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The image is a composite of two promotional banners for O-LEADING. The top banner features a dark blue background with a glowing network of white lines. On the right, a green high-density interconnect PCB is shown. Below it, a row of six different types of connectors is displayed. On the left, the O-LEADING logo is prominently displayed in blue and yellow, with the tagline 'To Be Reliable, To Be Valuable' underneath. A dark blue rounded rectangle contains the text 'WE ALWAYS PROVIDE YOU', and another similar rectangle below it contains 'BEST HIGH DENSITY INTERCONNECT PCB'. The bottom banner has a space-themed background with a blue gradient, stars, and geometric shapes. On the left, a realistic image of the Moon is shown. On the right, a realistic image of Jupiter is shown. In the center, a hand holds a green rigid-flexible circuit board. Two red laser lines point from the top right towards the circuit board. The O-LEADING logo and tagline are repeated on the left. A dark blue rounded rectangle with 'WE ALWAYS PROVIDE YOU' is positioned above another dark blue rounded rectangle that contains the text 'BEST RIGID-FLEXIBLE CIRCUIT'.

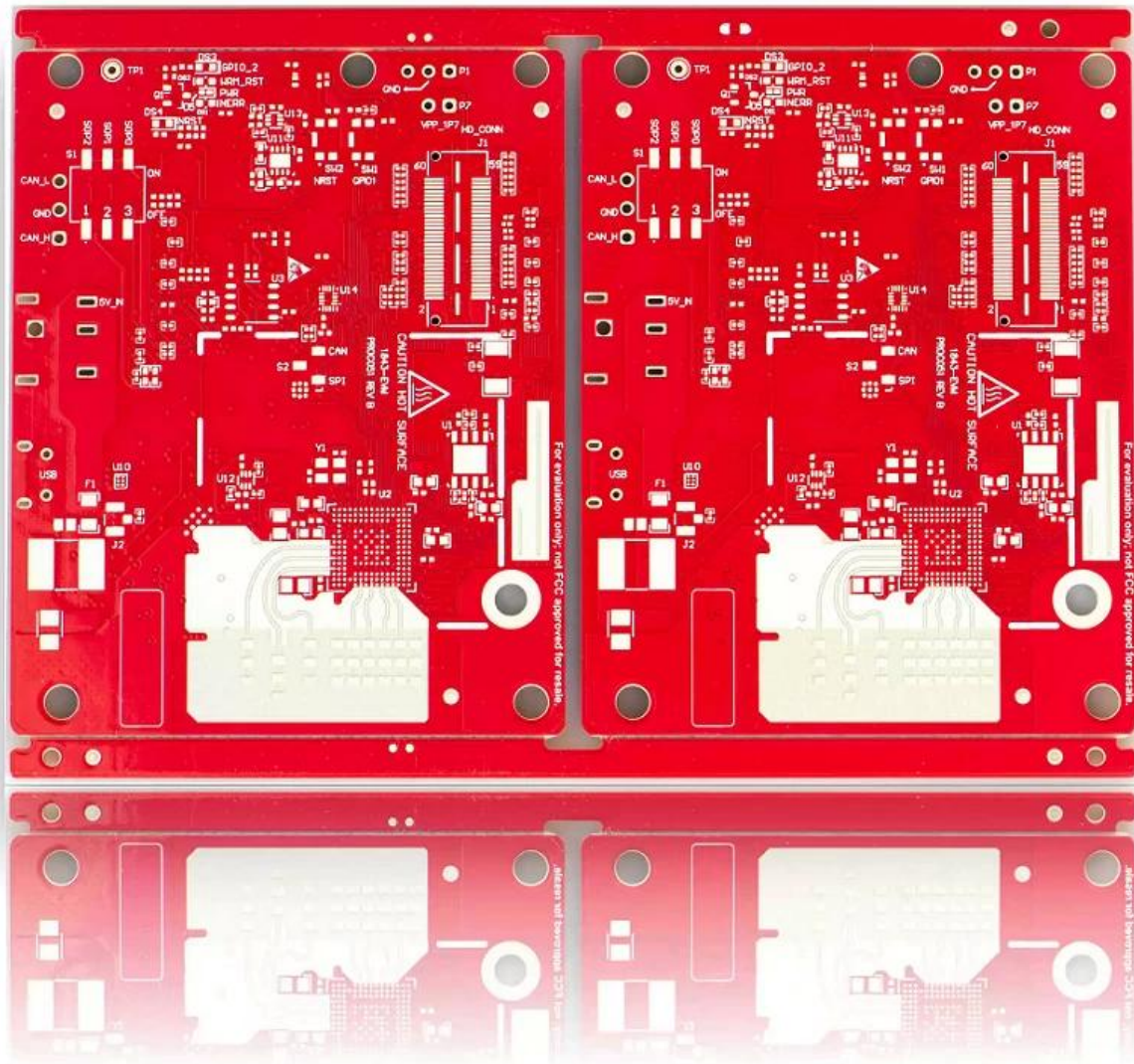
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O-LEADING
To Be Reliable, To Be Valuable

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

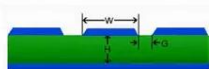
The TX and RX RF traces need to be 50ohms impedance controlled at 80GHz frequency with $\pm 10\%$ tolerance. A coplanar wave structure is used on layer 1 (referenced to layer 2) for impedance control

 $W=7.08$ miles

W=7.08 mil
H = 4mils

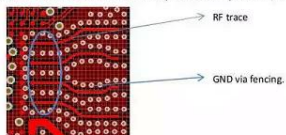
H = 4mils
G = 8mils

Dielectric constant = 3.66



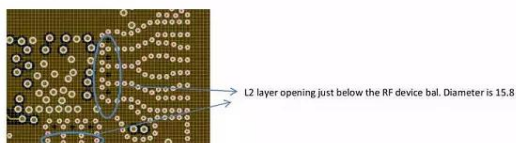
TX and RX traces

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

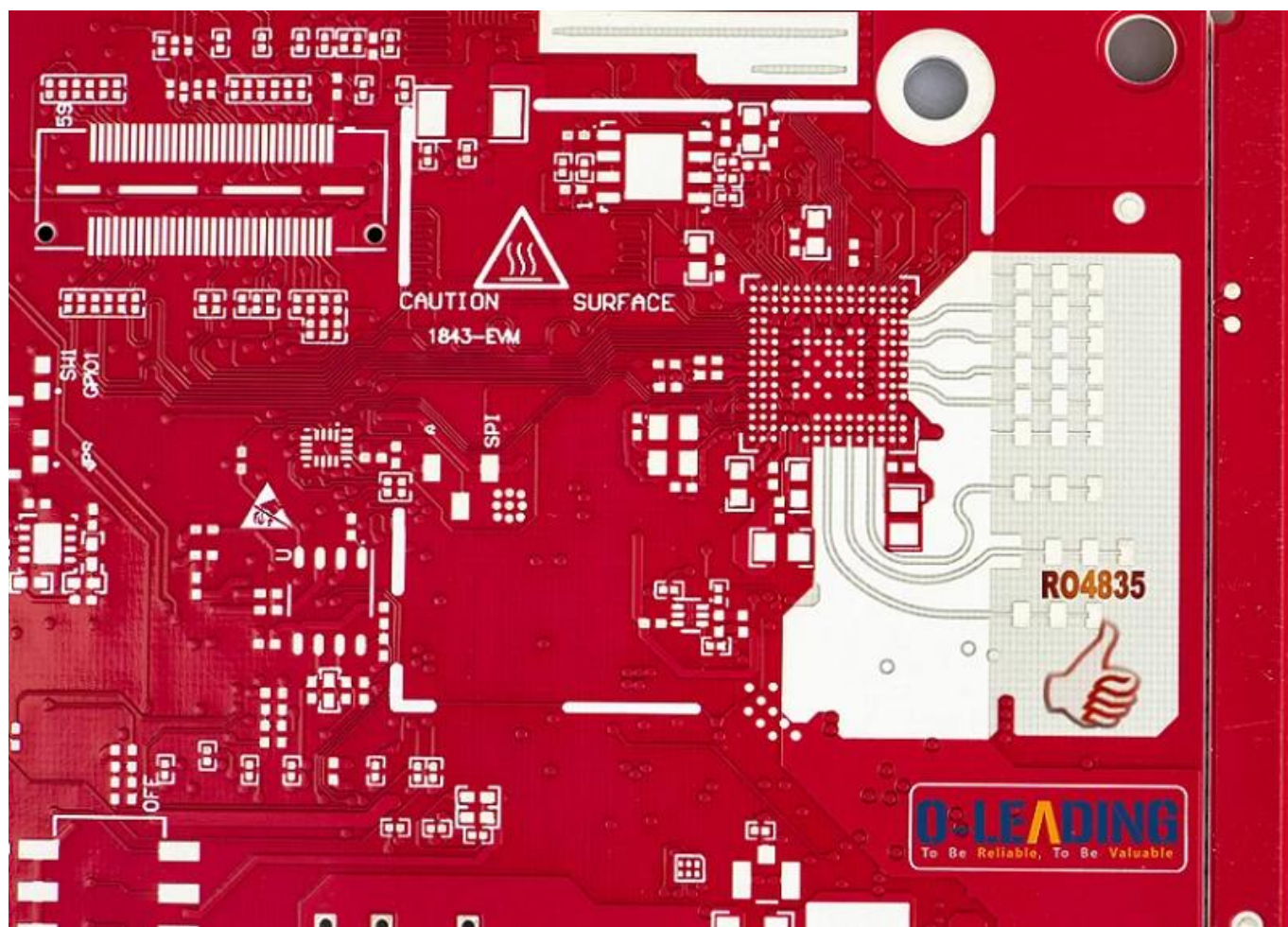


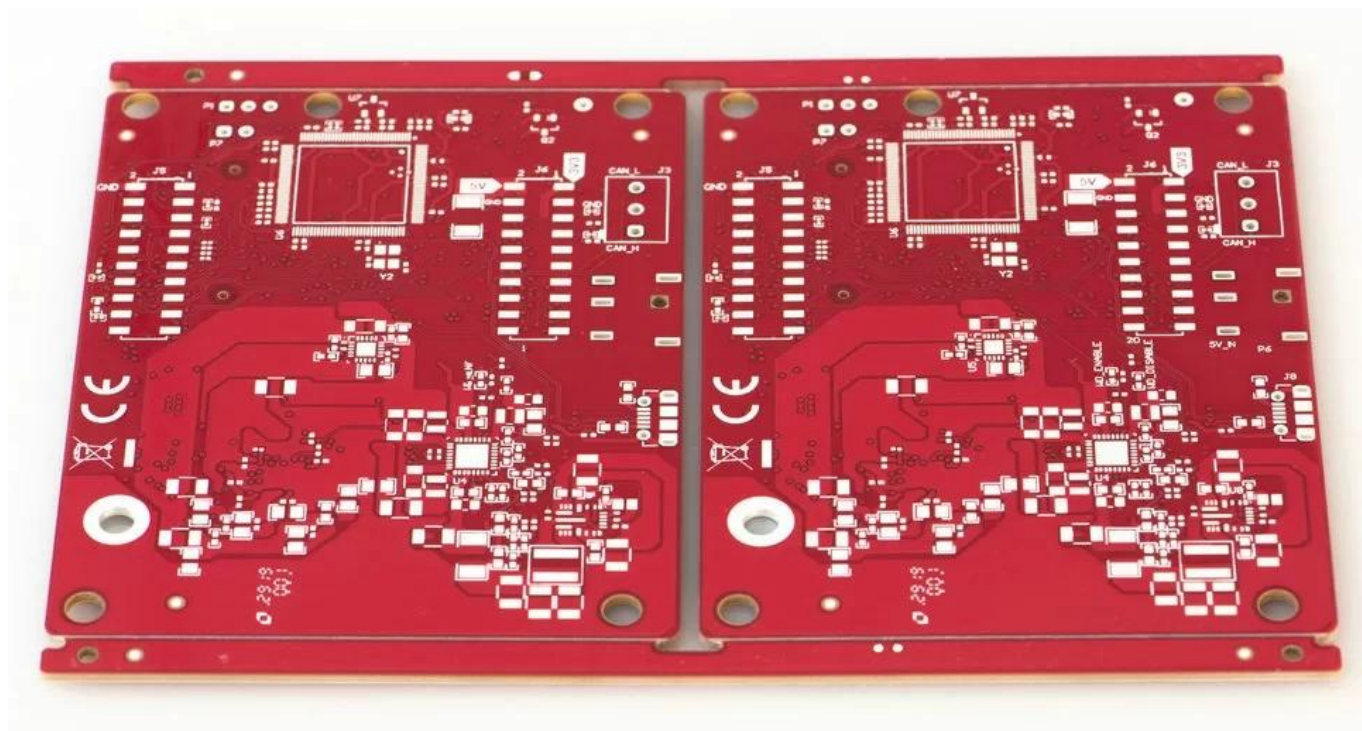
Ref GND plane

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		Core	RO4835 LOPRO	3.66	1.60	
2	Plane	1	88	Press thk = 5.70 mil					Prepreg	1080(66) 1080(66)
3	Mixed	1	70	28.0 mil 1/1		Core	4-7628	370HR	4.36	1.20
4	Mixed	1	82	Press thk = 5.84 mil						Prepreg
5	Plane	1	88	4.0 mil 1/H		Core	1-2116	370HR	4.26	1.20
6	Mixed	H	49							
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



18%
INTELLECTUALIZED HOUSEHOLD CONTROL



20%
AUTOMOTIVE ELECTRONICS



12%
OTHER



20%
INDUSTRIAL CONTROL



فريقنا



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



الشهادات





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 Fan
Approved Signatory



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For more information, please contact our sales representative. Please contact us at telephone: (86-755) 8307 1442 or email: CHN.Sales@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, 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.

Test item(s)	Limit	Unit	MDL	Q/T
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
Tri bromobiphenyl	-	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
Tri bromodiphenyl 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					
	Min	Min			Area	Solder	Oper	Flame	Meets	C	
	mm(in)	Edge mm(in)			Diam	Limits	Temp	Class	UL796	T	
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.

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القدرة العملية

PCB 板厚	1.0mm 32- 36mm
PCB 板厚公差	1 / 3oz-12oz
PCB 板厚公差 / 板厚公差公差	3.0mm 3.0 / 3mm
PCB 板厚公差 / 板厚公差公差	4.0mm 4.0 / 3mm
PCB 板厚公差公差	10: 1
PCB 板厚公差	0.2mm 5.0 - 3mm
PCB 板厚公差 (板厚公差公差)	635 * 1500mm
PCB 板厚公差公差	4mm
PCB 板厚公差 Plated	+/- 3mm
Blind / Buried Vias (板厚公差 AII)	3mm
PCB 板厚公差公差 (板厚公差公差)	3mm
PCB 板厚公差	FR-4 或 FR-4hg Tg. 板厚公差公差 或 Rogers 或 板厚公差公差 或 板厚公差公差 板厚公差公差
PCB 板厚公差公差	HASL 或 OSP 或 ENIG 或 HAL-LF 或 Immersion silver 板厚公差公差 或 板厚公差公差 或 板厚公差公差

□□□□ □□□□ SMT

FR-4 ж CEM-1 ж CEM-3 ж қорытпалармен біріктірілген	
510x460 мм	
50x50 мм	
0.5 мм 4.5 - мм	
0.5-4 мм	
0201	
0603 жаппай	
15 мм	
0.3 мм	
0.4 мм	
+/- 0.03 мм	

التعبئة والتغليف والتسليم

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

التعليمات

1. اختبار فحص O-Leading

.اختبار فحص O-Leading هو اختبار فحص الجودة

الذي يهدف إلى التحقق من جودة المنتج وفقًا لمعيار 1.1 ISO 9001: 2008.

1.2 اختبار فحص O-Leading هو اختبار فحص الجودة

الذي يهدف إلى التحقق من جودة المنتج وفقًا لمعيار 1.3 AOI

(.اختبار فحص O-Leading) اختبار فحص الجودة

الذي يهدف إلى التحقق من جودة المنتج وفقًا لمعيار 1.4

اختبار فحص O-Leading هو اختبار فحص الجودة 1.5

2 O-Leading اختبار فحص الجودة

هو اختبار فحص الجودة الذي يهدف إلى التحقق من جودة المنتج وفقًا لمعيار 1.1 ISO 9001: 2008.

.اختبار فحص O-Leading هو اختبار فحص الجودة الذي يهدف إلى التحقق من جودة المنتج وفقًا لمعيار 1.3 AOI

.اختبار فحص O-Leading هو اختبار فحص الجودة

الذي يهدف إلى التحقق من جودة المنتج وفقًا لمعيار 1.4

.اختبار فحص O-Leading هو اختبار فحص الجودة

الذي يهدف إلى التحقق من جودة المنتج وفقًا لمعيار 1.5

.اختبار فحص O-Leading

03 O-Leading

FR4 PCB TG Rogers Arlon Telfon / PI .

04

4.1 4.2 PCB Gerber.

4.3 PCB PCBA.

4.4 .

4.5

05

AOI PTH E / T .

06 HDI

VCP LDI .

LDI Screen Hitachi .

07

ENIG OSP LF-HASL OSP ENIG + ENIG HDI OSP OSP + ENIG BGA PAD 0.3 .

08 FPC O-Leading SMT

8 2000mm * 240mm "Flex Flexability" SMT .

09

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10 PCB PWB FPC

PWB Wire Wire Board FPC .

11 PCB

Tg CTE 250°C

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POLAR INSTRUMENTS.

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