TEST REPORT

Applicant:	SYSOLUTION
Address:	2 / F, Building B, Sanlian Industrial Zone, Songbai Road, Shiyan Street, Bao 'an District, Shenzhen
Manufacturer:	SYSOLUTION
Address:	2 / F, Building B, Sanlian Industrial Zone, Songbai Road, Shiyan Street, Bao 'an District, Shenzhen
Product Name:	Control System
Trade Mark:	熙讯科技 SYSOLUTION
Model Number:	Y50
Series Model No.:	Y12, Y40, Y50, Y60C, Y70, Y03, Y08, Y08S, KD02, KD03, KD04, KD05, KD07, K20S, K30, M40, M50D, M50B-D, RTD1, RS5S, ST50B, R56S, M60B-S, M70B-S, M80B-S, D60-8, D60-12, D60-16, D60-B6S, D60-320, D70-A8S, D70-16, D90-8, D90
Date of Receipt:	Jul 07, 2023
Date of Test:	Jul 07, 2023 - Jul 13, 2023
Date of Report:	Jul 13, 2023
Test Requested:	With reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.
Test Standard:	Please refer to next page(s).
Test Results:	Please refer to next page(s).

Conclusion:

As requested by applicant, the submitted sample was tested which is listed as specimen description in the following page. 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.

Prepared (Engineer): Cheney Wei

Approved (Manager): Jade Yang

Shenzhen DL Testing Technology Co., Ltd. Approved

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

Version

Version No.	Date	Description
00	Jul 13, 2023	Original

Remark:

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

(2) 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 IEC 62321-3-1:2013 (unit:mg/kg)

Element	Polymer Materials	Metal Materials	Composite Materials
Cd	BL≤70-3σ＜X＜130+3σ≤OL	BL≤70-3σ＜X＜130+3σ≤OL	BL≤50-3σ＜X＜150+3σ≤OL
Pb	BL≤700-3σ＜X＜1300+3σ≤OL	BL≤700-3σ＜X＜1300+3σ≤OL	BL≤500-3σ＜X＜1500+3σ≤OL
Hg	BL≤700-3σ＜X＜1300+3σ≤OL	BL≤700-3σ＜X＜1300+3σ≤OL	BL≤500-3σ＜X＜1500+3σ≤OL
Br	BL≤300-3σ＜X	----	BL≤250-3σ＜X
Cr	BL≤700-3σ＜X	BL≤700-3σ＜X	BL≤500-3σ＜X

(a) BL=Below Limit,OL=Over Limit, X=Inconclusive, LOD=Limit of Detection,---=Not regulated.

(b)The XRF screening test for RoHS elements- the reading may be different to actual content in the sample be of non-uniformity composition

(3) Chemical Method

① With reference to IEC 62321-5:2013,determination of Cadmium,Lead by ICP-OES.

② With reference to IEC 62321-4:2013+AMD1:2017 CSV, determination of Mercury by ICP-OES.

③ With reference to IEC 62321-7-1:2015▼& IEC 62321-7-2:2017, determination of Hexavalent Chromium by Colorimetric method using UV-Vis.

④ With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.

⑤ With reference to IEC 62321-8:2017, determination of Phthalates by GC-MS.

(4) (a) mg/kg=0.0001%,MDL=MDL=Method Detection Limit,(c)ND=Not Detected(<MDL),
---=Not Regulated

(b) Unit and MDL in wet chemical test

Test Item	Pb	Cd	Hg	DBP	BBP	DEHP	DIBP
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	10	10	10	100	100	100	100

The MDL for single compound of PBBs and PBDEs is 100 mg/kg

MDL of Cr(VI) for polymer and composite sample is 10 mg/kg

MDL of Cr(VI) for metal sample is 0.10ug/cm^2

(c) ▼=Metal sample

a. The sample is negative for Cr^{6+} if Cr^{6+} is N.D. (below the limit 0.10ug/cm$^{2)}$. The coating is considered a non Cr^{6+} based coating.

b. The sample positive for Cr^{6+} if the Cr^{6+} concentration is greater than 0.13ug/cm^2. The sample coating is considered to contain Cr^{6+}.

c.The result between 0.10ug/cm^2 and 0.13ug/cm^2 is considered to be inconclusive unavoidable coating variations may influence the determination.

Tested Sample/Part Description:

Specimen No.	Component Description(s)	Style
01	Black plastic	-
02	Blue plastic	-
03	Silver screw	-
04	White label	-
05	Crystal oscillator	-
06	Black plastic	-
07	Yellow metal pin	-
08	Black ceramic inductor	-
09	Black plastic	-
10	Silver screw	-
11	Silver metal	-
12	Silver metal	-
13	Black plastic	-
14	Red LED	-
15	Green LED	-
16	Silver metal	-
17	Silver metal (USB)	-
18	White plastic	-
19	White plastic	-
20	Yellow metal pin	-
21	Black plastic	-
22	Silver metal	-
23	Yellow metal	-
24	Silver metal (cable port)	-
25	IC	-
26	IC	-
27	Silver metal (cable port)	-
28	Black plastic	-
29	Button cell	-
30	White plastic	-
31	Green PCB	-

Specimen No.	Component Description(s)	Style
32	Silver solder	-

Test Results:

The results of XRF screening and chemical test (Unit: mg/kg)

Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
01	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
02	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	OL	N.D.		
	PBDEs	OL	N.D.		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
03	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
04	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		

Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
05	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	OL	N.D.		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
06	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
07	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
08	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
09	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
10	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
11	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
12	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
13	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
14	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	OL	N.D.		
	PBDEs	OL	N.D.		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
15	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	OL	N.D.		
	PBDEs	OL	N.D.		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
16	Pb	OL	$^{※}1.1x10^{4}$	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
17	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
18	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	OL	N.D.		
	PBDEs	OL	N.D.		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
19	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
20	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
21	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
22	Pb	OL	※$1.9x10^4$	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
23	Pb	OL	※$1.3x10^4$	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
24	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
25	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
26	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
27	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
28	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		

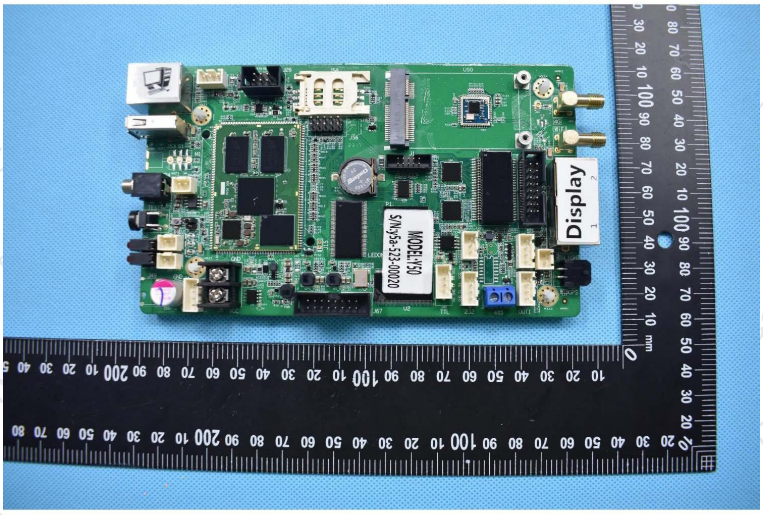
Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
29	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
30	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
31	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	OL	N.D.		
	PBDEs	OL	N.D.		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
32	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	$Cr(Cr^{6+})$	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

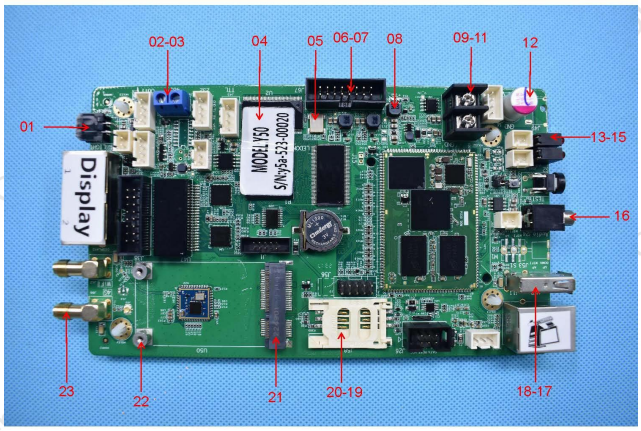
Remark:

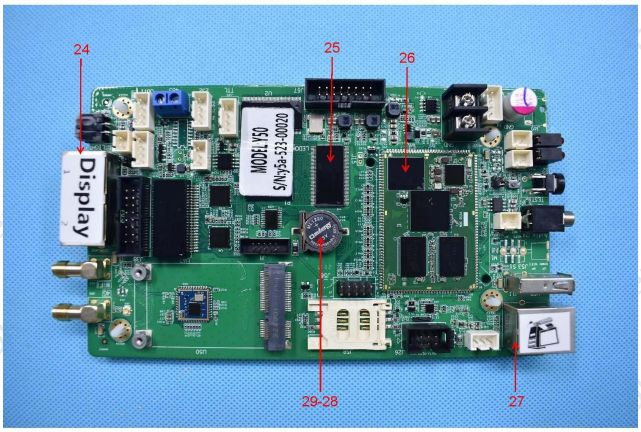
(1) ※= Copper alloy containing up to 4% lead by weight.

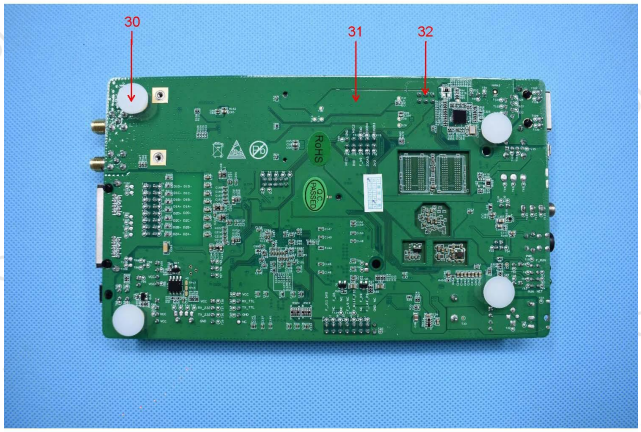
The item is exempted form the requirements of the item 6(c) in ANNEX III, (Directive 2011/65/EU).

Sample photo:









※※※※※ **END OF REPORT** ※※※※※