



# TEST REPORT

**Applicant** : Zhiwei Robotics Corp.  
**Address** : Unit 01, 26/F, A1 Shanghai T & I Tower, No. 1699 Zhongke Road, Pudong District, Shanghai, P.R.China

**Report on the submitted samples said to be:**

**Sample Name(s)** : 3.5" IPS Capacitive Touch Screen  
**Trade Mark** : DFRobot  
**Tested Model No.** : DFR1092  
**Sample Received Date** : March 30, 2026  
**Testing Period** : April 08, 2026 ~ April 15, 2026  
**Date of Report** : April 15, 2026  
**Testing Location** : 101-106, 202-206, Building 037, No. 166, Jinhua Road, Ningbo High-tech Zone, Yinzhou District, Ningbo City, Zhejiang Province, China  
**Results** : Please refer to next page(s).

Signed for and on behalf of Xuntong

*Miranda Mo*

Miranda Mo /Laboratory Manager





TEST REQUEST	CONCLUSION
<p>As specified by client, based on the performed tests on submitted sample, the result of Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, Dibutyl Phthalate(DBP), Butylbenzyl Phthalate(BBP), Di-2-ethylhexyl Phthalate(DEHP) and Diisobutyl phthalate(DIBP) content comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.</p>	<p><b>PASS</b></p>



**Results:****A. EU RoHS Directive 2011/65/EU and its amendment directives**

Test method: IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Sample No.	Sample Description	Results						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr <sup>▼</sup>	Br <sup>▼</sup>		
						PBBs	PBDEs	
1	Silver metal plate	BL	BL	BL	BL	/	/	2026-04-08
2	Transparent soft plastic	BL	BL	BL	BL	BL	BL	2026-04-08
3	White soft plastic	BL	BL	BL	BL	BL	BL	2026-04-08
4	Transparent plastic board	BL	BL	BL	BL	BL	BL	2026-04-08
5	White semi transparent soft plastic	BL	BL	BL	BL	BL	BL	2026-04-08
6	Translucent soft plastic	BL	BL	BL	BL	BL	BL	2026-04-08
7	Black glass	BL	BL	BL	BL	BL	BL	2026-04-08
8	IC	BL	BL	BL	BL	BL	BL	2026-04-08
9	PCB board	BL	BL	BL	BL	BL	BL	2026-04-08
10	Silver metal shell	BL	BL	BL	BL	/	/	2026-04-08
11	Metal soldering	BL	BL	BL	BL	/	/	2026-04-08
12	White ribbon	BL	BL	BL	BL	BL	BL	2026-04-08
13	Silver metal needle	BL	BL	BL	BL	/	/	2026-04-08
14	Black plastic	BL	BL	BL	BL	BL	BL	2026-04-08

## Note:

- Results were obtained by XRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-Vis(for Cr(VI)) and GC-MS(for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013(Unit: mg/kg).

Element	Polymers	Metals	Composite material
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	N/A	$BL \leq (250-3\sigma) < X$

## Remark:

- BL= Below Limit
- OL= Over Limit

TRF-4-R-002 B/0



Ningbo Xuntong Standard Technology Service Co., Ltd.

Add: Room 101-106/202-206, Building 037, No.166, Jinghua Road, Meixu Street, Ningbo High-tech Zone, Yinzhou District, Ningbo, Zhejiang, China

Tel: +(86) 0574-8790 8011

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- X= The range of needing to do further testing
  - N/A= Not applicable
  - LOD= Detection limit
2. The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
  3. The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.
  4. ▼=For restricted substances PBBs and PBDEs, the results show the total Br content, the restricted substance was Cr(VI), and the results showed the total Cr content.

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury(Hg)	1000
Hexavalent Chromium(Cr(VI))	1000
Polybrominated biphenyls(PBBs)	1000
Polybrominated diphenylethers(PBDEs)	1000
Dibutyl Phthalate(DBP)	1000
Butylbenzyl Phthalate(BBP)	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000

#### Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.



**B. EU RoHS Directive 2011/65/EU with amendment (EU) 2015/863 on Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, DBP, BBP, DEHP & DIBP content**

Test method:

Phthalates(DBP, BBP, DEHP &DIBP) Content:

IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

**1) The test results of Phthalates(DBP, BBP, DEHP &DIBP)**

Tested Items	MDL (mg/kg)	Results (mg/kg)				Limit (mg/kg)
		2+3+4	5+6+7	9	12+14	
Dibutyl Phthalate(DBP) Content	50	N.D.	N.D.	N.D.	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	N.D.	N.D.	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	N.D.	N.D.	N.D.	1000

Note:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL or LOQ)
- mg/kg = milligrams per kilogram
- LOQ = Limit Of Quantification, The LOQ of Hexavalent chromium is  $0.10 \mu\text{g}/\text{cm}^2$
- ★ = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than  $0.13 \mu\text{g}/\text{cm}^2$ . The sample coating is considered to contain Cr(VI).  
b. The sample is negative for Cr(VI) if Cr(VI) is N.D.(concentration less than  $0.10 \mu\text{g}/\text{cm}^2$ ). The sample coating is considered a non- Cr(VI) based coating.  
c. The result between  $0.10 \mu\text{g}/\text{cm}^2$  and  $0.13 \mu\text{g}/\text{cm}^2$  is considered to be inconclusive, unavoidable coating variations may influence the determination.
- Information on storage conditions and production date of the tested samples is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.
- According to customer's requirement, only the appointed materials have been tested.

TRF-4-R-002 B/0

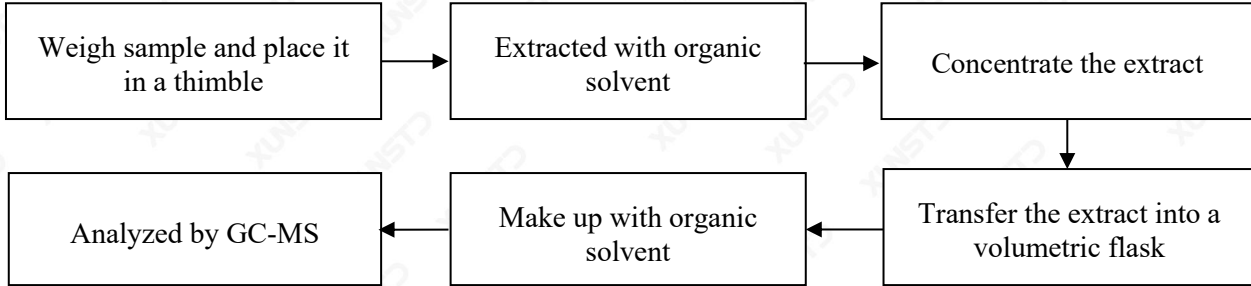


Ningbo Xuntong Standard Technology Service Co., Ltd.  
Add: Room 101-106/202-206, Building 037, No.166, Jinghua Road, Meixu Street,  
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## Test Process

### 1. Phthalates(DBP, BBP, DEHP & DIBP) : IEC 62321-8:2017

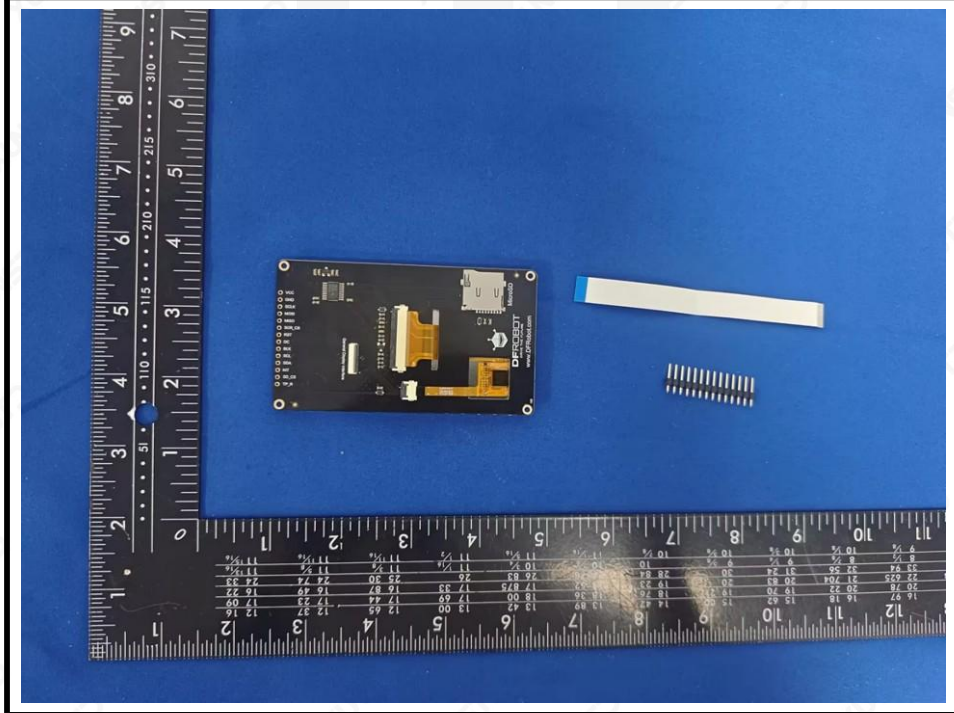
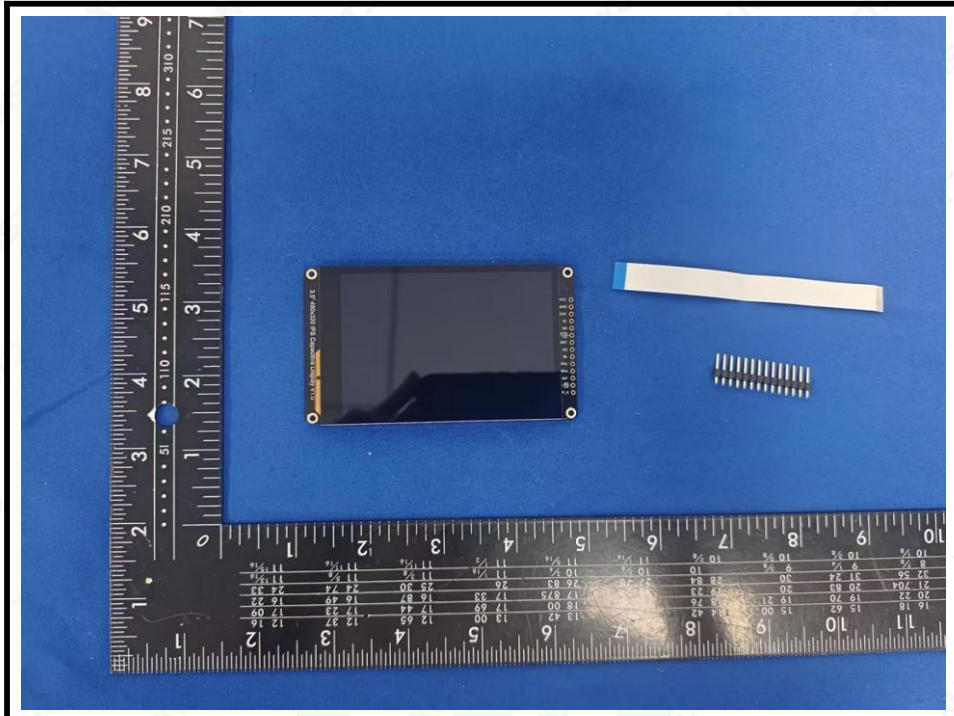


XUNST





## The photo(s) of the sample



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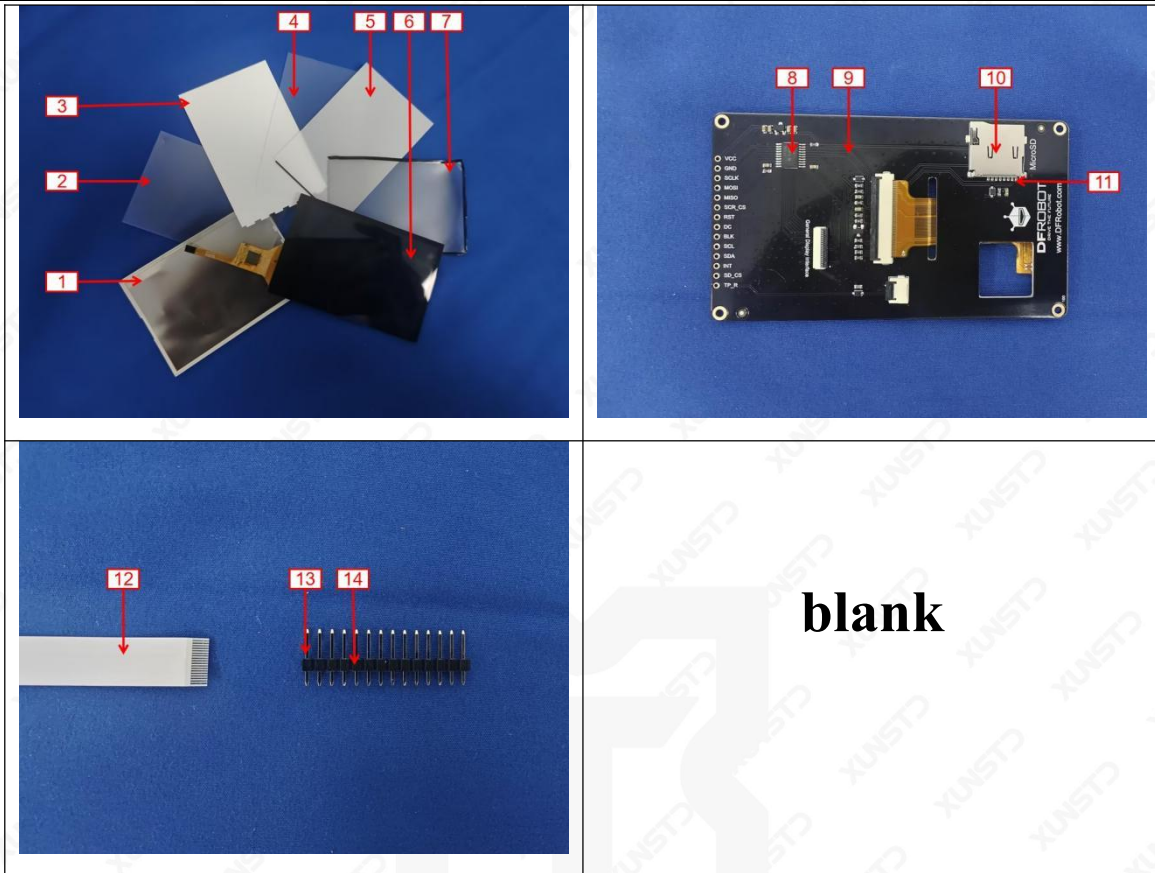
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\*\*\* End of Report \*\*\*

