

**Test Report** No. C211224051001-1 Date: Dec 30, 2021 Page 1 of 19

Applicant: dezhou xinping electronic co., ltd.

Applicant address: Development Zone of Bianlin County, Lingcheng District, Dezhou City, Shandong Province

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

Sample Name: Transformer XP201-007 Model:

Model/Type reference: XP281-032、T33KA3-220D(C00)(136)、TYE3013256-00、E3018006-00、

> ZTD06W-01、ET3607、DB5735584、 XPKG25234、XPKG161151、

XPKG13073、XPKG220087、XPKG10207、XPKG330101、

XPKGT2010100065 \ XPKGT2010100224 \ 160210876000000 \ XPKG25524、XP1616、XPKG121219 、WSD-DX-N 、XPKG130868、

DB3522808、XP301-099

CPST Internal Reference No.: C211224051 Sample Received Date: Dec 24, 2021

Sample Quantity: 29 pcs

Dec 24, 2021 to Dec 30, 2021 **Test Period:** Test Method: Please refer to next page(s).

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

> be alf of Sign Eurones (Dongguan) Cons cts Testing Service Co., Ltd

WRITTEN BY:

REVIEWED BY:

APPROVED BY:

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*******	*************	**********	******
CONCLUSION:			
TESTED SAMPLES	<u>TEST ITEM</u>		RESULT
	1.RoHS Directive 2011/65/EU Annex II ar	mending Annex (EU)2015/863	
Transformer	<ul><li>Lead, Cadmium, Mercury, Hexavale and PBDEs Content</li><li>Di-(2-ethylhexyl) phthalate(DEHP), B</li></ul>		See The Results See The
********	Dibutyl phthalate (DBP), Diisobutyl p	hthalate(DIBP) Content	Results





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#### 2. Test Item Description And Photo List

Sample No.	Description	Photograph
001	Dark brown plastic	
002	Black glue	2
003	Orange plastic	3 4
004	Silvery metal (pin)	
005	Yellow plastic	5





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Sample No.	Description	Photograph	
006	Gray magnet		
007	Yellow plastic with black printing	DIEMEN EFITER 2 150 1508 00  \$\infty\$ \$\frac{1}{2} \text{ \$\frac{1}{2}  \$\frac{1	
008	Yellow glue	8	
009	Gray plastic	9	





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Sample No.	Description	Photograph
010	Light brown plastic	10
011	White plastic	
012	Coppery metal	
013	Light blue plastic	13





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Sample No.	Description	Photograph
014	Blue plastic	14
015	Black plastic	15 16
016	Silvery solder	
017	Translucent soft plastic (tube)	18 17
018	Coppery metal	
019	Yellow plastic	21 26 0623 127 Mar. 125mA





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Sample No.	Description	Photograph
020	Black plastic	20
021	Transparent glue	21
022	White plastic	22 23
023	Coppery metal (coil)	
024	Blue plastic	24





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Sample No.	Description	Photograph	
025	Dark green plastic	25 26	
026	Silvery metal with dark brown plating		
027	Black plastic with gray printing	27 DOZ-SANS O-023-SSION	
028	Dark brown plastic with yellow printing	28    ZEITIZORAX   MARCH   MAR	
029	Black plastic	29 /PKG130/3 00 D77P	





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Sample No.	Description	Photograph	
030	Coppery metal	30 31	
031	Gray magnet with green plating	(RP1616)	
032	Black glue		
033	Yellow plastic		
034	Black soft plastic (tube)	34 35	
035	Transparent plastic		
036	White glue	36	
(RS)	CX 921 CS2, CX CX 52		





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Sample No.	Description	Photograph	
037	Dark blue plastic	37	
038	Yellow plastic with gray printing	38 XPKG10207	
039	Yellow plastic with gray printing	XPKG25524	
040	Yellow plastic with gray printing	40 WC488 3.47 (48) WC488 (48)	





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Sample No.	Description	Photograph
041	Silvery metal with golden plating (screw)	A2
042	Silvery metal (nut)	43
043	Silvery metal (screw)	
044	White plastic	44 45
045	Silvery metal	46
046	Yellow soft plastic (wire jacket)	
047	White paper with black printing (label)	19-0434 # ΜΙΜΙΕ  (Αρα ΙΒ-οαι)
048	Silvery metal	
049	Black soft plastic (wire jacket)	49 50
050	Fuchsia soft plastic (wire jacket)	





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#### 3. Test Results

# 3.1 Screening test for the specified hazardous substances of RoHS for the selected materials of the submitted sample:

- Heavy Metal (Cadmium, Chromium, Mercury, Lead) Content Test
- Bromine Content Test

According to IEC 62321-3-1:2013, and Quantification analyzed with Energy Dispersive X-ray Fluorescence Spectrometers.

Sample No.	Total Cadmium	Total Lead	Total Mercury	Total Chromium	Total Bromine
Sample 001	BL	BL	BL	BL	BL &
Sample 002	BL O	BL	BL	BL	BL
Sample 003	BL	BL S	BL	BL	BL
Sample 004	BL	BL	S BL C	BL	N.A.
Sample 005	BL	BL	BL	BL	BL
Sample 006	BL	BL	BL	BL	BL
Sample 007	BL S	BL	BL	BL	BL
Sample 008	BL	BL O	BL	BL	BL
Sample 009	BL	BL	BL S	BL	5 BLC
Sample 010	BL	SBL C	BL	BL O	BL
Sample 011	BL	BL	BL	BL	BL
Sample 012	BL	BL	BL	BL	N.A.
Sample 013	BL	BL 6	BL	BL	BL
Sample 014	BL	BL	BL	BL	BL
Sample 015	S BL	BL	BL	BL S	BL
Sample 016	BL	BL	BL	BL	N.A.
Sample 017	BL	BL	G BL	BL	BL
Sample 018	BL	BL	BL	BL	N.A.
Sample 019	BL	BL	BL S	BL	BL
Sample 020	S BL	BL	BLO	BL	BL
Sample 021	BL	BL O	BL	BL	BL
Sample 022	BL	BL	BL	BL	BL
Sample 023	BLG	BL	BL	BL	N.A.
Sample 024	BL	BL	BL	BL	BLS
Sample 025	BL	BL	BL	BL S	BL
Sample 026	BL	S BL	BL	BL	N.A.





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Sample No.	Total Cadmium	Total Lead	Total Mercury	Total Chromium	Total Bromine
Sample 027	9 BL O	BL	BL	BL S	BL
Sample 028	BL	BL	BL	BL	S BL (
Sample 029	BL	BL	BL	BL	BL
Sample 030	BL	BL	BL	BL	N.A.
Sample 031	BL	BL	BL	BL	BL
Sample 032	BL S	BL	BL	BL	BL
Sample 033	BL	9 BL	BL	BL	BL C
Sample 034	BL	BL	BL	BL	BL
Sample 035	BL	BL	BL	BL	BL
Sample 036	BL	BL	BL	BL	BL
Sample 037	BL O	BL	BL	BL S	BL
Sample 038	BL	BL S	BL	BL	BL
Sample 039	BL	BL	9 BL	BL	BL
Sample 040	BL	BL	BL	BL	BL
Sample 041	BL	BLG	BL	Inconclusive^	N.A.
Sample 042	BL S	BL	BL	Inconclusive^	N.A.
Sample 043	BL	BL	BL	Inconclusive^	N.A.
Sample 044	BL	BL	G BL	BL	BL
Sample 045	BL	SBL (	BL	BL C	N.A.
Sample 046	BL	BL	BL	BL	BL
Sample 047	BL	BL	BLS	BL	BL
Sample 048	BL	BL S	BL	BLOS	N.A.
Sample 049	BL	BL	BL	BL	BL-
Sample 050	S BL	BL	BL	G BL	BL

#### Note:

- 1. All Concentrations express in "mg/kg" (milligram per kilogram), mg/kg ~ ppm
- 2. "OL" denotes "over limit"
- 3. "BL" denotes "below limit"
- 4. "N.A." denotes "Not Applicable"
- 5. "Inconclusive" denotes result is intermediate between "OL" and "BL"
- 6. "^"denotes the screening result was inconclusive(X) or over limit (OL), thus further confirmation test was conducted, results are listed in 3.2 and 3.3.





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XRF screening limits for different materials:

Materials	Concentration (mg/kg)					
	Cd	Cr	Pb	Hg	Br	
Metal	BL≤(70-3σ) <x<< td=""><td>DI <!--700 2~) <V</td--><td>BL≤(700-3σ)<x<< td=""><td>BL≤(700-3σ)<x<< td=""><td rowspan="2">N.A.</td></x<<></td></x<<></td></td></x<<>	DI 700 2~) <V</td <td>BL≤(700-3σ)<x<< td=""><td>BL≤(700-3σ)<x<< td=""><td rowspan="2">N.A.</td></x<<></td></x<<></td>	BL≤(700-3σ) <x<< td=""><td>BL≤(700-3σ)<x<< td=""><td rowspan="2">N.A.</td></x<<></td></x<<>	BL≤(700-3σ) <x<< td=""><td rowspan="2">N.A.</td></x<<>	N.A.	
	(130+3σ )≤OL	BL≤(700-3σ) <x< td=""><td>(1300+3σ )≤OL</td><td>(1300+3σ )≤OL</td></x<>	(1300+3σ )≤OL	(1300+3σ )≤OL		
Polymers	BL≤(70-3σ) <x<< td=""><td>DI <!--700 2~\<</td--><td>BL≤(700-3σ)<x<< td=""><td>BL≤(700-3σ)<x<< td=""><td>BL≤(300-3σ)&lt;</td></x<<></td></x<<></td></td></x<<>	DI 700 2~\<</td <td>BL≤(700-3σ)<x<< td=""><td>BL≤(700-3σ)<x<< td=""><td>BL≤(300-3σ)&lt;</td></x<<></td></x<<></td>	BL≤(700-3σ) <x<< td=""><td>BL≤(700-3σ)<x<< td=""><td>BL≤(300-3σ)&lt;</td></x<<></td></x<<>	BL≤(700-3σ) <x<< td=""><td>BL≤(300-3σ)&lt;</td></x<<>	BL≤(300-3σ)<	
	(130+3σ )≤OL	BL≤(700-3σ) <x< td=""><td>(1300+3σ )≤OL</td><td>(1300+3σ )≤OL</td><td>X</td></x<>	(1300+3σ )≤OL	(1300+3σ )≤OL	X	
Composite	BL≤(50-3σ) <x<< td=""><td>DI <!--500 2~)<</td--><td>BL≤(500-3σ)<x<< td=""><td>BL≤(500-3σ)<x<< td=""><td>BL≤(250-3σ)&lt;</td></x<<></td></x<<></td></td></x<<>	DI 500 2~)<</td <td>BL≤(500-3σ)<x<< td=""><td>BL≤(500-3σ)<x<< td=""><td>BL≤(250-3σ)&lt;</td></x<<></td></x<<></td>	BL≤(500-3σ) <x<< td=""><td>BL≤(500-3σ)<x<< td=""><td>BL≤(250-3σ)&lt;</td></x<<></td></x<<>	BL≤(500-3σ) <x<< td=""><td>BL≤(250-3σ)&lt;</td></x<<>	BL≤(250-3σ)<	
material	(150+3σ )≤OL	BL≤(500-3σ) <x< td=""><td>(1500+3σ )≤OL</td><td>(1500+3σ )≤OL</td><td>69 X 0</td></x<>	(1500+3σ )≤OL	(1500+3σ )≤OL	69 X 0	





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#### 3. 2 Test for Heavy Metals

Lead, Cadmium, Hexavalent Chromium and Mercury Tests according to IEC 62321-4:2013+A1:2017
 &IEC 62321-5:2013 & IEC 62321-7-1:2015& IEC 62321-7-2:2017, Analysis was conducted by ICP-OES, UV-VIS.

Element	Total Cadmium [mg/kg]	Total Lead [mg/kg]	Total Mercury [mg/kg]	Hexavalent Chromium [µg/cm²]	Hexavalent Chromium [mg/kg]
Detection Limit	5	5	5	0.10	5 <
Limit	100	1000	1000	0.10	1000
Sample 041	1-8-	10	616	N.D.	291
Sample 042	× 1	910	14	N.D.	0 1
Sample 043	9°1 C	L	OP	N.D.	-9

#### Note:

- 1. All Concentrations express in "mg/kg" (milligram per kilogram), mg/kg ~ ppm.
- 2. "N.D." = "Not Detected".
- 3. Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer: the detected concentration in boiling-water-extraction solution is less than 0.10µg with 1cm² sample surface area. Positive = Presence of Cr(VI) coating / surface layer: the detected concentration in boiling-water-extraction solution is greater than 0.13µg with 1cm² sample surface area. Inconclusive =the detected concentration in boiling-water-extraction solution is greater than 0.10µg and less than 0.13µg with 1cm² sample surface area.

- 4. Positive = result be regarded as not comply with RoHS requirement Negative = result be regarded as comply with RoHS requirement
- 5. "-" =Not regulated





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#### 3. 3 Test for Flame retardants

 Test Method: With reference to IEC 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting Limit: 5mg/kg]

\ 	Test Item	Detection Limit [mg/kg]	RoHS Requirement [mg/kg]		
? ~	Monobromobiphenyl	< 5	83 60		
PBBs	Dibromobiphenyl	c) < 5	7 ,5 C		
	Tribromobiphenyl	< 5	CY SY		
	Tetrabromobiphenyl	< 5	1 C? X		
	Pentabromobiphenyl	<5	(500		
	Hexabromobiphenyl	<5	Sum of PBBs < 1000		
	Heptabromobiphenyl	5 < 5			
	Octabromobiphenyl	< 5	CY CREAT		
	Nonabromobiphenyl	\$ <5 < 5			
	Decabromobiphenyl	<5	C 200		
	Sum of PBBs	< 5	1 × 0, 20		
160,	Monobromodiphenyl Ether	S < 5	05, CX		
	Dibromodiphenyl Ether	< 5	0, 25, 0		
	Tribromodiphenyl Ether	6 <5 <5			
PBDEs	Tetrabromodiphenyl Ether	< 5	K RS		
	Pentabromodiphenyl Ether	<5			
	Hexabromodiphenyl Ether	< 5	Sum of PBDEs		
	Heptabromodiphenyl Ether	< 5	< 1000		
	Octabromodiphenyl Ether	< 5	CX CX		
	Nonabromodiphenyl Ether	< 5	5 CS X		
	Decabromodiphenyl Ether	< 5,5	1 1 05		
	Sum of PBDEs	< 5	100, C.		

#### Note:

- 1. All Concentrations express in "mg/kg" (milligram per kilogram), mg/kg ~ ppm.
- 2. "<" denotes less than





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# 3.4 <u>Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) Content—RoHS Directive 2011/65/EU Annex II amending Annex (EU)2017/2102</u>

Test method: With reference to IEC 62321-8:2017; Analysis was conducted by GC-MS.

Element	Di-(2-ethylhexyl) phthalate (DEHP) [mg/kg]	Benzylbutyl phthalate (BBP) [mg/kg]	Dibutyl phthalate (DBP) [mg/kg]	Diisobutyl phthalate(DIBP) [mg/kg]	
Detection Limit	50	50	50	50	
Limit	1000	1000	1000	1000	
Sample 001	N.D.	N.D.	N.D.	N.D.	
Sample 002	N.D.	N.D.	N.D.	N.D.	
Sample 003	N.D.	N.D.	N.D.	N.D.	
Sample 005	N.D.	N.D.	N.D.	N.D.	
Sample 006	N.D.	N.D.	N.D.	N.D.	
Sample 007	N.D.	N.D.	N.D.	N.D.	
Sample 008	N.D.	N.D.	N.D.	N.D.	
Sample 009	N.D.	N.D.	N.D.	N.D.	
Sample 010	N.D.	N.D.	N.D.	N.D.	
Sample 011	N.D.	N.D.	N.D.	N.D.	
Sample 013	N.D.	N.D.	N.D.	N.D.	
Sample 014	N.D.	N.D.	N.D.	N.D.	
Sample 015	N.D.	N.D.	N.D.	N.D.	
Sample 017	N.D.	N.D.	N.D.	N.D.	
Sample 019	N.D.	N.D.	N.D.	N.D.	
Sample 020	N.D.	N.D.	N.D.	N.D.	
Sample 021	N.D.	N.D.	N.D.	N.D.	
Sample 022	N.D.	N.D.	N.D.	N.D.	
Sample 024	N.D.	N.D.	N.D.	N.D.	
Sample 025	N.D.	N.D.	N.D.	N.D.	
Sample 027	N.D.	N.D.	N.D.	N.D.	
Sample 028	N.D.	N.D.	N.D.	N.D.	
Sample 029	N.D.	N.D.	S N.D.	N.D.	
Sample 031	N.D.	N.D.	N.D.	N.D.	
Sample 032	N.D.	N.D.	N.D.	N.D.	
Sample 033	N.D.	N.D.	N.D.	N.D.	
Sample 034	N.D.	N.D.	N.D.	N.D.	
Sample 035	N.D.	9 N.D.	N.D.	N.D.	
Sample 036	N.D.	N.D.	N.D.	N.D.	





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Element	Di-(2-ethylhexyl) phthalate (DEHP) [mg/kg]	Benzylbutyl phthalate (BBP) [mg/kg]	Dibutyl phthalate (DBP) [mg/kg]	Diisobutyl phthalate(DIBP) [mg/kg] 50
Detection Limit	50	50	50	
Limit	1000	1000	1000	1000
Sample 037	N.D.	N.D.	N.D.	N.D.
Sample 038	N.D.	N.D.	N.D.	N.D.
Sample 039	290	N.D.	N.D.	N.D.
Sample 040	N.D.	N.D.	N.D.	N.D.
Sample 044	N.D.	N.D.	N.D.	N.D.
Sample 046	850	N.D.	N.D.	245
Sample 047	N.D.	N.D.	N.D.	N.D.
Sample 049	N.D.	N.D.	N.D.	N.D.
Sample 050	N.D.	S N.D.	N.D.	N.D.

#### Note

- 1. All Concentrations express in "mg/kg" (milligram per kilogram), mg/kg ~ ppm.
- 2. "N.D." = "Not Detected".





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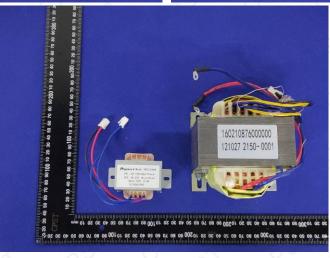
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#### **Photo of the Submitted Sample**







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.

End of Report

