line Tracking

Features 5-ch IR detector for sensing and analysing the black line, combined with PID algorithm for adjusting robot movement, high sensitivity, stable tracking.



## Bluetooth Control

Provides mobile APP to control the robot movement and peripherals, such as RGB LED color, onboard buzzer, etc.

## Infrared Control

With the IR receiver onboard, it is allowed to control the robot via IR remote controller, make it move forward or change direction...



Web control (Mobile/Tablet/PC)    Qt software control (PC)    APP control (Android phone)

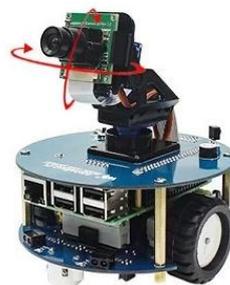


## WiFi Control

Supports WiFi remote control, real time video monitoring via webpage / APP / PC, also features routing function by creating WiFi hotspot.

## 2-DOF Pan-Tilt

2-DOF pan and tilt + hardware PWM controlled servo, smoothly rotates the camera to capture omnibearing images.





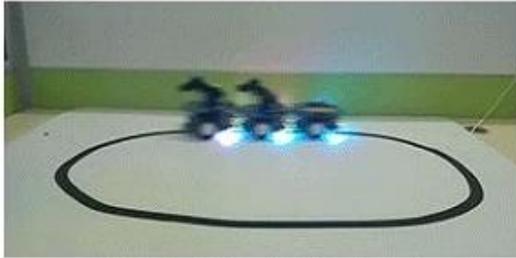
AlphaBot2-Pi robot RGB LED control



AlphaBot2-Pi robot video monitoring



AlphaBot2-Pi robot Bluetooth control



multi AlphaBot2 robots line following



AlphaBot2-Pi robot obstacle avoiding

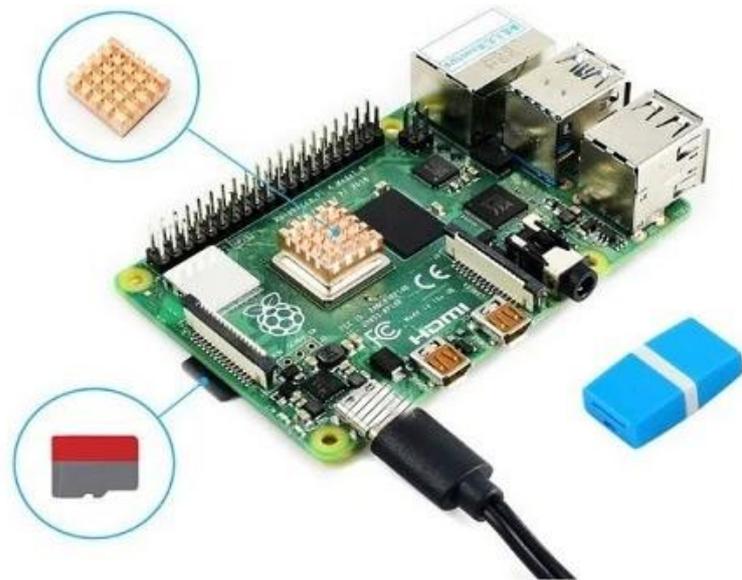
# Kits Selection Guide

Various Raspberry Pi 4 Kits Are Available, Find Your Favorite One

## Starter Kit

The very essential parts to get started, guaranteed compatibility and stability.

- 16GB Class10 high speed micro SD card
- 5V 3A Type-C power supply
- Cool brass heat sink
- Extra free micro SD card reader



## Display Kit

Build your own all-in-one computer powered by Raspberry Pi 4, much more funny.

- 7inch wide viewing angle HD touch screen
- High quality black/white acrylic protective case
- HDMI to micro HDMI cable
- 16GB micro SD card, power supply...

## Sensor Kit Pi x Arduino

Sensors are important parts of IoT, while the Arduino is a massive ecosystem, this kit provides a way for the Pi to make use of these powerful things.

1 + 1 > 2

- Pi to Arduino adapter board
- 13x popular sensors
- 16GB micro SD card, power supply...



## Robot Kit AlphaBot

Make a Raspberry Pi smart mobile robot, easily use it for obstacle avoidance, line tracking, Bluetooth / IR / WiFi remote control, or video monitoring. Arduino compatible.

- AlphaBot driver board
- AlphaBot chassis
- Modules: Camera / Line tracking / Speed measuring...
- Raspberry Pi 4 is NOT included

## Robot Kit AlphaBot2

Make a Raspberry Pi smart mobile robot, easily use it for obstacle avoidance, line tracking, Bluetooth / IR / WiFi remote control, or video monitoring. A smaller and more flexible one.

- AlphaBot2-Pi (adapter board)
- AlphaBot2-Base (base chassis)
- Modules: Camera...



## Robot Arm Kit

Flexible and stable 4-DOF metal robot arm, allows to be controlled by smart phone through Bluetooth or WiFi connection.

"Just grab it"

- Servo driver board
- Metal mechanical arm structure
- 4x servos, power supply...
- Raspberry Pi 4 is NOT included

# Nuestro equipo

O-LEADING *CUSTOMER*

To be *RELIABLE*

- Quality first ,
- Customer supreme ,
- Scientifically management ,
- Striving for famous brand



*THE CUSTOMER IS KING*



To be *VALUABLE*

- Science and technology keeps head ,
- Put people first,
- Be precise and practical,
- contribute sincerely

---

Factory PCB

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Automatic vacuum press machine



Drilling Machine



Pattern Plating Machine



Scrubbing Machine



Developing Machine



Routing Machine



High-speed flying probe machine



E-test Machine

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Factory SMT

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# HOW O-LEADING MAKE A PROJECT FOR YOU

Hardware Dispenser Application Not

## Automatic Dispenser Application Not

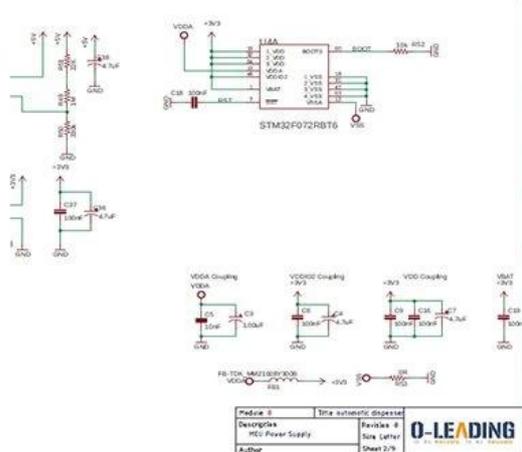
Voltage Table

Volt Pin Number	Description
VDD	Battery voltage
+3V3	+3.3V
+5V	+5V
USB +5V	USB 5V input
+5V/2	Isolated +5V
+12V	12V DC Drive

STM32F072 PINOUT table

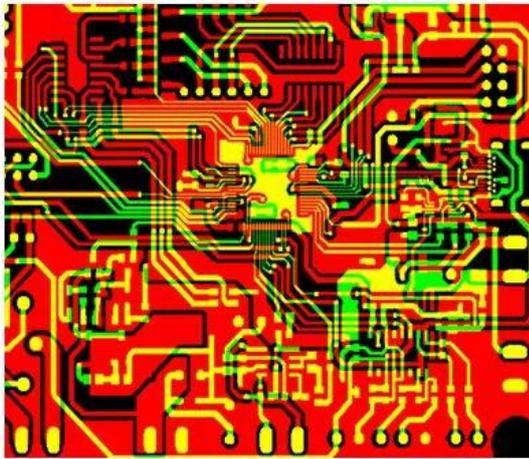
Wire Name	Description	DIO	Mode	Note
SMTN_TOF	Shutdown Time of flight sensor	Output	Logic '0' to shutdown	
I2C_SCL_TOF	I2C communication with time of flight sensor	I2C1_SCL		
I2C_SDA_TOF	I2C communication with thermopile sensor	I2C1_SDA		
I2C_SCL_IR	I2C communication with thermopile sensor	I2C2_SCL		
I2C_SDA_IR	I2C communication with thermopile sensor	I2C2_SDA		
RATE_LC	Load cell control pins	Output		
DOUT_LC	Load cell control pins	Output		

**O-LEADING**  
TO BE RELIABLE, TO BE AVAILABLE

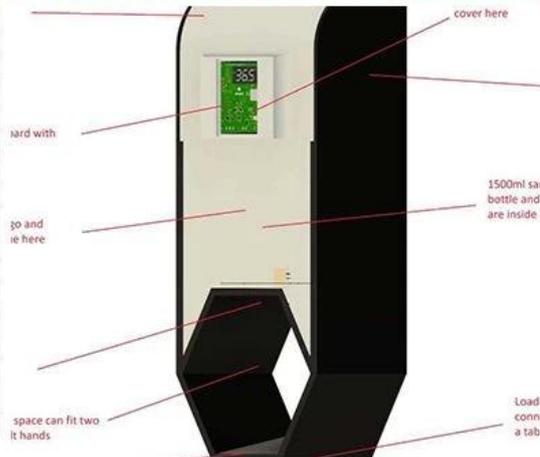
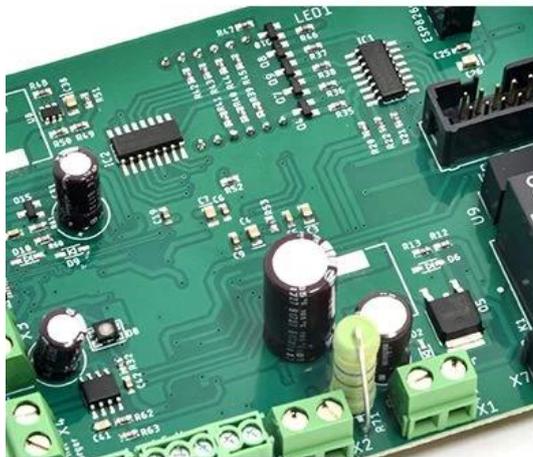


## HARDWARE schematics

## PCB PRODUCTION COMPONENTS SOURCING



Qty	Value	Device	Parts	Description
4	AK500/2	AK500/2	X1, X2	CONNECTOR
1	AK500/3	AK500/3	X7	CONNECTOR
1	1241148	MA04-2	SV2	
1	PPPC04	MA04-2	SV1	8 POS, 4*2 FEMALE PIN HEAD
1	ML10	ML10	SV4	HARTING
1	8MHZ	XTALL_CSTCE8M	X5	STCE8M00G52-R0 RESONATOR
1	0R	R-0603	R53	Thick Film Resistors - SMD 0603
2	10R	R-0603	R12, R5	Thick Film Resistors - SMD 0603
8	100R	R-0603	R1, R2	Thick Film Resistors - SMD 0603
1	270R	R-0805	R15	Thick Film Resistors - SMD 0605
1	330R	R-0603	R11	Thick Film Resistors - SMD 0603
9	680R	R-0603	R20, R3	Thick Film Resistors - SMD 0603
17	1k	R-0603	R9, R10	Thick Film Resistors - SMD 0603
2	4.7k	R-0603	R17, R6	Thick Film Resistors - SMD 0603
2	5.1k	R-0603	R18, R1	Thick Film Resistors - SMD 0603
9	10k	R-0603	R16, R3	Thick Film Resistors - SMD 0603
9	10k	R-0603	R20, R7	Thick Film Resistors - SMD 0603



## PCB Assembly MECHANICAL DESIGN

Skyworth 创维

**HET** 和而泰  
HET INTELLIGENT CONTROL

dongweikeji  
东威科技

美的 Midea

STAR-NET  
星网锐捷

FORYOU  
ADAYO 华阳集团

**EDIFIER**<sup>®</sup>

Cultraview 金锐显

3nod 三诺

**T&W**

**TCL**

AcBel 康舒科技  
ACBEL POLYTECH INC.

**Honeywell**

Schneider  
Electric

**ZTE**中兴

**EMERSON**

**BYD**

**PHILIPS**

**TE**  
connectivity

**VIDEOTON**

CUSTOMER VOICE IS **EXTREMELY IMPORTANT** TO US

订单编号: 49335463501024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**High quality usb power pcb , pcba manufacturer**

★★★★★

Fancy has done an excellent job, whenever we write, she answered us within 1 second, O-leading is very perfect with fast delivery, fast logistics, the most important thing is good quality, good packaging, thank you!

[回复该评论](#)



**oem customized rohs pcb drawing schematic s...**

★★★★★

We received the boards, the quality is very good, the price is very reasonable, Fancy is very nice & smart & experienced, the logistics is super fast, I will come to see more in the future.

[回复该评论](#)

订单编号: 4932411001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**High TG180 FR-4 Circuit HDI PCB 94V0 Board...**

★★★★★

This is a very difficult PCB design, but we are lucky to find O-leading to support the PCB for us very good to a PCB supplier.



**universal FR4 Multilayer PCB washing machine...**

★★★★★

Fancy gives us very excellent service, very professional and experienced, O-leading is the best one of our suppliers, very happy to work with them.

订单编号: 49298271001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**High TG180 FR-4 Circuit HDI PCB 94V0 Board ...**

★★★★★

perfect product, perfect PCB supplier!

[回复该评论](#)



**oem customized rohs pcb drawing schematic s...**

★★★★★

Very good and professional PCB product as usual!

[回复该评论](#)



**Strip LED Aluminum FR-4 lighting PCB board 9...**

★★★★★

High quality, fast delivery, good service, competitive price, lucky and happy to purchase from O-leading!

[回复该评论](#)

订单编号: 49024962001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**High quality Keyboard pcb & pcba Factory SMT...**

★★★★★

Top quality, it's the right choice to choose O-leading to make the PCB & PCBA

[回复该评论](#)

订单编号: 493982201024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**Professional Printed Circuit Board Manufactur...**

★★★★★

Very high quality PCB products, O-leading is the best PCB supplier that we have ever worked with.

订单编号: 44068794501034670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**High TG180 FR-4 Circuit HDI PCB 94V0 Board ...**

★★★★★

We bought two batches, one by DHL, the other one by air, good quality and fast delivery!

**LISTEN TO CUSTOMER VOICE**

订单编号: 40903347501024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**Strip LED Aluminum FR-4 lighting PCB board 9...**

★★★★★

Very fast delivery! Fantastic, good job!!!



**Professional Printed Circuit Board Manufactur...**

★★★★★

Very happy to great support from O-leading, they are not only professional on the PCB, but also provide good PCB products, very good supplier!

订单编号: 36919647001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**AML-S802 Quad-core Android embedded boar...**

★★★★★

Good products



**Fast delivery low cost pcb fabrication O-leadin...**

★★★★★

Good supplier

订单编号: 37378603001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**hot sale rigid-flexible PCB with 0.2mm BGA an...**

★★★★★

very professional supplier



**High Quality custom FPCB/Flex PCB/FPC/Flexi...**

★★★★★

Good product



**OEM ODM PCBA Bluetooth Wireless Marking G...**

★★★★★

high soldering quality



**Electronic parts haptic pcba Circuit Board asse...**

★★★★★

Very Good product

订单编号: 36919647001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**Lidar IR Sensor board pcba(H08R6x)**

★★★★★

perfect product



**Customized PCBA design PCB design**

★★★★★

perfect



**Audio Speaker and Headphone Jack (H07R3x)**

★★★★★

High quality, good

订单编号: 37378603001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**Raspberry pi 0 Zero Raspberry Pi Zero Pi W ver...**

★★★★★

Fantastic products!!!



**double layer pcb with red S/M and LF-HASL su...**

★★★★★

Good!

订单编号: 36919647001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)



**half hole pcb, half hole pcb module, half hole m...**

★★★★★

Top half hole pcb supplier, very perfect goods



**High Quality custom FPCB/Flex PCB/FPC/Flexi...**

★★★★★

this rigid-flexible pcb quality is perfect!



**Electronic parts haptic pcba Circuit Board asse...**

★★★★★

Very satisfied with O-leading products and quality, especially their on-time delivery, fantastic!

**Be kind to your client, because he has many choices, but he chooses you instead.**

# Certificaciones

O-LEADING *TRAINING*



Keep *LEARNING*

There's a phrase in Buddhism, 'Beginner's mind.'

It's wonderful to have a beginner's mind

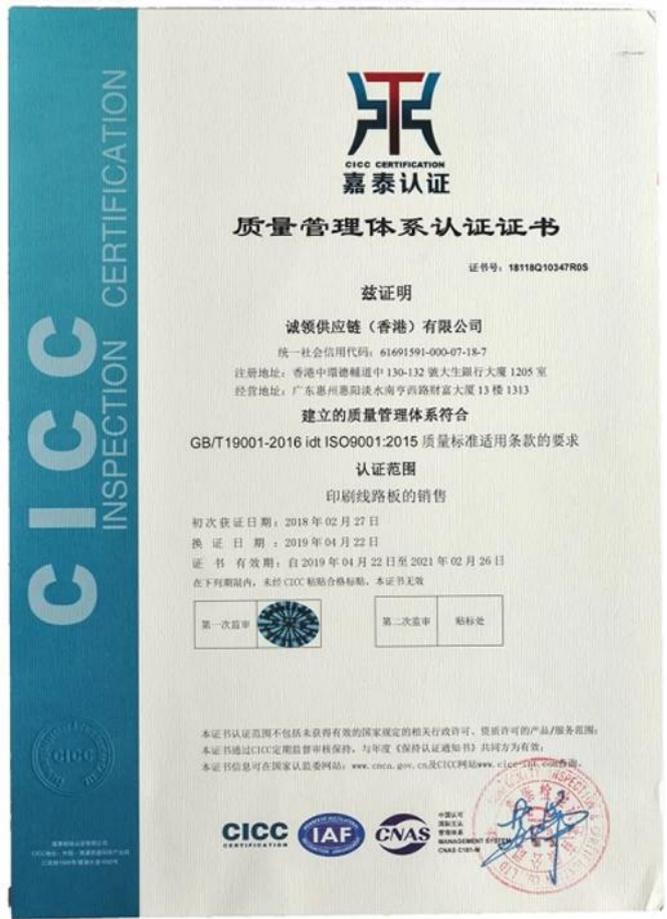
WE HAVE A *DREAM*

Keep *RUNNING*

I would like to live to study, and not study to live.

----Bacon





**Test Report** No. SZXEC1900530401 Date: 30 Mar 2019 Page 1 of 6

O-LEADING SUPPLY CHAIN (HK) CO., LIMITED  
1313.FLOOR 13, FORTUNE BUILDING, DANSHUI TOWN, HUIYANG DISTRICT, HUIZHOU, GUANGDONG, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : OSP

SGS Job No. : RP19-005089 - SZ  
Date of Sample Received : 22 Mar 2019  
Testing Period : 22 Mar 2019 - 30 Mar 2019  
Test Requested : Selected tests(s) as requested by client.  
Test Method : Please refer to next page(s).  
Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

*Tina*  
Tina Fan  
Approved Signatory



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Attention: To check the authenticity of testing SGS/CSTC Report & certificate, please contact us at telephone: (86-755) 8307 1443 or e-mail: [CN.Certification@sgs.com](mailto:CN.Certification@sgs.com)

SGS 嘉泰认证有限公司 地址: 中国深圳 邮编: 518129 电话: (86-755) 25288888 / (86-755) 8307 1443 传真: (86-755) 25288888 / (86-755) 8307 1443 电子邮箱: [china@sgs.com](mailto:china@sgs.com)

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**Test Report** No. SZXEC1900530401 Date: 30 Mar 2019 Page 2 of 6

Test Results :

**Test Part Description :**

Specimen No.	SGS Sample ID	Description
SN1	SZX19-005304.001	Green"PCB"

- Remarks :
- (1) 1 mg/kg = 1 ppm = 0.0001%
  - (2) MDL = Method Detection Limit
  - (3) ND = Not Detected (< MDL)
  - (4) "-" = Not Regulated

**RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU**

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit	MDL	0/1
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	8
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1,000	mg/kg	8	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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## ZPMV2.E490354 - WIRING, PRINTED - COMPONENT

## Wiring, Printed - Component

See General Information for Wiring, Printed - Component

**O-LEADING SUPPLY CHAIN (HK) CO LTD**

E490354

ROOM 1205, 12/F  
TAI SANG BANK BLDG  
130-132 DES VOEUS ROAD  
CENTRAL, HONG KONG

Type	Cond Width		Cond Thk mic(mil)	SS/ DS/ DSO	Max	Max		Meets UL796	C		
	Min	Edge			Area Diam	Solder Limits	Oper Temp			Flame	
	mm(in)	mm(in)			mm(in)	C	sec	C	Class	DSR	I
<b>Multilayer (mass laminate) printed wiring boards.</b>											
<b>O-LEADING-401</b>	0.1 (0.004)	0.3 (0.012)	34 (1.34)	DS	12.7 (0.5)	260	10	130	V-0	-	-
<b>O-LEADING-407</b>	0.08 (0.003)	0.2 (0.008)	17 (0.67)	DS	9.7 (0.4)	260	10	130	V-0	All	-
<b>Multilayer printed wiring boards.</b>											
<b>O-LEADING-408</b>	0.125 (0.005)	0.125 (0.005)	12 (0.47) Int:136	DS	50.8 (2.0)	280	20	130	V-0	All	*
<b>Single layer printed wiring boards.</b>											
<b>O-LEADING-002</b>	0.38 (0.015)	1.14 (0.045)	34 (1.34)	SS	19.1 (0.8)	260	10	105	V-0	All	-
<b>O-LEADING-003</b>	0.38 (0.015)	1.14 (0.045)	34 (1.34)	SS	19.1 (0.8)	260	10	130	V-0	▲	-
<b>O-LEADING-033</b>	0.15 (0.006)	0.3 (0.012)	34 (1.34)	SS	25.4 (1.0)	260	10	120	V-0	All	-
<b>O-LEADING-205</b>	0.1 (0.004)	0.3 (0.012)	34 (1.34)	DS	69.6 (2.7)	260	10	130	V-0	All	-
<b>O-LEADING-206</b>	0.15 (0.006)	0.33 (0.013)	17 (0.67)	DS	69.6 (2.7)	260	10	130	V-0	All	-
<b>O-LEADING-D01</b>	0.14 (0.006)	0.15 (0.006)	33 (1.30)	DS	25.4 (1.0)	260	10	130	V-0	All	*
<b>O-LEADING-S01</b>	0.25 (0.010)	0.25 (0.010)	17 (0.67)	SS	25.4 (1.0)	260	4	130	V-0	All	*

## WIRING, PRINTED - COMPONENT | UL Product iQ

<b>O-LEADING-S02</b>	0.2 (0.008)	0.2 (0.008)	17 (0.67)	SS	25.4 (1.0)	260	4	130	HB	▲	*
<b>O-LEADING-S03</b>	0.25 (0.010)	0.25 (0.010)	34 (1.34)	SS	25.4 (1.0)	260	4	130	V-0	All	*

\* - CTI marking is optional and may be marked on the printed wiring board.

Marking: Company name or file number and type designation. May be followed by a suffix to denote factory identification or burning test classification.

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# Capacidad de procesamiento

## Capacidades de producción de PCB

Recuento de capas	1layer-32layer
Espesor de cobre terminado	1 / 3oz-12oz
Ancho de línea min / espaciado interno	3.0mil / 3.0mil
Ancho de línea Min / espaciado externo	4.0mil / 4.0mil
Relación Max Aspect	10: 1
Espesor del tablero	0.2mm-5.0mm
Tamaño máximo del panel (pulgadas)	635 * 1500mm
Tamaño mínimo de agujero perforado	4mil
Tolerancia con el agujero de patiada	+/- 3mil
BIIND / VIES enterrados (tipos AII)	SÍ
A través de relleno (conductor, no conductor)	SÍ
Material de base	FR-4, FR-4High TG.HALOGEN Material libre, Rogers, Base de aluminio,Poliimida, pesado cobre
Acabados de superficie	Hasl, OSP, ENIG, HAL-LF, LMMersion Silver,Immersion let, dedos de oro, tinta de carbono

## Capacidades de producción SMT

Material de PCB	FR-4, CEM-1, CEM-3, tabla de aluminio, FPC
Tamaño máximo de PCB	510x1500mm
Min PCB Tamaño	50x50mm
Espesor de PCB	0.5mm-4.5mm
Espesor del tablero	0.5-4mm
Tamaño de los componentes mín.	0201
Componente estándar de tamaño de chip	0603 y más grande
Componente máximo altura	15mm
Tono de plomo min	0.3mm
Min BGA Ball Pitch	0.4mm
Precisión de colocación	+/- 0.03mm

## Empaquetado y entrega

# Shipping service



Quick Turn Lead Time		
Layer Count:	Lead Tim	Special Requirement
1L/2L	2-3days	24 Hours,48 Hours
4L	3-4days	48 Hours
6L	4-5days	72 Hours
8L	5-6days	NA
10L	6-7days	NA
12L	7-8days	NA
14L	8-9days	NA

Standard Lead Time		
Layer Count:	Sample Lead Time	Volume order lead time
2L	4 days	10 days
4L	5 days	11 days
6L	6 days	12 days
8L	8 days	14 days
10L	10 days	16 days
12L	12 days	18 days
14L	14 days	20 days
16-32L	18 days	24 days

## Preguntas más frecuentes

### 1. ¿Cómo se asegura la calidad de O-Lider? Nuestro estándar de alta calidad se logra con lo siguiente.

- 1.1 El proceso está estrictamente controlado por las normas ISO 9001: 2008.
- 1.2 Uso extensivo del software en la gestión del proceso de producción.
- 1.3 Equipos y herramientas de prueba de última generación. P.ej. Sonda voladora, inspección de rayos X, AOI (inspector óptico automatizado) y TIC (pruebas en circuito).
- 1.4.El equipo de garantía de calidad condicado con proceso de análisis de caso de falla.
- 1.5.Continuo personal de capacitación y educación.

### 2. ¿Cómo lleva el O-Liderar su precio competitivo?

Durante la última década, los precios de muchas materias primas (por ejemplo, cobre, productos químicos) se habían duplicado, triplicado o cuadruplicado; La moneda china RMB se había apreciado 31% sobre dólar estadounidense; Y nuestro costo laboral también aumentó significativamente.

Sin embargo, la O-liderado ha mantenido firmes nuestros precios. Esto posee enteramente a nuestras innovaciones para reducir el costo, evitando los desechos y la mejora de la eficiencia. Nuestros precios son muy competitivos en la industria al mismo nivel de calidad.

Creemos en una asociación de ganar-ganar con nuestros clientes. Nuestra asociación será mutuamente beneficiosa si podemos proporcionarle un costo y calidad de EDGEON.

### **3. ¿Qué tipos de tablas pueden realizar el proceso de O-líder?**

Tableros comunes FR4, High-TG y tableros sin halógenos, Rogers, Arlon, Telfon, Aluminio / Tableros a base de cobre, PI, etc.

### **4. ¿Qué datos son necesarios para la producción de PCB y PCBA?**

4.1 BOM (BISTA DE MATERIALES) CON DISEÑADORES DE REFERENCIA: Descripción del componente, nombre del fabricante y número de pieza.

4.2 Files Gerber PCB.

4.3 Dibujo de fabricación de PCB y ensamblaje PCBA.

4.4 Procedimientos de prueba.

4.5 Cualquier restricción mecánica, tales como requisitos de altura del conjunto.

### **5. ¿Cuál es el flujo de proceso típico para PCB multicapa?**

Corte de material → Película seca interna → Grabado interior → Interior AOI → Multi-Bond → Pila de la capa → Perforando → PTH → PLATABLE PANEL → Película seca exterior → Patrón de placa → Grabado exterior → Outer AOI → Máscara de soldadura → Marca de componentes → Acabado de la superficie → Enrutamiento → E / T → Inspección visual.

### **6. ¿Cuáles son los equipos clave para la fabricación de HDI?**

La lista de equipos clave es la siguiente: Máquina de perforación láser, Máquina de presión, línea VCP, Máquina de exposición automática, LDI y etc.

Los equipos que tenemos son los mejores en la industria, las máquinas de perforación con láser son de Mitsubishi y Hitachi, las máquinas LDI son de la pantalla (Japón), las máquinas de exposición automática también son de Hitachi, todas las permiten que podamos cumplir con los requisitos técnicos del cliente.

### **7. ¿Cuántos tipos de acabado de superficie o-plomo pueden hacer?**

O-El líder tiene la serie completa de acabado de superficie, como: Enig, OSP, LF-Hasl, chapado en oro (suave / duro), plata de inmersión, estaño, plateado, chapado de estaño de inmersión, tinta de carbono y, etc. .. OSP, ENIG, OSP + Enig se usa comúnmente en el HDI, generalmente le recomendamos que use un cliente o OSP OSP + enig si el tamaño de BGA PAD es inferior a 0,3 mm.

### **8. ¿Cuál es su capacidad para FPC? ¿Puede O-liderar su servicio SMT también?**

O Fidel Fabrica FPC de una capa única a 8layer, el tamaño del panel de trabajo puede ser tan grande como 2000 mm \* 240 mm, encontrar los detalles en la página "Capacidad Flex"

También proporcionamos servicio de SMT One Stop al cliente.

### **9. ¿Cuáles son los principales factores que afectarán el precio de PCB?**

Material;

Acabado de superficie;

Dificultad de la tecnología;

Diferentes criterios de calidad;

Características de PCB;

Términos de pago;

Diferentes países manufactureros.

### **10. ¿Cuál es la definición de PCB, PWB y FPC y cuál es la diferencia?**

PCB es corto para la placa de circuito impreso;

PWB es corto para la placa de alambre impreso, el mismo significado que la placa de circuito impreso;

FPC es corto para el tablero impreso flexible.

### **11. ¿Qué factores deben considerarse al elegir el material para una placa de PCB?**

Deben considerarse los factores a continuación cuando elegimos el material para PCB:

El valor TG del material debe ser mayor que la temperatura de operación;

El material CTE bajo tiene un buen desempeño de la estabilidad térmica;

Buen rendimiento de resistencia térmica: normalmente se requieren PCB para resistir 250 por al menos 50s.

Buena planitud; En consideración de las propiedades eléctricas, el material de baja pérdida / alta permitividad se usa en PCB de alta frecuencia; Sustrato de fibra de vidrio de poliimida utilizada para PCB flexible; El núcleo de metal se usa cuando el producto tiene un requisito estricto de disipación de calor.

### **12. ¿Cuál es el mérito de la PCB rígida-flexible de O-líder?**

El PCB RIGID-FLEX RIGIDO DE O-LINGER tiene los caracteres tanto de FPC como de PCB, por lo que se puede utilizar en algunos productos especiales. Una parte es flexible, mientras que la otra parte rígida, puede ayudar a ahorrar el espacio interior del producto, reducir el volumen del producto y mejorar el rendimiento.

### **13. ¿Cómo usted hace el cálculo de la impedancia?**

El sistema de control de impedancia se realiza utilizando algunos cupones de prueba, el equipo SI6000 suave y el equipo 500s de los instrumentos polares.

El equipo mide la impedancia en un cupón de configuración de pista representativa de la que el cliente nos ha dado un valor y tolerancia determinadas.