

# ROHS REPORT

**Product:** COMPUTER CASE

**Model No.:** 889

**Applicant :** SOLLERON CORPORATION  
4F-1 NO.859 CHING KUO RD.,TAOYUAN,TAIWAN R.O.C.

**Manufacturer:** SOLLERON CORPORATION  
4F-1 NO.859 CHING KUO RD.,TAOYUAN,TAIWAN R.O.C.

**Testing laboratory :** Guangzhou Deu Technology Testing Co.,Ltd.

**Add :** Floor 6, West Tower, No.11-1,Creative Industry Park Haizhu District,  
Guangzhou City, China

**Report Number :** DEU(19)-07-1066R

**Date of Report :** 2019-07-15

**Test Result :** PASS

**1.The following sample(s) was/were submitted and identified on behalf of the client as:****Product:** COMPUTER CASE**Model No.:** 889**Applicant:** SOLLERON CORPORATION  
4F-1 NO.859 CHING KUO RD.,TAOYUAN,TAIWAN R.O.C.**Manufacturer:** SOLLERON CORPORATION  
4F-1 NO.859 CHING KUO RD.,TAOYUAN,TAIWAN R.O.C.**Test period:** 2019-07-05~2019-07-15**Test request:** According to client's requirements,Split the sample and determine the Pb,Cd,Hg,Cr(VI),PBBs,PBDEs,DEHP,BBP,DBP and DIBPcontent of the parts.**Test method:** Please see next page(s).**Conclusion:** Based on the review of previous reports and verification results of the submitted Samples,the results of Cadmium,Lead,Mercury,Hexavalent chromium,Polybrominated Biphenyls(PBBs),Polybrominated diphenyl ethers(PBDEs),Bis(2-ethyl(hexyl))phthalate(DEHP),Butyl benzyl phthalate (BBP),Dibutyl phthalate(DBP),Diisobutyl phthalate(DIBP) comply with RoHS Directive 2011/65/EU Annex II amending Annex (EU)2015/863 and amending Annex (EU)2017/2102.**Note:** The test results are related only to the tested items.The report shall not be reproduced Except in full without the written approval of the testing laboratory.**Tested By:** Candy Liu**Date:** 2019-07-15**Approved By:** Fego Liu**Date:** 2019-07-15

- Test Method:**
- 1. Sample prepared with reference to IEC 62321-2:2013**
  - 2. Sample screening testing with reference to IEC 62321-3-1:2013**
  - 3. Wet chemical Test Method**
    - A. Refer to IEC 62321-5:2013, determination of Lead, Cadmium by ICP-OES**
    - B. Refer to IEC 62321-4:2013, determination of Mercury by ICP- OES**
    - C. Refer to IEC 62321-7-1:2015, determination of Hexavalent Chromium in colourless and coloured corrosion-protected coating on metals by UV-VIS**
    - D. Refer to IEC 62321:2008, Annex C ,determination of Hexavalent Chromium in Polymers and electronics by UV-VIS**
    - E. Refer to IEC 62321-6:2015, determination of PBBs, PBDEs, DEHP, BBP, DBP, DIBP by GC-MS**

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
01	Black metal net	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	--	--	--
		PBDEs	--	--	--
		DEHP	--	--	--
		BBP	--	--	--
		DBP	--	--	--
		DIBP	--	--	--
02	Black plastic	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
03	Green PCB	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
04	Power switch	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
05	Ear phone jack	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
06	Power line-USB case	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
07	Power line	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
08	Heat shrink tube	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
09	Yellow wire	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
10	Blue wire	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
11	White wire	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
12	Purple wire	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
13	Green wire	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
14	Black wire	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
15	Orange wire	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply



## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
16	Red wire	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	BL	--	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
17	HD AUDIO	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
18	Power sw ±	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
19	Power line-Black plastic cord	Pb Cd Hg Cr(VI) PBBs PBDEs DEHP BBP DBP DIBP	BL BL BL BL IN IN IN IN IN IN	-- -- -- -- N.D. N.D. N.D. N.D. N.D. N.D.	Comply Comply Comply Comply Comply Comply Comply Comply Comply Comply
20	Power line-Blue plastic jacket	Pb Cd Hg Cr(VI) PBBs PBDEs DEHP BBP DBP DIBP	BL BL BL BL IN IN IN IN IN IN	-- -- -- -- N.D. N.D. N.D. N.D. N.D. N.D.	Comply Comply Comply Comply Comply Comply Comply Comply Comply Comply
21	Black metal screw	Pb Cd Hg Cr(VI) PBBs PBDEs DEHP BBP DBP DIBP	BL BL BL BL -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --	Comply Comply Comply Comply -- -- -- -- -- --

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
22	Silvery metal screw	Pb Cd Hg Cr(VI) PBBs PBDEs DEHP BBP DBP DIBP	BL BL BL BL -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --	Comply Comply Comply Comply -- -- -- -- -- --
23	Black metal net	Pb Cd Hg Cr(VI) PBBs PBDEs DEHP BBP DBP DIBP	BL BL BL BL -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --	Comply Comply Comply Comply -- -- -- -- -- --
24	Black magnetic stripe	Pb Cd Hg Cr(VI) PBBs PBDEs DEHP BBP DBP DIBP	BL BL BL BL -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --	Comply Comply Comply Comply -- -- -- -- -- --

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
25	Grey plastic sheet	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
26	Copper-color metal screw	Pb	OL <sup>①</sup>	48680	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	--	--	--
		PBDEs	--	--	--
		DEHP	--	--	--
		BBP	--	--	--
		DBP	--	--	--
		DIBP	--	--	--
27	Black silica gel	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply

## Test result

Part No.	Part Description	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical testing (2) (mg/kg)	Conclusion on EU RoHS
28	Black plastic foot	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply
29	Black plastic net	Pb	BL	--	Comply
		Cd	BL	--	Comply
		Hg	BL	--	Comply
		Cr(VI)	BL	--	Comply
		PBBs	IN	N.D.	Comply
		PBDEs	IN	N.D.	Comply
		DEHP	IN	N.D.	Comply
		BBP	IN	N.D.	Comply
		DBP	IN	N.D.	Comply
		DIBP	IN	N.D.	Comply

Remark:①According to the declaration from the client,Lead(Pb) are exempted by EU RoHS Directive

2011/65/EU based on :Copper alloy containing up to 4% lead by weight.

## Remark:

(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<sup>6+</sup>.

(b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr<sup>6+</sup>) and GC-MS (for PBBs, PBDEs, DEHP, BBP, DBP, DIBP) is recommended to be performed, if the concentration exceeds the Below warning value according to IEC62321-3-1:2013 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-36) < X < (130+36) \leq OL$	$BL \leq (70-36) < X < (130+36) \leq OL$	$LOD < X < (150+36) \leq OL$
Pb	$BL \leq (700-36) < X < (1300+36) \leq OL$	$BL \leq (700-36) < X < (1300+36) \leq OL$	$BL \leq (500-36) < X < (1500+36) \leq OL$
Hg	$BL \leq (700-36) < X < (1300+36) \leq OL$	$BL \leq (700-36) < X < (1300+36) \leq OL$	$BL \leq (500-36) < X < (1500+36) \leq OL$
Br	$BL \leq (300-36) < X$	--	$BL \leq (250-36) < X$
Cr	$BL \leq (700-36) < X$	$BL \leq (700-36) < X$	$BL \leq (500-36) < X$

(c) BL=Below Limit, OL=Over Limit, IN=Inconclusive, LOD=Limit of Detection, --=Not regulated, NA=Not Applicable.

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

(2)(a) 1mg/kg=0.0001%, =1ppm, N.D.=Not Detected (<MDL), ---=Not conducted.

(b) Unit and Method Detection Limit (MDL) in wet chemical test.

Test Items	Pb	Cd	Hg
Unit	mg/kg	mg/kg	mg/kg
MDL	2	2	2

The MDL for single compound of PBBs and PBDEs is 5 mg/kg, MDL of Cr<sup>6+</sup> for polymer and composite sample is 2 mg/kg.

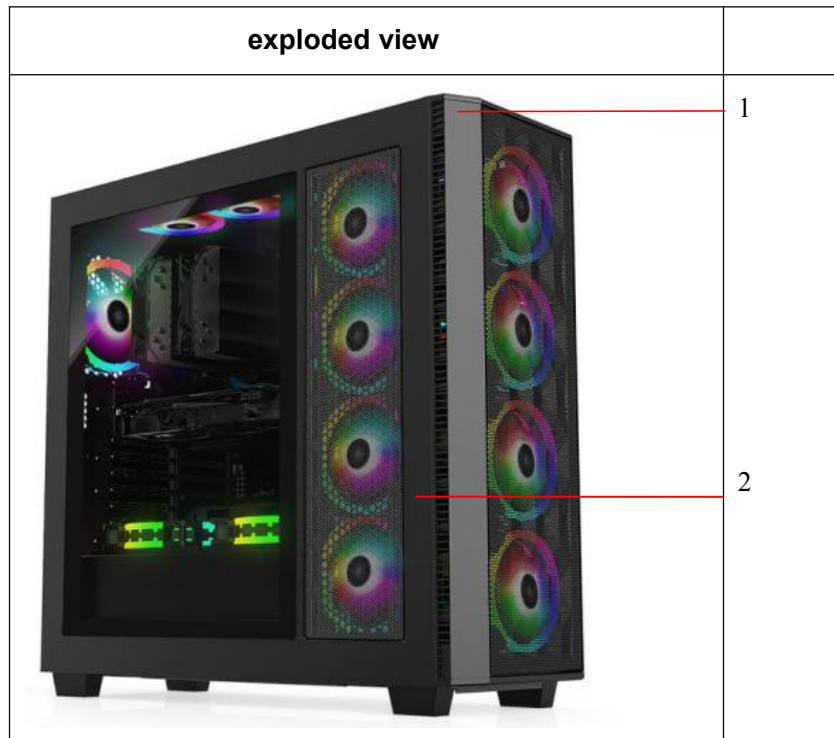
(c) When Cr<sup>6+</sup> for metal sample is testing according to IEC 62321-7-1:2015, the unit is  $\mu\text{g}/\text{cm}^2$ , and the MDL is 0,10  $\mu\text{g}/\text{cm}^2$ . When the Cr(VI) concentration is > the 0,13  $\mu\text{g}/\text{cm}^2$ , the sample is positive for Cr(VI) and considered to contain Cr(VI); when the Cr(VI) concentration is N.D. (< the 0,10  $\mu\text{g}/\text{cm}^2$ ), the sample is negative for Cr(VI) and considered a non-Cr(VI) based coating; when the Cr(VI) concentration is  $\geq$  the 0,10  $\mu\text{g}/\text{cm}^2$  and  $\leq$  the 0,13  $\mu\text{g}/\text{cm}^2$ , the result is considered to be inconclusive. Unavoidable coating variations may influence the determination.

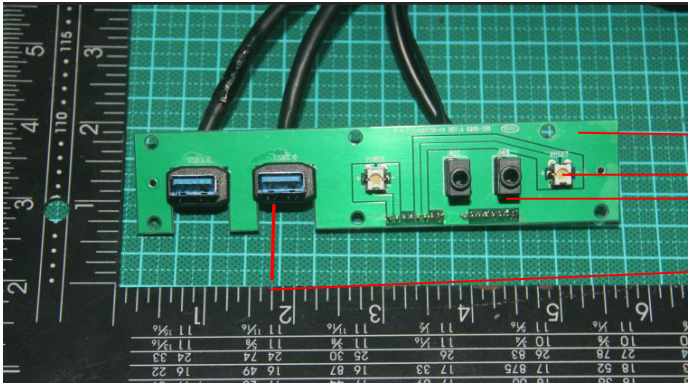
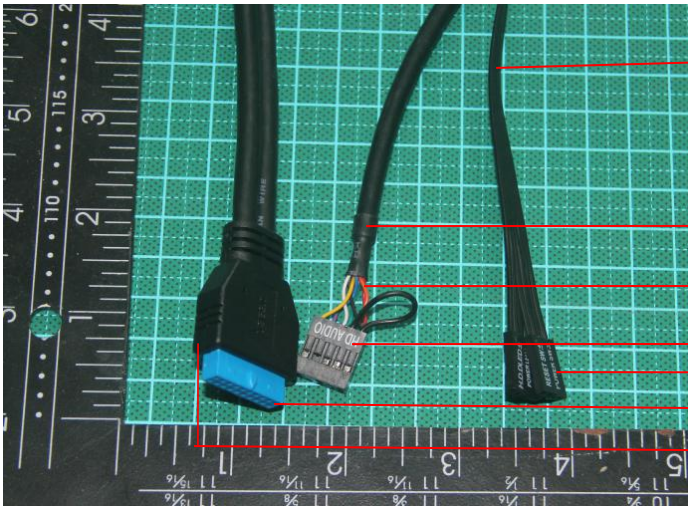
(3) The maximum permissible limit is quoted from the Directive (EU) 2015/863-Amendment of EU RoHS Directive 2011/65/EU (RoHS 2.0) Annex II.

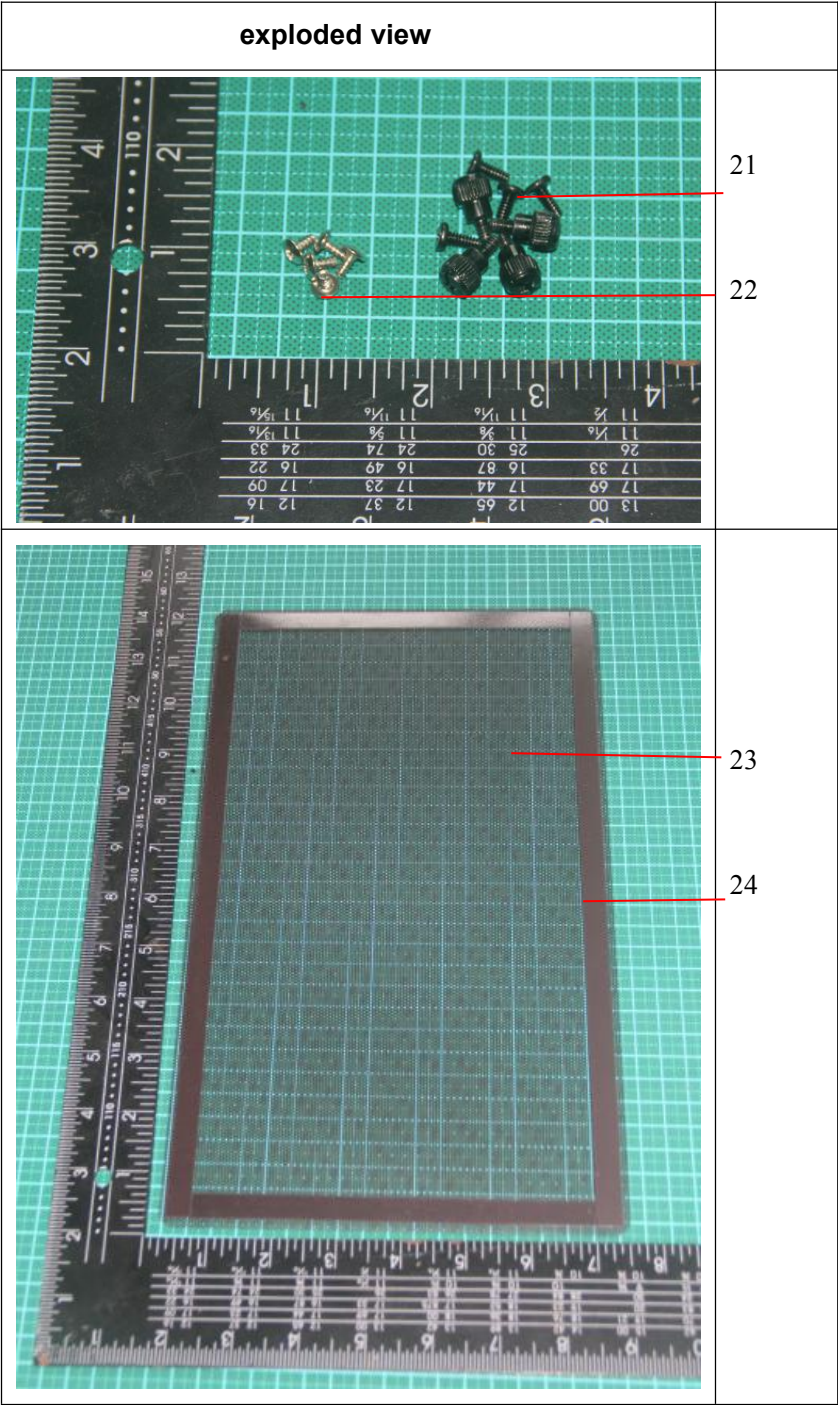
RoHS Restricted Substances	Maximum Concentration Value (by weight in homogenous materials)
Lead(Pb)	0.1%
Cadmium(Cd)	0.01%
Mercury(Hg)	0.1%
Hexavalent Chromium(Cr VI)	0.1%
Polybrominated biphenyls(PBBs)	0.1%
Polybrominated diphenylethers(PBDEs)	0.1%
Bis(2-ethyl(hexyl))phthalate(DEHP)	0.1%
Butyl benzyl phthalate(BBP)	0.1%
Dibutyl phthalate(DBP)	0.1%
Diisobutyl phthalate(DIBP)	0.1%

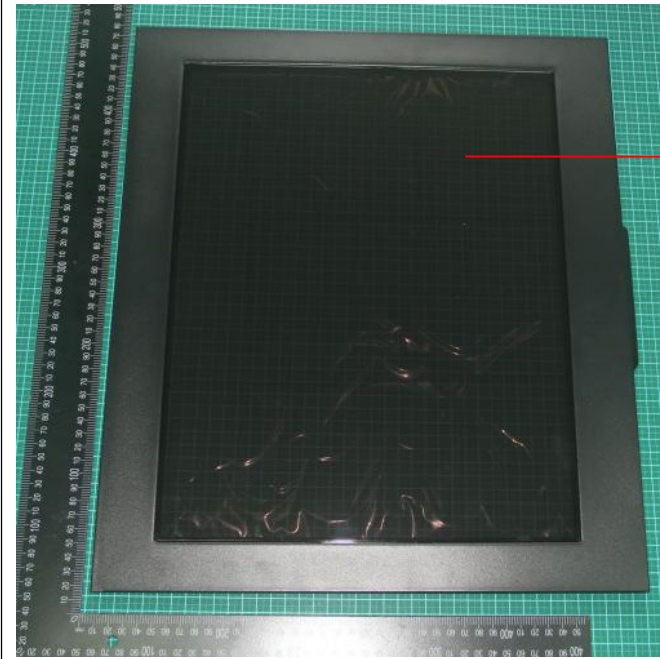
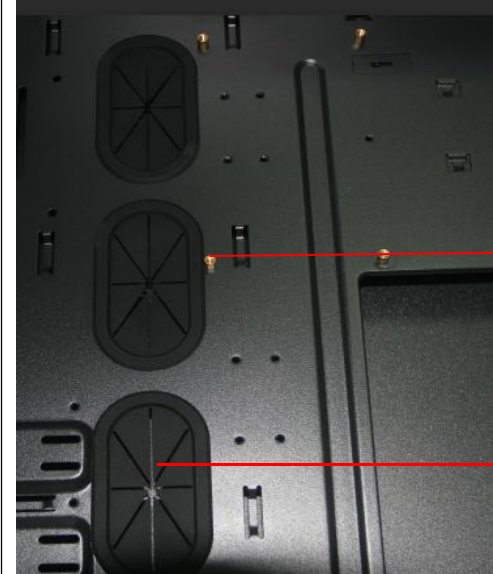
**Sample Photo**






Part 1	
	3 4.5 6
	7 8 9~16 17 18.19 20



exploded view	
	25
	26
	27



exploded view	
	28
	29

\*\*\*\*\*END OF REPORT\*\*\*\*\*