TEST REPORT

Applicant:	Shenzhen Leadtek Optoelectronics CO., Ltd
Address:	3rd Floor, Building 4, Zhipeng Industrial Park, Fuyuan 1st Road, Heping Village, Bao'an District, Shenzhen China

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The following is the information provided by the client regarding the commissioned test samples, provided and confirmed by the client. Dinghua does not assume any responsibility for verifying the accuracy, appropriateness, and/or completeness of the information provided.

Manufacturer:	Shenzhen Leadtek Optoelectronics CO., Ltd
Address:	3rd Floor, Building 4, Zhipeng Industrial Park, Fuyuan 1st Road, Heping Village, Bao'an District, Shenzhen China
Production plant:	Shenzhen Leadtek Optoelectronics CO., Ltd
Address:	3rd Floor, Building 4, Zhipeng Industrial Park, Fuyuan 1st Road, Heping Village, Baoan District, Shenzhen China
Client Contact Number:	/
Sample name:	Smart Display
Sample Condition:	Intact
Trademark:	/
Main Test Model:	LTK042MNHUM14-V0
Series model：	See Attached Page
Sample Receiving Date:	May. 07, 2024
Testing Period:	May. 07, 2024 ~ May. 09, 2024

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	Test Requested:	Conclusion:
1.	RoHS Directive 2011/65/EU and its subsequent amendments Directive (EU) 2015/863.	Pass
	Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls(PBB), Polybrominated diphenyl ethers (PBDE) Content Screening by X-ray fluorescence spectrometry and analysis by wet chemical	Pass
	Phthalate Content	Pass
Note: The judgment rule complies with the simple binary judgment rule		

********** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE (S) **********

Ding Hua International Certification(Shenzhen) Co.,Ltd.

Signature of Authorized Representative

WJ

Authorized signatory

1.Tested components

No.	Sample Description	REMARK
1	Display Screen Glass	SEE THE PHOTO
2	Black Adhesive	SEE THE PHOTO
3	Multiplayer Ceramic Chip Capacitors	SEE THE PHOTO
4	FPC	SEE THE PHOTO
5	Brown Plastic Sheet	SEE THE PHOTO
6	Patch LED	SEE THE PHOTO
7	Black Ceramic Field Effect Transistor	SEE THE PHOTO
8	Terminal Beige Plastic	SEE THE PHOTO
9	Silver Metal Needle	SEE THE PHOTO
10	Silver Metal Cover（Switch Cover）	SEE THE PHOTO
11	Black Plastic Base（Touch Switch）	SEE THE PHOTO
12	Black Plastic Button（Touch Switch）	SEE THE PHOTO
13	Black Plastic Case	SEE THE PHOTO
14	Silver Metal Sheet	SEE THE PHOTO
15	Silver Metal Case	SEE THE PHOTO
16	Internal Black Plastic	SEE THE PHOTO
17	Golden Metal Needle	SEE THE PHOTO
18	Patch Diode	SEE THE PHOTO
19	Patch Resistor	SEE THE PHOTO
20	Black Ceramic Integrated Circuit	SEE THE PHOTO
21	Black Ceramic Body Chip	SEE THE PHOTO
22	Crystal Oscillator	SEE THE PHOTO
23	Triode	SEE THE PHOTO
24	Black Plastic Sheet	SEE THE PHOTO
25	Terminal White Plastic	SEE THE PHOTO
26	PCB	SEE THE PHOTO
27	White Plastic Label Sticker	SEE THE PHOTO

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2.Tested results

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
1	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
2	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
3	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
4	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
5	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
6	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
7	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
8	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
9	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	---	---	---	
	PBDEs	---	---	---	
	DBP	---	---	---	
	BBP	---	---	---	
	DEHP	---	---	---	
	DIBP	---	---	---	

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
10	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	---	---	---	
	PBDEs	---	---	---	
	DBP	---	---	---	
	BBP	---	---	---	
	DEHP	---	---	---	
	DIBP	---	---	---	
11	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
12	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
13	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
14	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	---	---	---	
	PBDEs	---	---	---	
	DBP	---	---	---	
	BBP	---	---	---	
	DEHP	---	---	---	
	DIBP	---	---	---	
15	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	IN	---	Negative	
	PBBs	---	---	---	
	PBDEs	---	---	---	
	DBP	---	---	---	
	BBP	---	---	---	
	DEHP	---	---	---	
	DIBP	---	---	---	

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
16	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
17	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	---	---	---	
	PBDEs	---	---	---	
	DBP	---	---	---	
	BBP	---	---	---	
	DEHP	---	---	---	
	DIBP	---	---	---	
18	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
19	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
20	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
21	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
22	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	---	---	---	
	PBDEs	---	---	---	
	DBP	---	---	---	
	BBP	---	---	---	
	DEHP	---	---	---	
	DIBP	---	---	---	
23	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
24	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	

Part No	Test Item	Results of EDXRF	Screening Result of PHTH	Result of Wet Chemical Testing (mg/kg)	Conclusion
25	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	--	
	PBDEs	BL	---	--	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
26	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	IN	---	ND	
	PBDEs	IN	---	ND	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	
27	Cd	BL	---	---	PASS
	Pb	BL	---	---	
	Hg	BL	---	---	
	Cr(VI)	BL	---	---	
	PBBs	BL	---	---	
	PBDEs	BL	---	---	
	DBP	---	BL	---	
	BBP	---	BL	---	
	DEHP	---	BL	---	
	DIBP	---	BL	---	

Note:

BL = Below Limit
--- = No Testing Required
mg/kg = milligram per kilogram

IN = Inconclusive
ND = Not Detected (lower than MDL)
Negative = Result indicates the absence of hexavalent chromium in the tested sample.

Remark:

1. （1）(a) There are the results on total Br while test items on restricted substances are PBBs and PBDEs. There is the result on total Cr while test item on restricted substances is Cr(VI).

(b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

Element	Unit	Polymer	Metal	Composite Material
Cd	mg/kg	BL ≤ (70-3σ) < IN < (130+3σ) ≤ OL	BL ≤ (70-3σ) < IN < (130+3σ) ≤ OL	LOD < IN< (150+3σ) ≤ OL
Pb	mg/kg	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ *(500*-3σ) < IN < *(1500*+3σ) ≤ OL
Hg	mg/kg	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ *(500*-3σ) < IN < *(1500*+3σ) ≤ OL
Br	mg/kg	BL ≤ (300-3σ) < IN	--	BL ≤ *(250*-3σ) < IN
Cr	mg/kg	BL ≤ (700-3σ) < IN	BL ≤ (700-3σ) <IN	BL ≤ (500-3σ) <IN

BL = Below Limit
OL = Over Limit
IN = Inconclusive
LOD = Limit of Detection
mg/kg=ppm= milligram per kilogram

(c) Screening results of PHTH are for hybrid test by GC-MS, and further chemical testing by GC-MS (for DBP, BBP, DEHP and DIBP) are recommended to be performed if the concentration exceeds the below warning value (unit: mg/kg).

Compound	Polymer
DBP	BL ≤ 600< IN
BBP	BL ≤ 600< IN
DEHP	BL ≤ 600< IN
DIBP	BL ≤ 600< IN

mg/kg = milligram per kilogram
1% = 10000 mg/kg = 10000 ppm

2. Test Method

Chemical testing methods & Equipment

Testing Item	Testing Method
Lead (Pb)	IEC62321-5-2013
Cadmium (Cd)	IEC62321-5-2013
Mercury (Hg)	IEC62321-4-2017
Hexavalent chromium (Cr(VI)) for plastic	IEC62321-7-2-2017
Hexavalent chromium (Cr(VI)) for coating on metals	IEC62321-7-1-2015
PBBs	IEC62321-6-2015
PBDEs	IEC62321-6-2015
DBP	IEC62321-8-2017
BBP	IEC62321-8-2017
DEHP	IEC62321-8-2017
DIBP	IEC62321-8-2017

3. RoHS Requirement

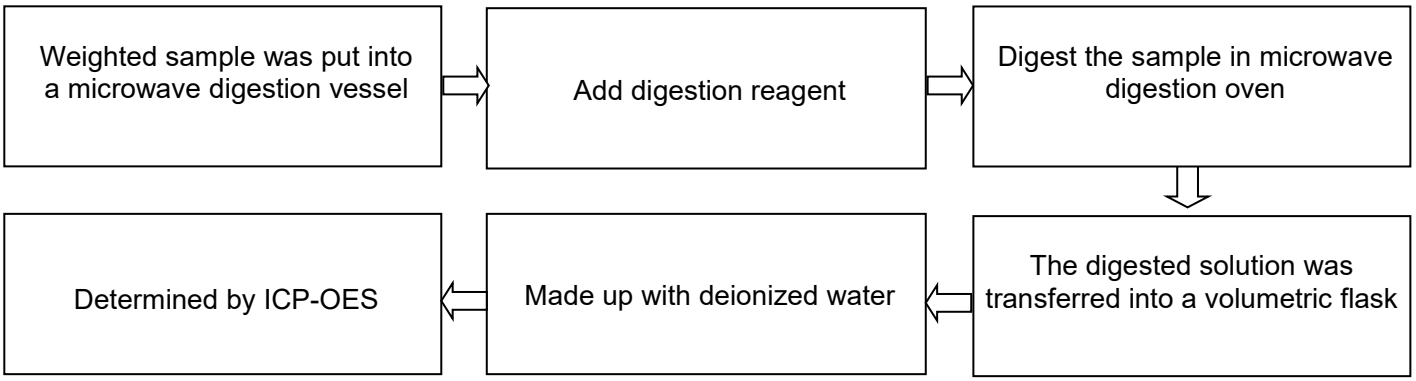
Unit:mg/kg

Restricted substances	Cd	Pb	Hg	Cr(VI)	PBBs	PBDEs	BBP	DBP	DEHP	DIBP
MDL	10	10	10	--	100	100	100	100	100	100
RoHS limit	100	1000	1000	1000	1000	1000	1000	1000	1000	1000

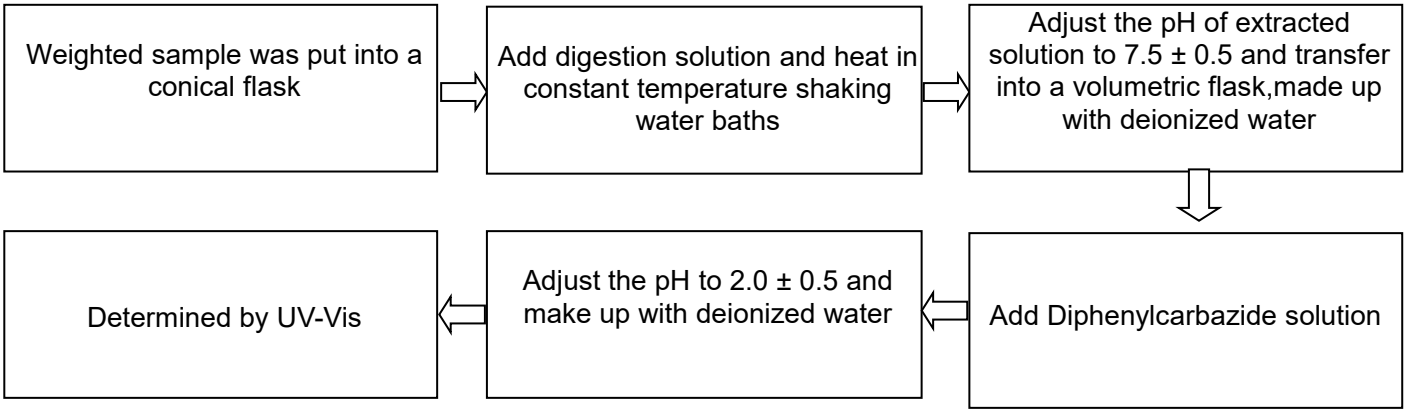
MDL of Cr(VI) for polymer, composite and leather sample is 10 mg/kg.
MDL of Cr(VI) for metal sample is 0.10μg/cm^2

4. Measurement Flowchart

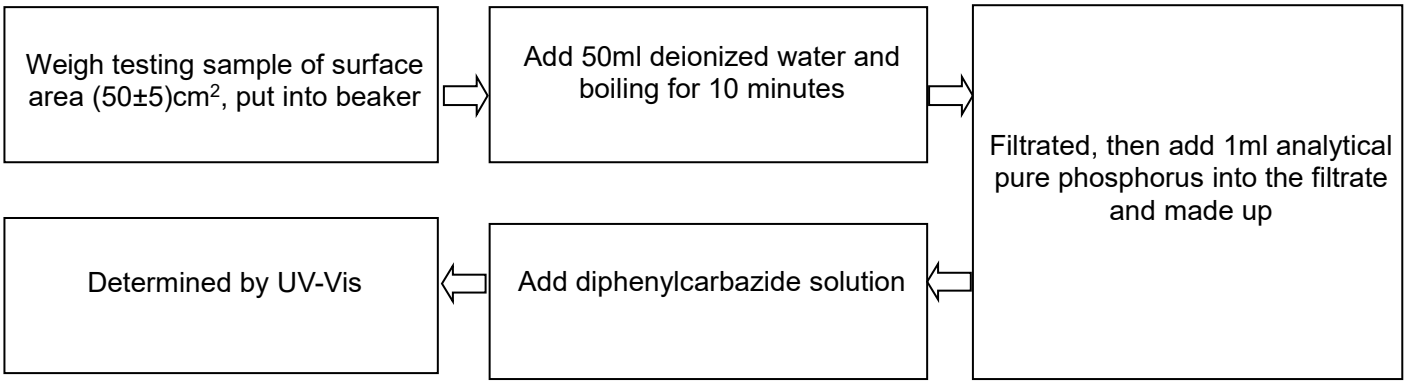
a. Test for Cd / Pb /Hg contents)



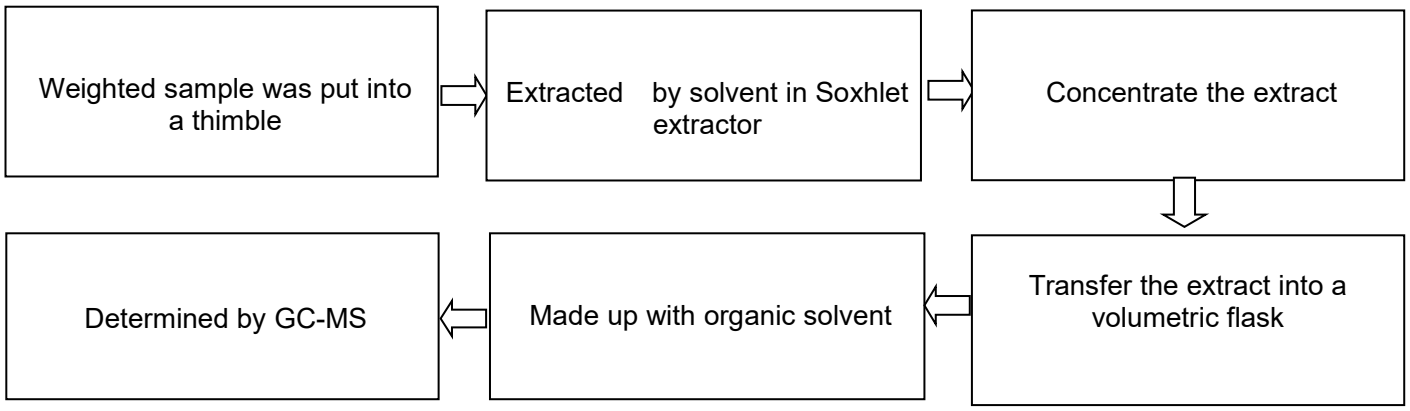
b. Test for Cr(VI) content (for non-metal)



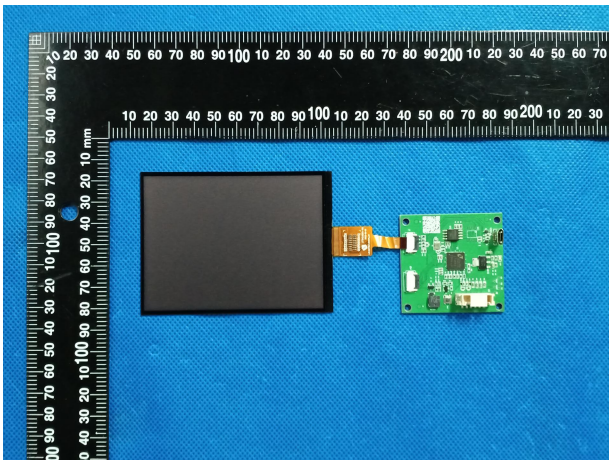
c. Test for Cr(VI) content (for metal)

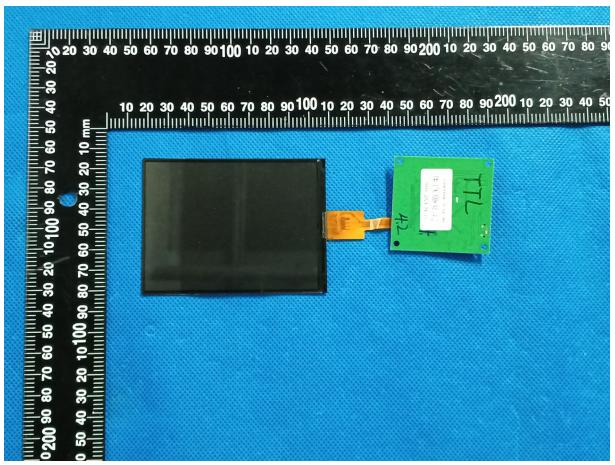


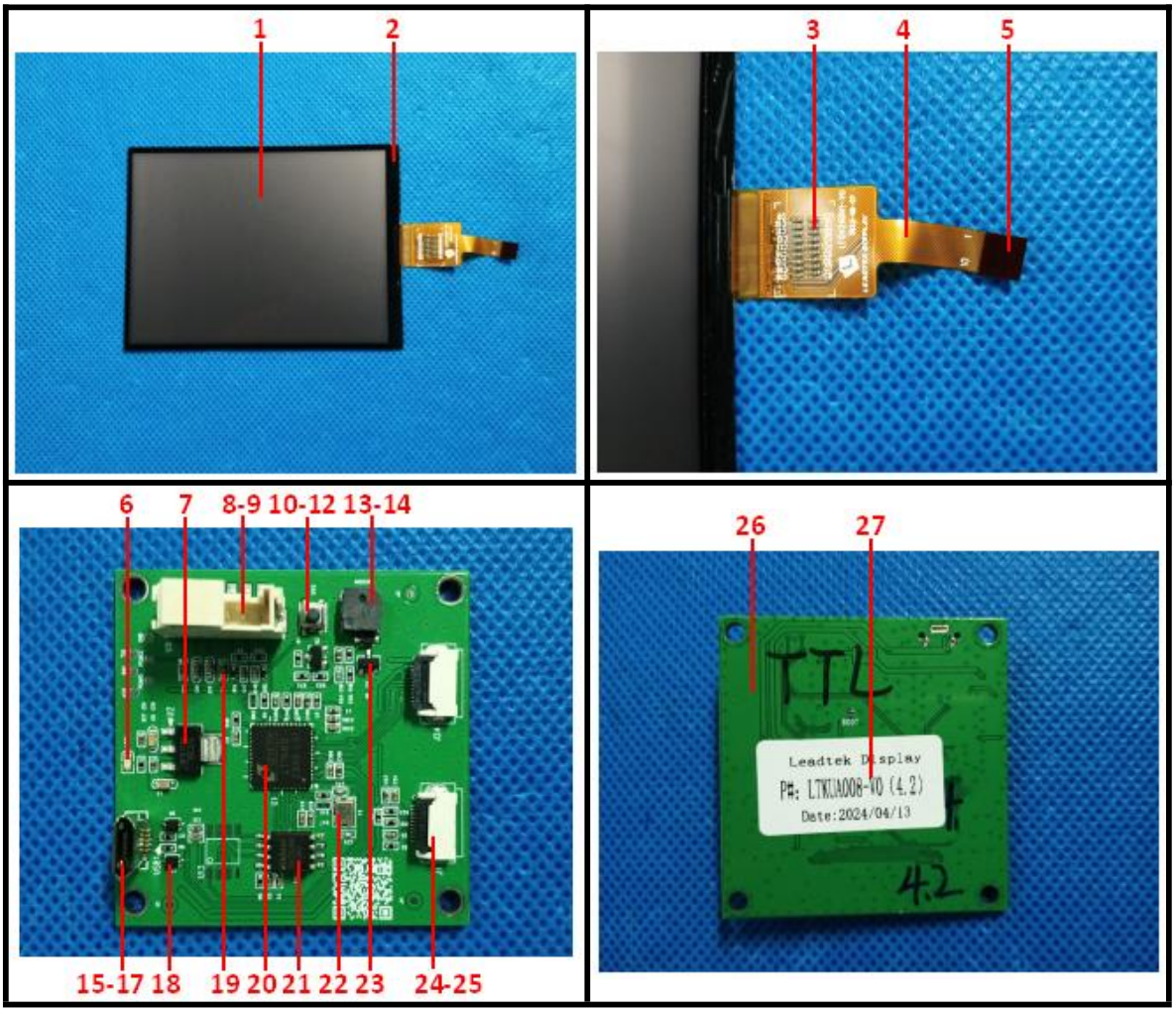
d. Test for PBBs,PBDEs,DBP,BBP,DEHP,DIBP



5.Photo(s) of the sample(s)



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24-25
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TTL
Leadtek Display
P#: LTWUA008-40 (4.2)
Date:2024/04/13
4.2

Series model：
LTK024XXXXXX SERIES；LTK029XXXXXX SERIES；LTK034XXXXXX SERIES；
LTK035XXXXXX SERIES；LTK037XXXXXX SERIES；LTK039XXXXXX SERIES；
LTK040XXXXXX SERIES；LTK042XXXXXX SERIES；LTK043XXXXXX SERIES；
LTK050XXXXXX SERIES；LTK055XXXXXX SERIES；LTK056XXXXXX SERIES；
LTK061XXXXXX SERIES；LTK062XXXXXX SERIES； LTK068XXXXXX SERIES；
LTK069XXXXXX SERIES； LTK070XXXXXX SERIES；LTK080XXXXXX SERIES；
LTK088XXXXXX SERIES； LTK101XXXXXX SERIES；LTK104XXXXXX SERIES；
LTK116XXXXXX SERIES；LTK121XXXXXX SERIES；LTK123XXXXXX SERIES；
LTK133XXXXXX SERIES；LTK150XXXXXX SERIES；LTK156XXXXXX SERIES；
LTK190XXXXXX SERIES； LTK215XXXXXX SERIES

The results of this report apply only to samples received，Without written authorization, any copy of this report for propaganda is invalid.

.....End of Report.....