

**Test Report** No. C231113061002-1A Date: Nov 17, 2023 Page 1 of 7

Applicant: SHENZHEN JLC TECHNOLOGY GROUP CO.,LTD.

Applicant Address: 27TH FLOOR, OLYMPIC BUILDING, SHANGBAO ROAD, FUTIAN DISTRICT, SHENZHEN

CITY, GUANGDONG PROVINCE

The following samples were submitted and identified on behalf of the clients as

Sample Name: PCB

Sample description: ENIG (Electroless Nickel/ Immersion Gold)

Manufacturer: SHENZHEN JLC TECHNOLOGY GROUP CO.,LTD.

Manufactured Address: 27TH FLOOR, OLYMPIC BUILDING, SHANGBAO ROAD, FUTIAN DISTRICT,

SHENZHEN CITY, GUANGDONG PROVINCE

Sample Quantity: 1

CPST Internal Reference No.: C231113061 Sample Received Date: Nov 13, 2023

Test Period: Nov 13, 2023 to Nov 17, 2023

Test Method: Please refer to next page(s).

Test Result: Please refer to next page(s).

**CONCLUSION:** 

TESTED SAMPLES TEST ITEM RESULT

1.RoHS Directive 2011/65/EU Annex II amending Directive

(EU)2015/863

- Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs

PCB and PBDEs Content

—Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP),

Dibutyl phthalate (DBP), Diisobutyl phthalate(DIBP) Content

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WRITTEN BY:

KEMENNEL BY:

APPROVED BY:

**PASS** 

**PASS** 

Lian chao zhen, Jane

Report writer

Liu Xiao Fang, Sunshine Report Reviewer Pan Jian Ding, Will Technical Supervisor

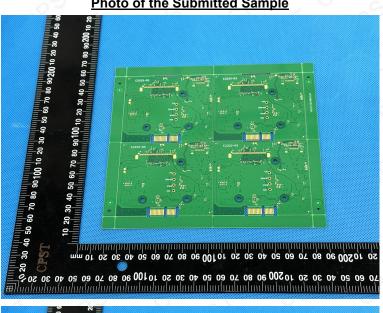


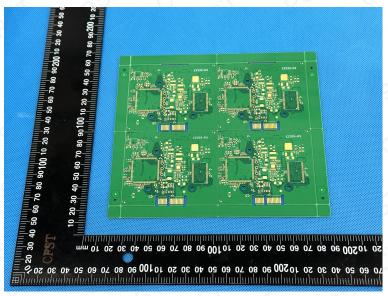
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Date: Nov 17, 2023

#### **Photo of the Submitted Sample**







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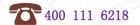
Test Result(s):

Description of Specimen : PCB board (whole test)

### 1.RoHS Directive 2011/65/EU Annex II amending Directive (EU)2015/863—Lead, Cadmium, Mercury,

**Hexavalent Chromium. PBBs and PBDEs** 

Test Items	Unit	Test Method	Result	MDL	<b>Limit</b> 1000
Lead (Pb)	mg/kg	IEC 62321-5:2013, ICP-OES/AAS	N.D.	2	
Mercury (Hg)	mg/kg	IEC 62321-4:2013+A1:2017, ICP-OES/AAS	N.D.	2	1000
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-OES/AAS	N.D.	2	100
Hexavalent Chromium (CrVI)	mg/kg	IEC 62321-7-2:2017, UV-VIS	N.D.	2	1000
Monobromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	J -
Dibromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-8
Tribromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	< -
Tetrabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-
Pentabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-67
Hexabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	R -
Heptabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-05
Octabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	0,
Nonabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	_<-
Sum of PBBs	mg/kg	CY X - 35	N.D.	< - <	1000
Monobromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-0
Dibromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	G <del>Y</del>
Tribromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-
Tetrabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	7-0
Pentabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	5-
Hexabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-<
Heptabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	~ Q = O
Octabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	Ψ <u>'</u> ,
Nonabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-0
Decabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	Κ-
Sum of PBDEs	mg/kg	3 4 - 05	N.D.	0	1000





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Note: 1. mg/kg = milligram per kilogram = ppm

2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

4. "-" = Not Regulated

# RoHS Directive 2011/65/EU Annex II amending Directive (EU)2015/863 —Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) Content

Test method:IEC 62321-8:2017, analysis was performed by Gas Chromatograph-Mass Spectrometer (GC-MS).

Test Items	Unit	Result	MDL	Limit
Di-(2-ethylhexyl) phthalate (DEHP)	mg/kg	N.D.	50	1000
Benzylbutyl phthalate (BBP)	mg/kg	N.D.	50	1000
Dibutyl phthalate (DBP)	mg/kg	N.D.	50	1000
Diisobutyl phthalate(DIBP)	mg/kg	N.D.	50	1000

#### Note:

- 1. mg/kg = milligram per kilogram = ppm
- 2. N.D. = Not Detected (<MDL)
- 3. MDL = Method detection limit

Remark: As specified by applicant, to test content in the selected materials of the submitted samples. The test results are only responsible for the submitted sample. The test report is only for customer research, teaching, internal quality control, product development and other purposes, for reference only.



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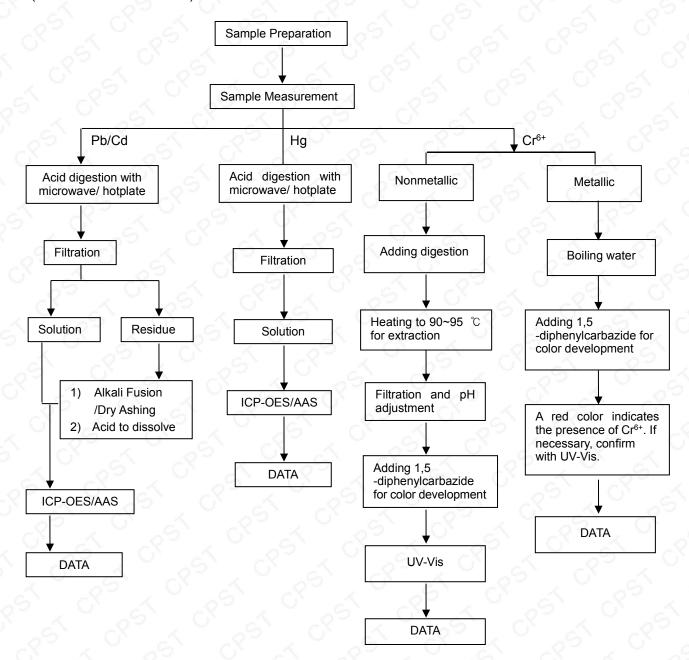
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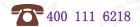
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#### Pb/Cd/Hg/Cr6+ Testing Flow Chart

These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr<sup>6+</sup> test method excluded)





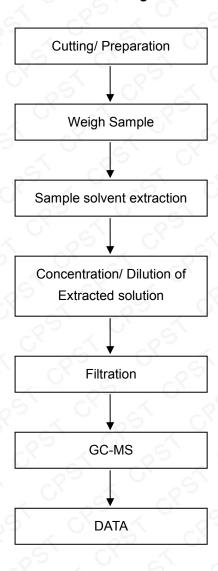


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## PBBs/PBDEs Testing Flow Chart





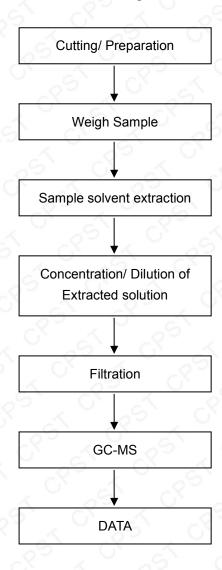


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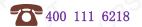
#### **Phthalates Testing Flow Chart**



Declaration: Report C231113061002-1 was repealed and replaced by Report C231113061002-1A.

\*\*\* End of Report \*\*

Note: This Test report shall be invalid if it is not stamped with the special seal for testing. Only responsible for the tested samples, invalid if rewritten, added and deleted. This test report cannot be reproduced, except in full, without prior written permission of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this report is unlawful and offenders may be prosecuted to the fullest extent of the law. Any demurral to the content of test report, please propose in 15 days after the report's sending out, it will not be accepted after this date.



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Postcode: 523945

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**Test Report** No. C231113061001-1A Date: Nov 17, 2023 Page 1 of 7

Applicant: SHENZHEN JLC TECHNOLOGY GROUP CO.,LTD.

Applicant Address: 27TH FLOOR, OLYMPIC BUILDING, SHANGBAO ROAD, FUTIAN DISTRICT, SHENZHEN

CITY, GUANGDONG PROVINCE

The following samples were submitted and identified on behalf of the clients as

Sample Name: PCB

Sample description: Lead-free HASL

Manufacturer: SHENZHEN JLC TECHNOLOGY GROUP CO.,LTD.

Manufactured Address: 27TH FLOOR, OLYMPIC BUILDING, SHANGBAO ROAD, FUTIAN DISTRICT,

SHENZHEN CITY, GUANGDONG PROVINCE

Sample Quantity: 1

CPST Internal Reference No.: C231113061 Sample Received Date: Nov 13, 2023

Test Period: Nov 13, 2023 to Nov 17, 2023

Test Method: Please refer to next page(s).

Test Result: Please refer to next page(s).

**CONCLUSION:** 

TESTED SAMPLES TEST ITEM RESULT

1.RoHS Directive 2011/65/EU Annex II amending Directive

(EU)2015/863

- Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs

PCB and PBDEs Content

—Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP),

Dibutyl phthalate (DBP), Diisobutyl phthalate(DIBP) Content

Sig ed for and on high half of Eurones (Dongguan) Consumer Products Testing Service Co., Ltd

WRITTEN BY:

REMEMBY BY:

APPROVED BY:

**PASS** 

**PASS** 

Lian chao zhen, Jane

Report writer

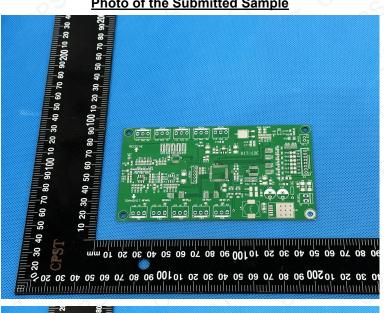
Liu Xiao Fang, Sunshine Report Reviewer Pan Jian Ding, Will Technical Supervisor

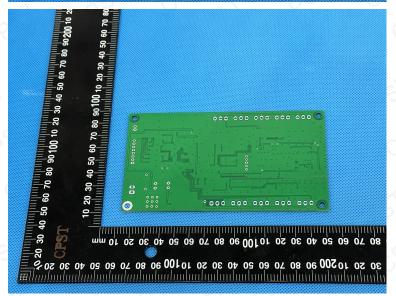


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#### **Photo of the Submitted Sample**







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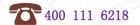
Test Result(s):

Description of Specimen : PCB board (whole test)

## 1.RoHS Directive 2011/65/EU Annex II amending Directive (EU)2015/863—Lead, Cadmium, Mercury,

**Hexavalent Chromium, PBBs and PBDEs** 

Test Items	Unit	Test Method	Result	MDL	Limit
Lead (Pb)	mg/kg	IEC 62321-5:2013, ICP-OES/AAS	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321-4:2013+A1:2017, ICP-OES/AAS	N.D.	2	1000
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-OES/AAS			100
Hexavalent Chromium (CrVI)	mg/kg	IEC 62321-7-2:2017, UV-VIS	N.D.	2	1000
Monobromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	J -
Dibromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-8
Tribromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	K -
Tetrabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-
Pentabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-67
Hexabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	R -
Heptabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	21-6:2015, GC-MS N.D.		-5°
Octabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	MS N.D.		( <u>1</u>
Nonabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	_<-
Sum of PBBs	mg/kg	CY X = 35	N.D.	- <	1000
Monobromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-0
Dibromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	G <del>Y</del>
Tribromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-
Tetrabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	7-0
Pentabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	GC-MS N.D.		6)-
Hexabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS N.D.		5	<
Heptabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS N.D.		5	~6-D
Octabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	Ψ <u>'</u> ,
Nonabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	-0
Decabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	5	ζ-
Sum of PBDEs	mg/kg	7 4 - 00	N.D.	6	1000





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Note: 1. mg/kg = milligram per kilogram = ppm

2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

4. "-" = Not Regulated

# RoHS Directive 2011/65/EU Annex II amending Directive (EU)2015/863 —Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) Content

Test method: IEC 62321-8:2017, analysis was performed by Gas Chromatograph-Mass Spectrometer (GC-MS).

Test Items	Unit	Result	MDL	Limit
Di-(2-ethylhexyl) phthalate (DEHP)	mg/kg	N.D.	50	1000
Benzylbutyl phthalate (BBP)	mg/kg	N.D.	50	1000
Dibutyl phthalate (DBP)	mg/kg	N.D.	50	1000
Diisobutyl phthalate(DIBP)	mg/kg	N.D.	50	1000

#### Note:

- 1. mg/kg = milligram per kilogram = ppm
- 2. N.D. = Not Detected (<MDL)
- 3. MDL = Method detection limit

Remark: As specified by applicant, to test content in the selected materials of the submitted samples. The test results are only responsible for the submitted sample. The test report is only for customer research, teaching, internal quality control, product development and other purposes, for reference only.



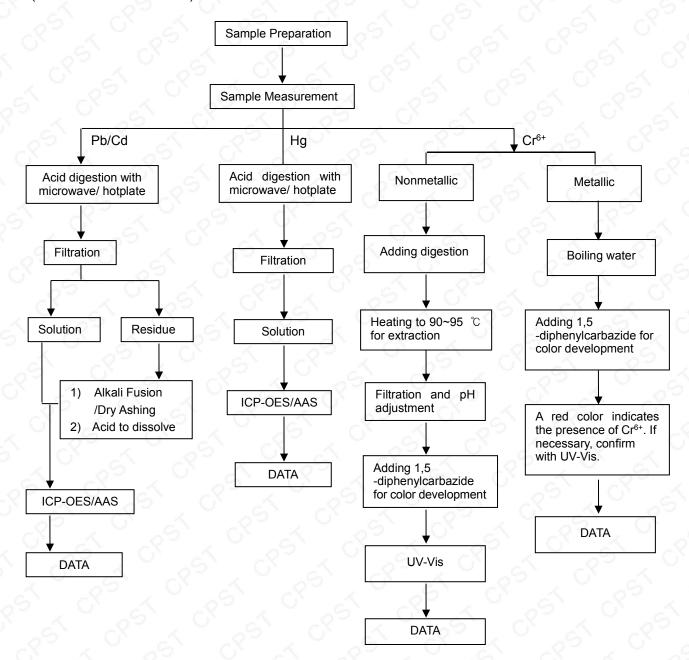
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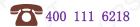
Date: Nov 17, 2023

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#### Pb/Cd/Hg/Cr6+ Testing Flow Chart

These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr<sup>6+</sup> test method excluded)





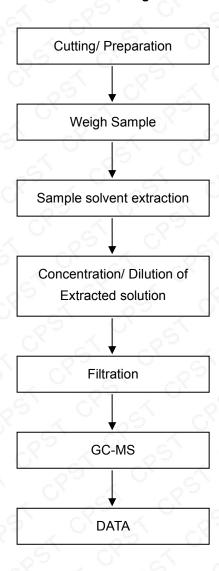


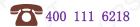
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## PBBs/PBDEs Testing Flow Chart





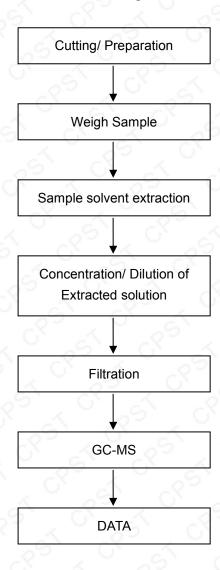


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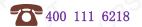
#### **Phthalates Testing Flow Chart**



Declaration: Report C231113061001-1 was repealed and replaced by Report C231113061001-1A.

\*\*\* End of Report \*\*

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