

O-leading

O-Leading PCB PCB PCB PCB EMS HDI PCB PCB PCB PCB

O

O-leading PCB&PCBA

O-LEADING
To Be Reliable, To Be Valuable

WE ALWAYS PROVIDE YOU

BEST HIGH DENSITY INTERCONNECT PCB

O-LEADING
To Be Reliable, To Be Valuable

WE ALWAYS PROVIDE YOU

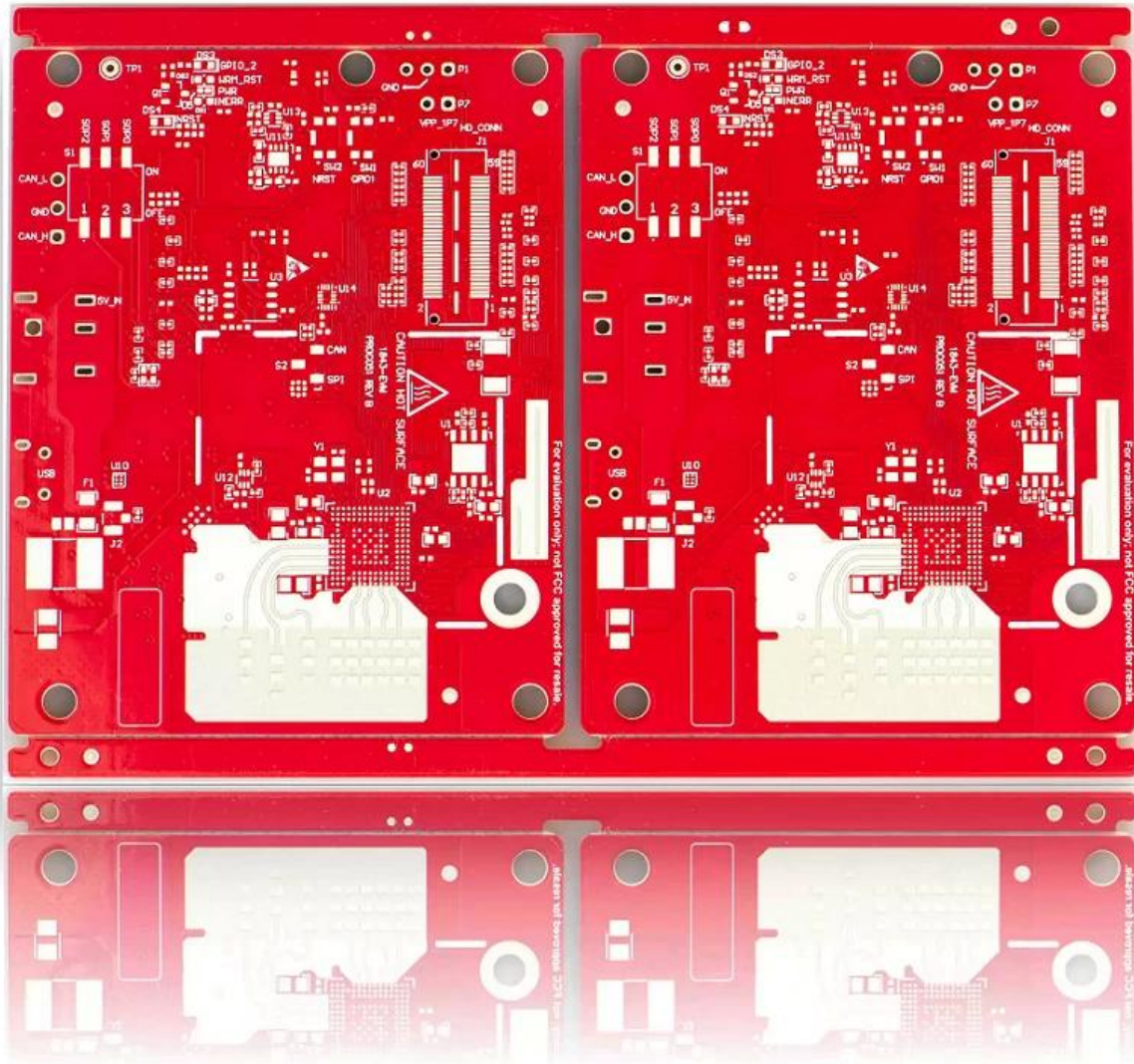
BEST RIGID-FLEXIBLE CIRCUIT

O-LEADING
To Be Reliable, To Be Valuable

QUALITY IS OUR CULTURE



PCB with ROGERS and FR-4 two kinds raw material

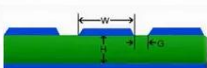


PCB with impedance control and mixed raw material of 370HR and Ro4835 LOPRO

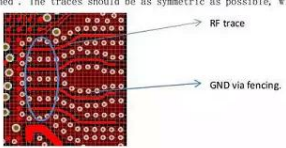
RF traces

Impedance control
The TX and RX RF traces need to be 50ohms impedance controlled at 80GHz frequency with $\pm 10\%$ tolerance. A coplanar wave structure is used on layer 1 (referenced to layer 2) for impedance control

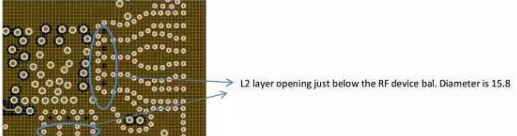
W=7.08 mils
H = 4mils
G= 8mils
Dielectric constant = 3.66



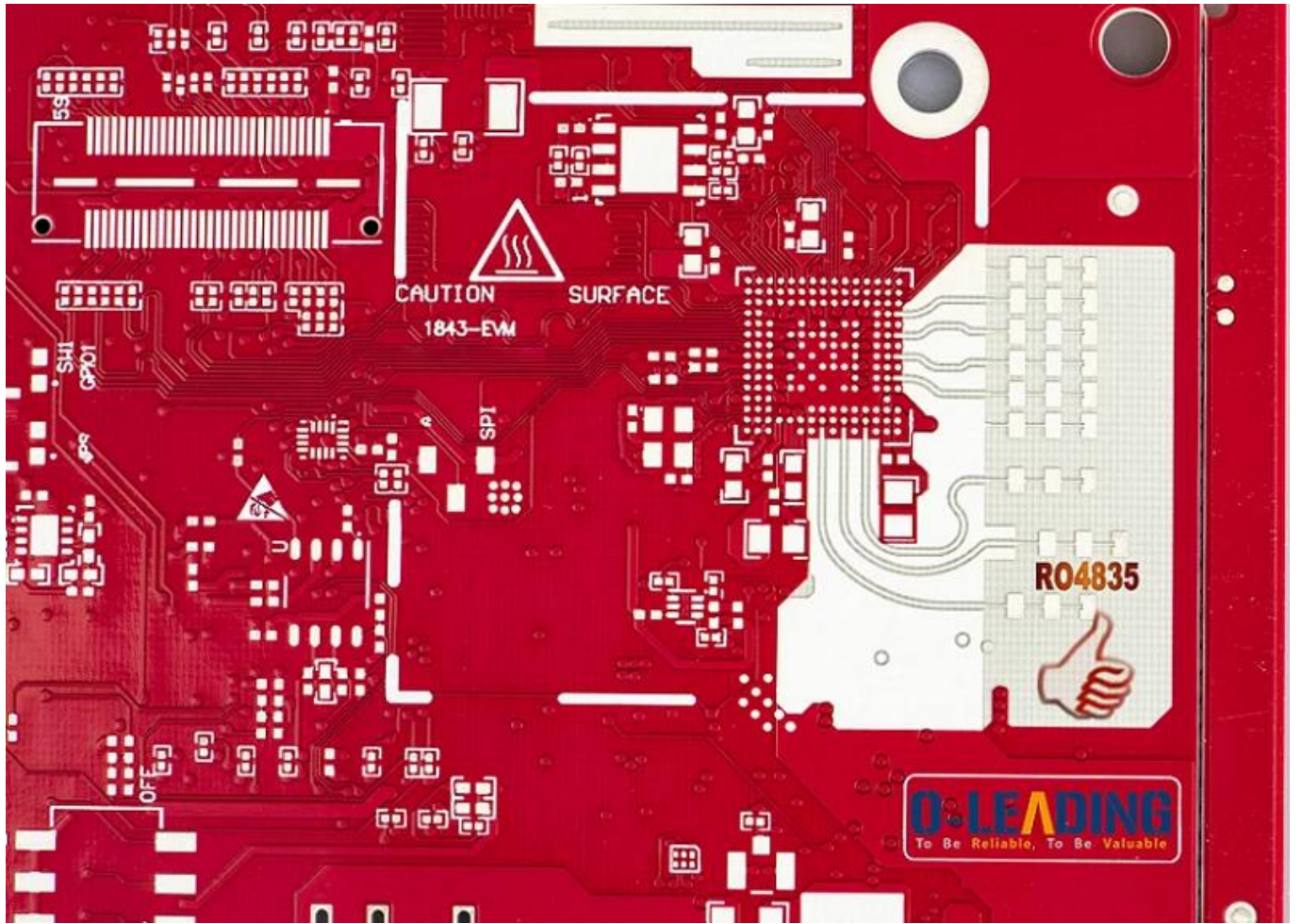
TX and RX traces
The TX1/TX2/TX3 traces should be length matched. The traces should be as symmetric as possible, with no sharp bends, to reduce phase mismatch
The RX1/RX2/RX3/RX4 traces should be length matched. The traces should be as symmetric as possible, with no sharp bends, to reduce phase mismatch

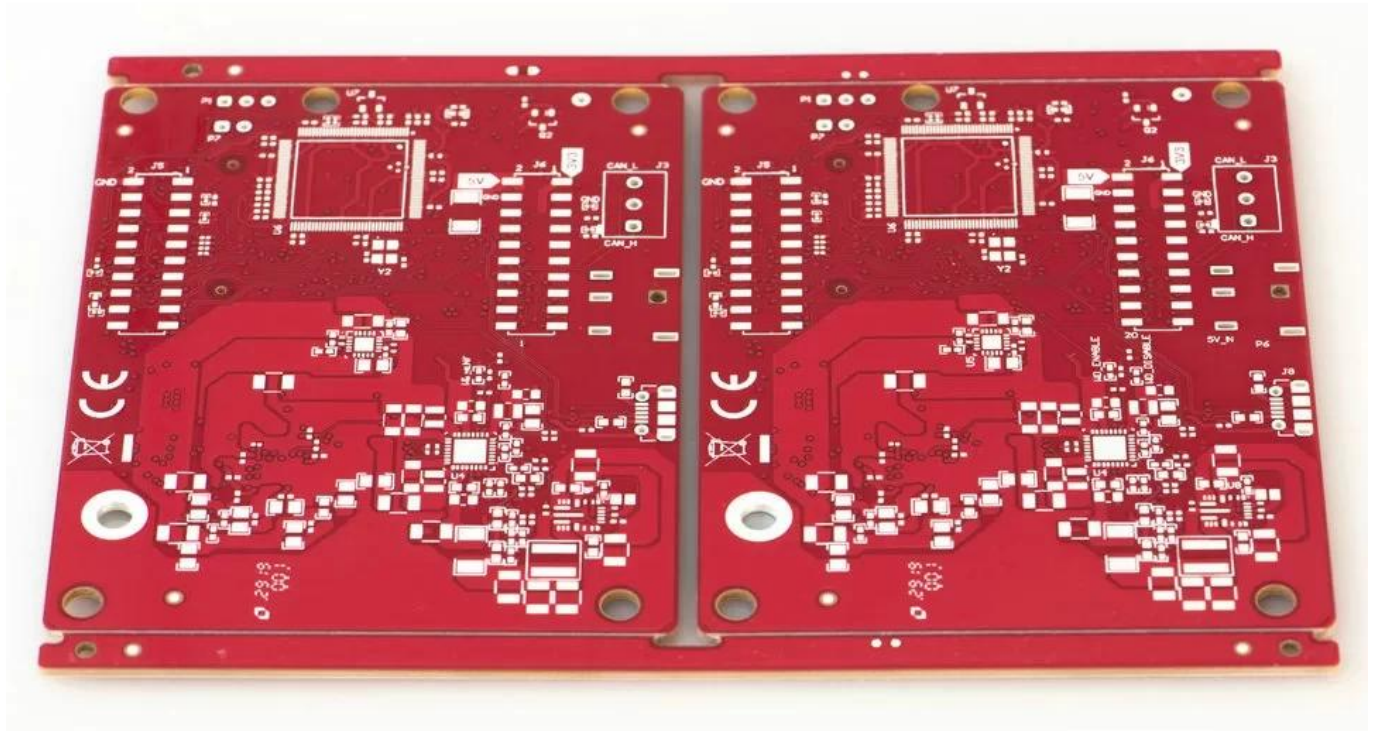


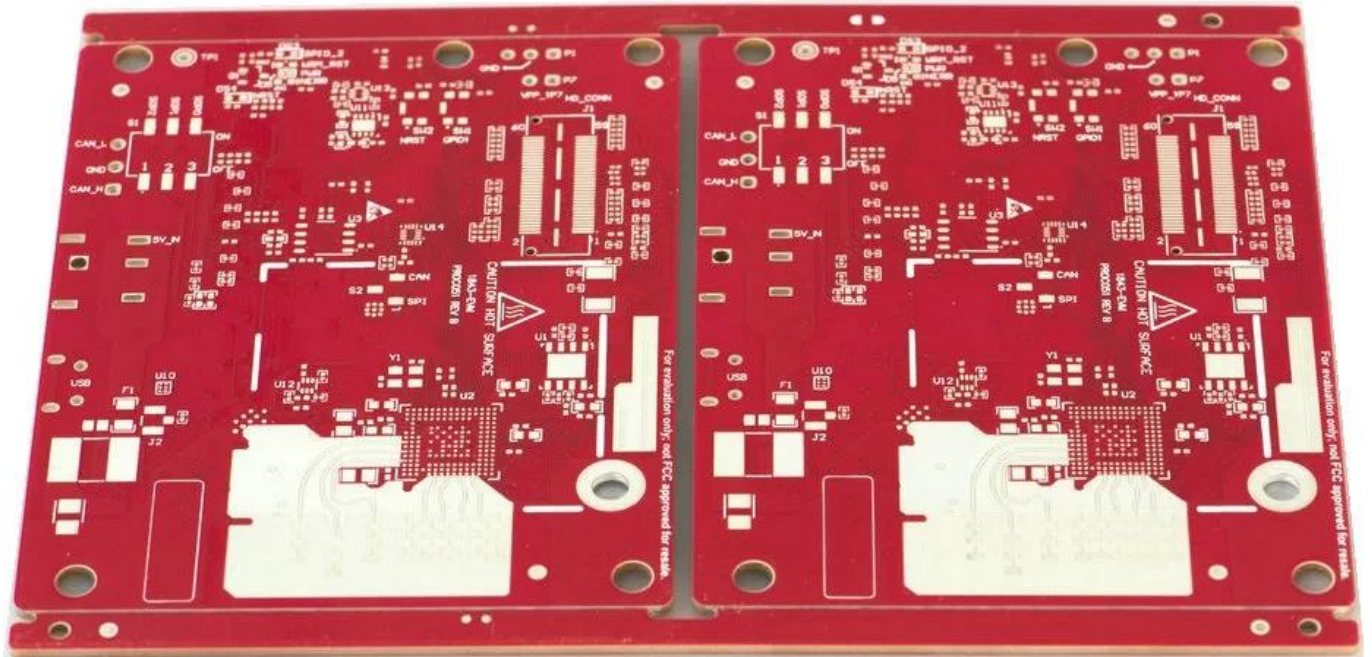
Ref GND plane
The layer one is referenced to Layer2 GND. There should be continuous GND planes on the Layer 2 below the RF traces. ONLY below the RF balls in the AWR1642 device the L2 layer has a 15.8mil diameter opening. Below this opening the Layer 3 should be solid GND



Layer	Type	CU Weight	CU %	Material Description	Via Structure	Segment	Glass Style	Material Family	Dielectric constant @ 1GHz	Thickness After lamination [mil]
Soldermask										0.80
1	Mixed	H	37	4.0 mil H/1	[Diagram of a vertical via structure]	Core	RO4835 LOPRO	3.66	3.66	1.60
2	Plane	1	88							4.00
				Press thk = 5.70 mil		Prepreg	1080(66)	370HR	3.90	5.70
				28.0 mil 1/1		Core	4-7628	370HR	4.36	1.20
3	Mixed	1	70	28.0 mil 1/1	[Diagram of a vertical via structure]	Core	1-2116	370HR	4.26	28.00
4	Mixed	1	82							1.20
				Press thk = 5.84 mil		Prepreg	1080(66)	370HR	3.90	5.84
				4.0 mil 1/H		Core	1-2116	370HR	4.26	1.20
5	Plane	1	88	4.00		Prepreg	1080(66)	370HR	3.90	1.60
6	Mixed	H	49	4.00		Core	1-2116	370HR	4.26	1.60
Soldermask										0.80











Production Process

18 years experience in one-stop PCB and PCBA, we can make your idea come true,



CONSUMER ELECTRONICS

AUTOMOTIVE ELECTRONICS

INDUSTRIAL CONTROL

INTELLECTUALIZED HOUSEHOLD CONTROL

OTHER



30%
CONSUMER ELECTRONICS



18%
INTELLECTUALIZED HOUSEHOLD CONTROL

20%
AUTOMOTIVE ELECTRONICS



12%
OTHER



20%
INDUSTRIAL CONTROL





Factory PCB



Automatic vacuum press machine



Drilling Machine



Pattern Plating Machine



Scrubbing Machine



Developing Machine



Routing Machine



High-speed flying probe machine



E-test Machine

Factory SMT





C I C C INSPECTION CERTIFICATION



嘉泰认证

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 18118Q10347R05

We hereby certify that

O-LEADING SUPPLY CHAIN(HK) CO.,LIMITED

Credit No: 61691591-000-07-18-7

Registration Add: FLAT/RM 1205 12/F TAI SANG BANK BUILDING 130-132 DES VOEUS ROAD CENTRAL HK

Business Add: 1313, Floor 13, Fortune Building, Danshui Town, Huiyang District, Huizhou, Guangdong, China

Has implemented and maintains a **Quality Management System** Which fulfils the requirements of the following standards
GB/T19001-2016 idt ISO9001:2015

Scope of certification
Sales of printed circuit boards

Initial issuance period: February 27, 2018
Renewal date: April 22, 2019

This certificate is valid during: April 22, 2019 ~ February 26, 2021

This certificate is invalid without CICC qualified label in the following period

First supervision and audit	Second supervision and audit	Qualified mark
-----------------------------	------------------------------	----------------

The certification implementation scope does not include those production stages which shall be assumed by the relevant effective administrative provisions and qualification provisions regulated by the state. The effectiveness of this certificate shall be notified by annual surveillance audits of CICC. The certificate shall be valid also only together with the surveillance audit certificate. The initial information of this certificate can be searched at the portal of CICC: www.cicc.com.cn. Or the site of members: www.cicc.com.cn.






C I C C INSPECTION CERTIFICATION



嘉泰认证

质量管理体系认证证书

证书号: 18118Q10347R05

兹证明

诚领供应链(香港)有限公司

统一社会信用代码: 61691591-000-07-18-7

注册地址: 香港中環德輔道中 130-132 號大生銀行大廈 1205 室

经营地址: 广东惠州惠阳淡水南亨西路财富大厦 13 楼 1313

建立的质量管理体系符合

GB/T19001-2016 idt ISO9001:2015 质量标准适用条款的要求

认证范围
印刷线路板的销售

初次发证日期: 2018年02月27日

换证日期: 2019年04月22日

证书有效期: 自2019年04月22日至2021年02月26日

在下列期限内, 未经 CICC 黏贴合格标贴, 本证书无效

第一次监审	第二次监审	粘标处
-------	-------	-----

本证书认证范围不包括未获得有效的国家规定的行政许可、资质许可的产品/服务范围。本证书通过CICC定期监督审核保持, 与年度《保持认证通知书》共同方为有效。本证书信息可在国家认监委网站: www.cnca.gov.cn及CICC网站www.cicc.com.cn查询。








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 test(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



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/terms-and-conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/terms-and-conditions/Electronic-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that unless he/she expressly agrees to the Company's liability at the time of its intended use, the limits of the Company's liability are restricted to the extent of the Company's liability under the applicable law. This document does not constitute an offer of insurance or any other financial product. The Company's liability is limited to the extent of the Company's liability under the applicable law. The appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this report refer only to the samples tested.

Member of the SGS Group (SGS SA)



Test Report

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

Test Results :

Test Part Description :

Table with 3 columns: Specimen No., SGS Sample ID, Description. Row 1: 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, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Table with 5 columns: Test Item(s), Limit, Unit, MDL, QZT. Lists various substances like Cadmium, Lead, Mercury, Hexavalent Chromium, Sum of PBBs, etc. with their respective limits and units.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/terms-and-conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/terms-and-conditions/Electronic-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that unless he/she expressly agrees to the Company's liability at the time of its intended use, the limits of the Company's liability are restricted to the extent of the Company's liability under the applicable law. This document does not constitute an offer of insurance or any other financial product. The Company's liability is limited to the extent of the Company's liability under the applicable law. The appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this report refer only to the samples tested.

Member of the SGS Group (SGS SA)



ZPMV2.E490354 - WIRING, PRINTED - COMPONENT

Wiring, Printed - Component

See General Information for Wiring, Printed - Component

O-LEADING SUPPLY CHAIN (HK) CO LTD
 ROOM 1205, 12/F
 TAI SANG BANK BLDG
 130-132 DES VOEUS ROAD
 CENTRAL, HONG KONG

E490354

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

O-LEADING-S02	0.2 (0.008)	0.2 (0.008)	17 (0.67)	SS	25.4 (1.0)	260	4	130	HB	▲	*	
O-LEADING-S03	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.

并不是所有出现在本数据库中的公司名称和产品都满足了UL跟踪检验服务的要求。只有带有UL标志的产品，才应该被视为经过UL认证，并满足UL跟踪检验服务的要求。注意查看产品上的标志。

UL 允许在线认证目录中所含材料的复制遵循以下条件：1.指南信息、装配、构造、设计、系统和/或认证（文件）必须在不篡改任何数据（或图纸）的情况下完整且无误导性地呈现。2.经 UL 允许从在线认证目录转载“声明必须出现在所提取材料的邻近位置。此外，转载材料必须包含以下格式的版权声明：“© 2019 UL LLC”



PCB	
Layer	1Layer-32Layer
Weight	1 / 3oz-12oz
Prepreg	3.0mil / 3.0mil
Core	4.0mil / 4.0mil
Thickness	10±1
Drill	0.2mm±5.0mm
Panel Size	635 * 1500mm
Plating	4mil
Plated	+/- 3mil
Blind / Buried Vias	All
Via Fill	
Material	FR-4 FR-4high Tg
Surface Finish	HASL OSP ENIG HAL-LF

SMT

PCB	FR-4 CEM-1 CEM-3
PCB Size	510x460mm
PCB Size	50x50mm
PCB Thickness	0.5mm±4.5mm
Drill	0.5±4mm
Panel Size	0201
Panel Size	0603
Panel Size	15mm
Panel Size	0.3mm
Panel Size	0.4mm
Panel Size	+/- 0.03mm



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



1. O

- 1.1
- 1.2
- 1.3
- 1.4
- 1.5

2. O-Leading

10 2 3 4 RMB 31

O-Leading

3. O-Leading

FR4 TG / PI

4. PCB及PCBA

- 4.1 BOM
- 4.2 PCB
- 4.3 PCB及PCBA
- 4.4
- 4.5

5. PCB

→ → → AOI → → → PTH → → → → → AOI → → → → E / T →

6. HDI

VCP LDI LDI

7. O-

O- ENIG OSP LF-HASL / OSI ENIG OSP + ENIG HDI BGAPAD 0.3 mm OSP OSP + ENIG

8. FPC O-Leading SMT

O-Leading FPC 1 8 2000mm * 240mm SMT

9. PCB

- ;
- ;
- ;
- ;
- PCB;
- ;
- ;

10. PCB PWB FPC

PCB PWB Printed Wire Board FPC

11. PCB

PCB Tg CTE PCB 250°C 50 PCB PCB

12. O-leading PCB

O-leading PCB FPC PCB

13.

POLAR INSTRUMENTS SI6000 soft CITS 500s

