

## Test Report

No. SZXEC2102808803

Date: 08 Sep 2021

Page 1 of 7

SHENZHEN LUGUANG ELECTRONIC TECHNOLOGY CO.,LTD.

RIZHAO LUGUANG ELECTRONIC TECHNOLOGY CO.,LTD.

1407, B BLOCK, HAISONG BUILDING, TERRA 9 RD, FUTIAN DISTRICT, SHENZHEN, CHINA  
166, GUILIN ROAD, RIZHAO ECONOMIC DEVELOPMENT ZONE, SHANDONG PROVINCE

The following sample(s) was/were submitted and identified on behalf of the clients as : SMD DIODE-SMD TRANSISTOR

SGS Job No. : RP21-021496 - SZ

Model No. : SOT-23

Client Ref. Info. : SOD-123, SOD-323, SOD-523, SOD-723, SOD-923, SOT-23,  
SOT-227, SOT-323, SOT-363, SOT-523, SOT-353, SOT-723,  
WBFBP-02C, WBFBP-02L, DFN, TO-251, TO-252, TO-263,  
TO-220AB, TO-220AC, ITO-220AB, ITO-220AC, TO-220F,  
TO-247, TO-3P, SOT-89, SOT-223, TO-92, TO-92M, TO-92L,  
TO-126

Date of Sample Received : 02 Sep 2021

Testing Period : 02 Sep 2021 - 08 Sep 2021

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.



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SGS-CST Standards Technical Services Co., Ltd.  
Shenzhen Branch Testing Center for Laboratory

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## Test Report

No. SZXEC2102808803

Date: 08 Sep 2021

Page 2 of 7

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



Ford Shi  
Approved Signatory

scan to see the report



SZXEC2102808803

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# Test Report

No. SZXEC2102808803

Date: 08 Sep 2021

Page 3 of 7

## Test Results :

### Test Part Description :

**Specimen No.** **SGS Sample ID** **Description**  
SN1 SZX21-028088.002 "SMD DIODE-SMD TRANSISITOR"

### Remarks :

- (1)  $1 \text{ mg/kg} = 1 \text{ ppm} = 0.0001\%$
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( $< \text{MDL}$ )
- (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+AMD1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	ND
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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## Test Report

No. SZXEC2102808803

Date: 08 Sep 2021

Page 4 of 7

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl Phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl Phthalate (BBP)	1000	mg/kg	50	ND
Bis(2-ethylhexyl) Phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalate (DIBP)	1000	mg/kg	50	ND

Notes :

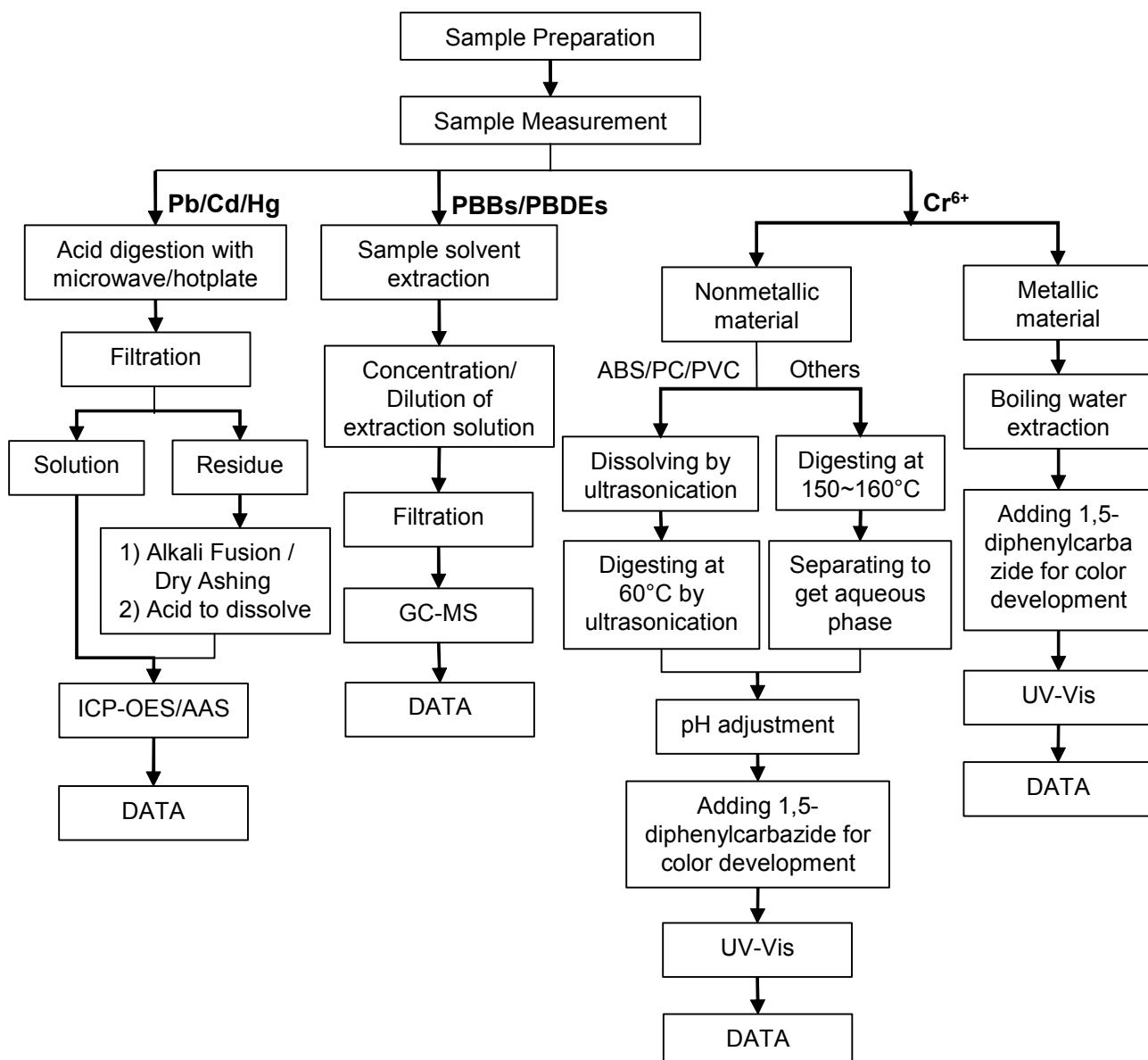
- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

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**ATTACHMENTS**
**Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart**

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



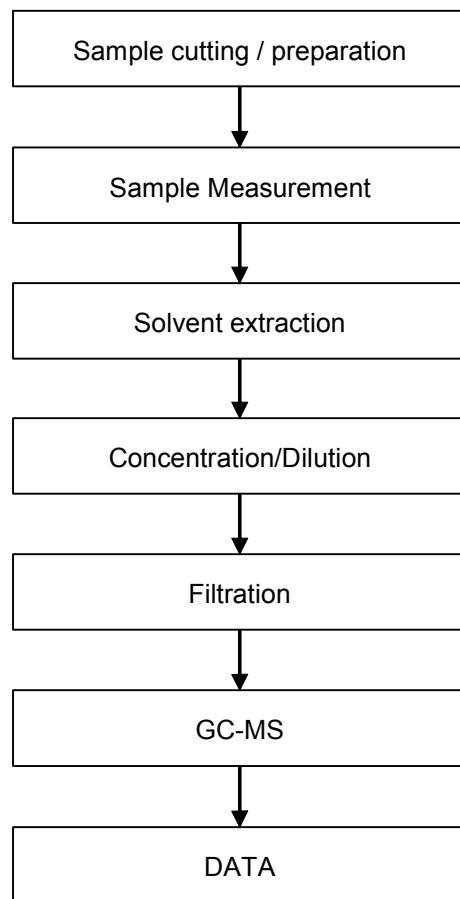
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## ATTACHMENTS

## Phthalates Testing Flow Chart



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**Test Report**

No. SZXEC2102808803

Date: 08 Sep 2021

Page 7 of 7

Sample photo:



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

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