



## Test Report

Report No.: GTS2111160778EN

Job No.:34807

Date: November 26, 2021

Applicant : Ningbo aifeite Purification Equipment Co., Ltd.  
Address : 89 Yanshanhe North Road, Daqi beilun, Ningbo  
Sample Name : Biological food waste processor  
Sample Model : AFF-02  
Sample Receiving date: : 2021-11-16  
Test period : 2021-11-16---2021-11-26  
Test Requirement : The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, RoHS Directive 2011/65/EU and its amendment Directive (EU) 2015/863.  
Test Method : Please refer to next page(s).  
Test result : Please refer to next page(s).  
Conclusion : Please refer to next page(s).  
Note : Applicant,address,sample name and model information have been provided by the customer.GTS is not responsible for its authenticity.

For and on behalf of  
Shanghai Global Testing Services Co., Ltd.  
Authorized Signature    
Edna Yang  
Approved Signatory -GTS/SHO

Page 1 of 15

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### **A. Pb, Cd, Cr(VI), Hg, PBBs&PBDEs**

#### **Test Method:**

1. Disassembly, disjointment and mechanical sample preparation
  - Ref. to IEC 62321-2: 2013, Disassembly, disjointment and mechanical sample preparation.
2. With reference to IEC 62321-1: 2013, tests were performed for the samples indicated by the photos in this report.
  - (1) Screening – Lead, mercury, cadmium, total chromium and total bromine
    - Ref. to IEC 62321-3-1: 2013, Screening for Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry.
  - (2) Wet chemical test method
    - a. Total Lead, Cadmium, Chromium and Mercury content
      - Ref. to IEC 62321-4: 2013+AMD1:2017, determination of Mercury in polymers, metals and electronics by ICP-OES.
      - Ref. to IEC 62321-5: 2013, determination of Cadmium, lead and chromium in polymers and electronics and cadmium and lead in metals by ICP-OES.
    - b. Chromium (VI) content
      - For Colourless and coloured corrosion-protected coatings on metals, Ref. to IEC 62321-7-1: 2015, determination of presence of hexavalent chromium (Cr(VI)) in colourless and coloured corrosion-protected coatings on metals by the colorimetric method.
      - For polymers and electronics, Ref. to IEC 62321-7-2: 2017, determination of hexavalent chromium (Cr(VI)) in polymers and electronics by the colorimetric method.
    - c. PBBs, PBDEs
      - Ref. to IEC 62321-6: 2015, determination of polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography -mass spectrometry (GC-MS).



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### Test result(s):

Part No.	Part Description	Results of EDXRF					Chemical confirmation results (mg/kg)	Conclusion
		Pb	Cd	Hg	Cr	Br		
1	White plastic front cover baffle	BL	BL	BL	BL	BL	---	Pass
2	Dark grey plastic front cover baffle	BL	BL	BL	BL	BL	---	Pass
3	Black button film	BL	BL	BL	BL	BL	---	Pass
4	Bright white side panels	BL	BL	BL	BL	BL	---	Pass
5	White cooling back cover coating	BL	BL	BL	BL	BL	---	Pass
6	White cooling back cover base material	BL	BL	BL	IN	---	CrVI: Negative	Pass
7	Bright white top cover	BL	BL	BL	BL	BL	---	Pass
8	Bright grey cover plate	BL	BL	BL	BL	BL	---	Pass
9	Light grey tray	BL	BL	BL	BL	BL	---	Pass
10	Rubber ring on light grey tray	BL	BL	BL	BL	BL	---	Pass
11	White pan	BL	BL	BL	BL	BL	---	Pass
12	Light grey foot mat	BL	BL	BL	BL	BL	---	Pass
13	Pallet label	BL	BL	BL	BL	BL	---	Pass
14	Silvery metal column	BL	BL	BL	IN	---	CrVI: Negative	Pass
15	Red skin	BL	BL	BL	BL	BL	---	Pass
16	Blue line skin	BL	BL	BL	BL	BL	---	Pass
17	Brown line skin	52 (BL)	BL	BL	BL	BL	---	Pass
18	Black line skin	BL	BL	BL	BL	BL	---	Pass
19	White line	BL	BL	BL	BL	BL	---	Pass
20	Silvery wire core	BL	BL	BL	BL	---	---	Pass
21	Copper wire core	BL	BL	BL	BL	---	---	Pass
22	Light grey silicone plug	BL	BL	BL	BL	BL	---	Pass
23	Grey fixer	BL	BL	BL	BL	BL	---	Pass
24	White hangs Taiwan	BL	BL	BL	BL	BL	---	Pass
25	Silvery screw	209 (BL)	BL	BL	IN	---	CrVI: Negative	Pass
26	Setting screw 1	BL	BL	BL	BL	---	---	Pass
27	Setting screw 2	BL	BL	BL	BL	---	---	Pass
28	Black screw	156	BL	BL	IN	---	CrVI: Negative	Pass

Page 3 of 15

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Part No.	Part Description	Results of EDXRF					Chemical confirmation results (mg/kg)	Conclusion
		Pb	Cd	Hg	Cr	Br		
		(BL)						
29	Black nut	BL	BL	BL	IN	---	CrVI: Negative	Pass
30	Silvery gasket	114 (BL)	BL	BL	IN	---	CrVI: Negative	Pass

Remark:

(^1) “---”= Not Applicable;

(^2) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr(VI).

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

(c) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Pb, Cd, Hg), UV-VIS for Cr(VI) and GC/MSD (for PBBs/PBDEs) is recommended to be performed if the concentration exceeds the below warning value according to IEC 62321-3-1: 2013.

Attached table 1, XRF screening limits in mg/kg for regulated elements in various matrices:

Element	Polymer Materials	Metallic Materials	Electronics
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (250+3\sigma) \leq OL$
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	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	N.A.	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

Note: ① BL “below limit” = the result less than the limit.

② OL “over limit” = the result greater than the limit.

③ IN = inconclusive, the region where need further chemical testing by ICP-OES (for Pb、Cd、Hg), UV-VIS (for Cr(VI)) and GC/MSD (for PBBs, PBDEs).

④  $3\sigma$  = Repeability of the analyser at the action level.

⑤ LOD = Limit of detection.

(^3) (a) mg/kg=ppm=0.0001%;

(b) N.D. = Not detected (lower than RL);

(c) Reporting Limit (RL) and Limit of Directive 2011/65/EU.



## Test Report

Report No.: GTS2111160778EN

Job No.:34807

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Parameter	Unit	Limit	Reporting Limit (RL)
Lead (Pb)	mg/kg	1000	10
Cadmium (Cd)	mg/kg	100	10
Mercury (Hg)	mg/kg	1000	10
Chromium VI (Cr VI)	mg/kg	1000	R1
Group PBBs	mg/kg	1000	R2
Group PBDEs	mg/kg	1000	R2

R1: Cr(VI) for metal sample, the reporting limit (RL)= Method Detection Limit (MDL)=0.10 ug/cm<sup>2</sup>.

The reporting limit (RL) of Cr(VI) for polymers and electronics is 10mg/kg.

R2: The reporting limit (RL) for single compound of PBBs & PBDEs is 50mg/kg.

(d) According to IEC 62321-7-1: 2015, result on Cr(VI) for metal sample is shown as Negative, Inconclusive or Positive: Negative = Absence of Cr(VI), Inconclusive = Maybe exist Cr(VI), Positive = Presence of Cr(VI).

Colorimetric result (Cr(VI) concentration)	Qualitative result
The sample solution is < the 0.10 ug/cm <sup>2</sup> equivalent comparison standard solution	The sample is negative for Cr(VI)–The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating.
The sample solution is ≥ the 0.10 ug/cm <sup>2</sup> and ≤ the 0.13 ug/cm <sup>2</sup> equivalent comparison standard solutions	The result is considered to be inconclusive – Unavoidable coating variations may influence the determination. Recommendation: if addition samples are available, perform a total of 3 trials to increase sampling surface area. Use the averaged result of the 3 trials for the final determination.
The sample solution is > the 0.13 ug/cm <sup>2</sup> equivalent comparison standard solution	The sample is positive for Cr(VI)–The Cr(VI) concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI)



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### B. Phthalates—DBP, BBP, DEHP & DIBP

Test Method: Ref. to IEC 62321-8: 2017

Determination of Phthalates in polymers by Gas Chromatography-Mass Spectrometry (GC-MS)

#### Test result:

Test item	DBP	BBP	DEHP	DIBP
Maximum Permissible Limit (mg/kg)	1000	1000	1000	1000

Material No.	Test item (mg/kg)				Conclusion
	DBP	BBP	DEHP	DIBP	
1	N.D.	N.D.	N.D.	N.D.	Pass
2	N.D.	N.D.	N.D.	N.D.	Pass
3	N.D.	N.D.	N.D.	N.D.	Pass
4	N.D.	N.D.	N.D.	N.D.	Pass
5	N.D.	N.D.	N.D.	N.D.	Pass
7	N.D.	N.D.	N.D.	N.D.	Pass
8	N.D.	N.D.	N.D.	N.D.	Pass
9	N.D.	N.D.	N.D.	N.D.	Pass
10	N.D.	N.D.	N.D.	N.D.	Pass
11	N.D.	N.D.	N.D.	N.D.	Pass
12	N.D.	N.D.	N.D.	N.D.	Pass
13	N.D.	N.D.	N.D.	N.D.	Pass
15	N.D.	N.D.	N.D.	N.D.	Pass
16	N.D.	N.D.	N.D.	N.D.	Pass
17	N.D.	N.D.	N.D.	N.D.	Pass
18	N.D.	N.D.	N.D.	N.D.	Pass
19	N.D.	N.D.	N.D.	N.D.	Pass
22	N.D.	N.D.	N.D.	N.D.	Pass

Page 6 of 15

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Material No.	Test item (mg/kg)				Conclusion
	DBP	BBP	DEHP	DIBP	
23	N.D.	N.D.	N.D.	N.D.	Pass
24	N.D.	N.D.	N.D.	N.D.	Pass

Remark: 1. Reporting Limit (RL) for BBP, DBP, DEHP, DIBP=50mg/kg.  
2. N.D. = Not Detected (<RL).

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Sample photo(s):



Sample Name : Biological food waste processor

Sample Model : AFF-02



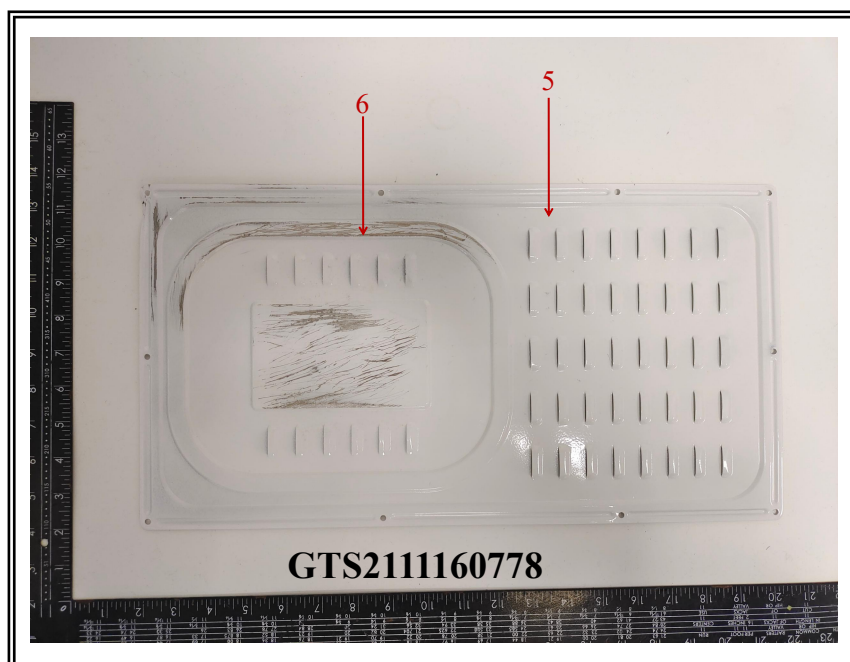
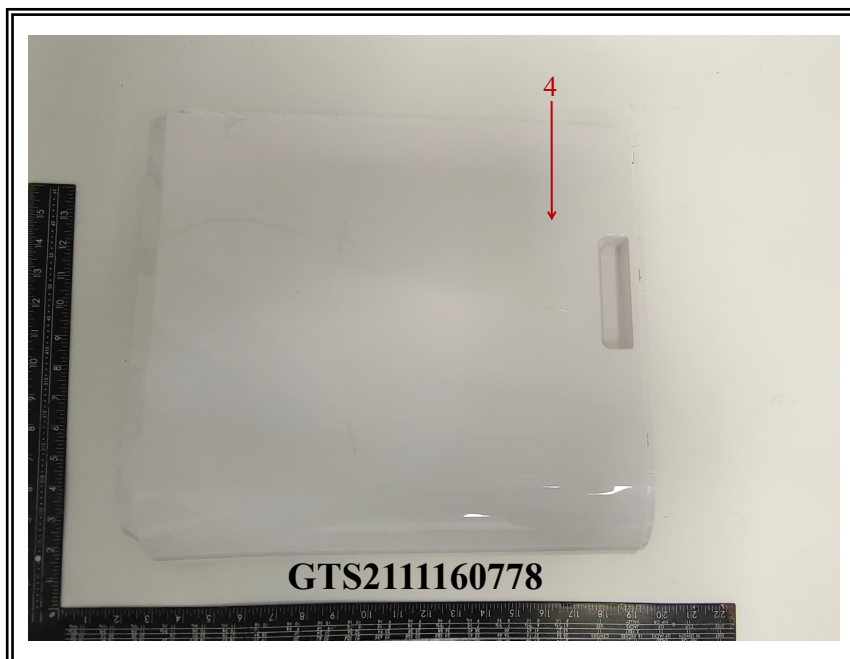


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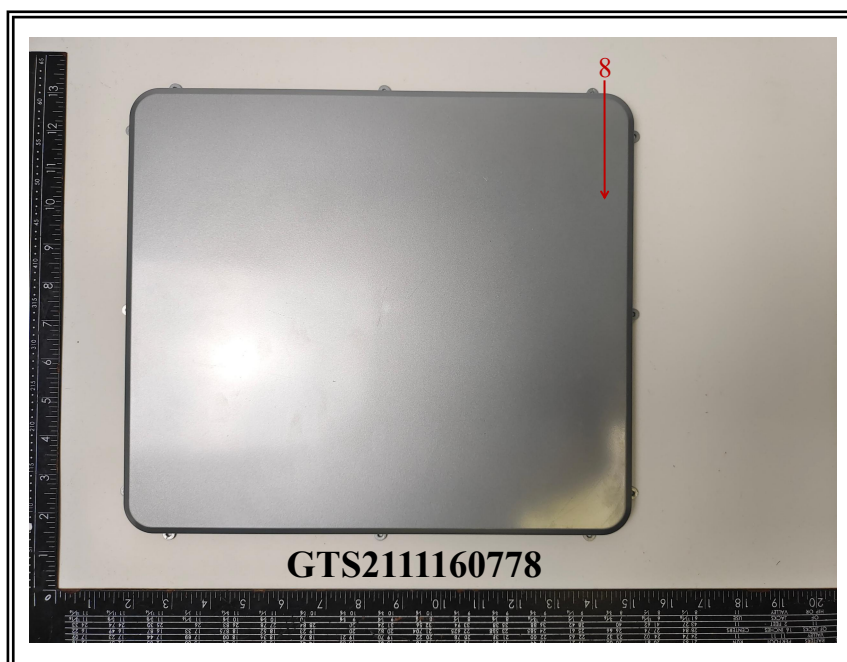
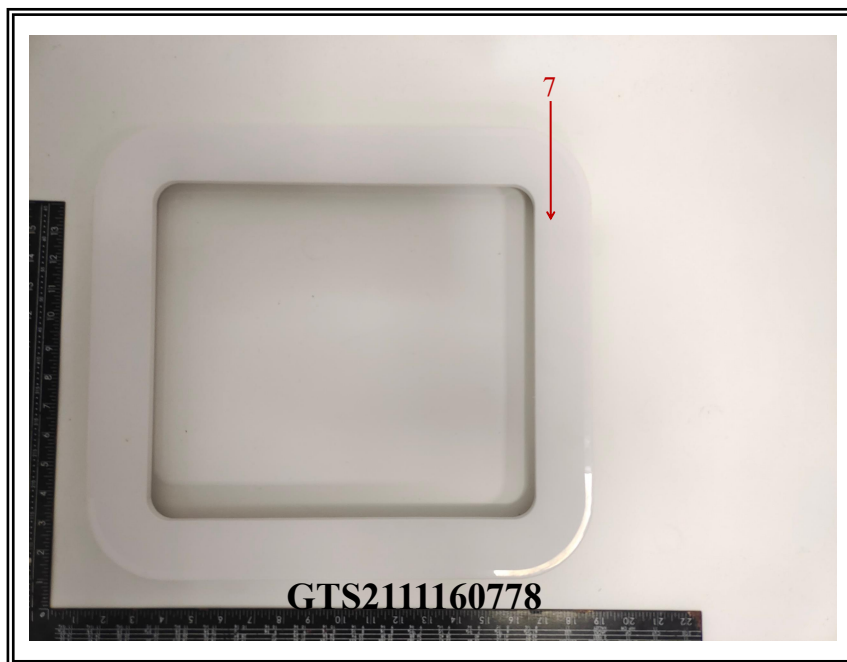


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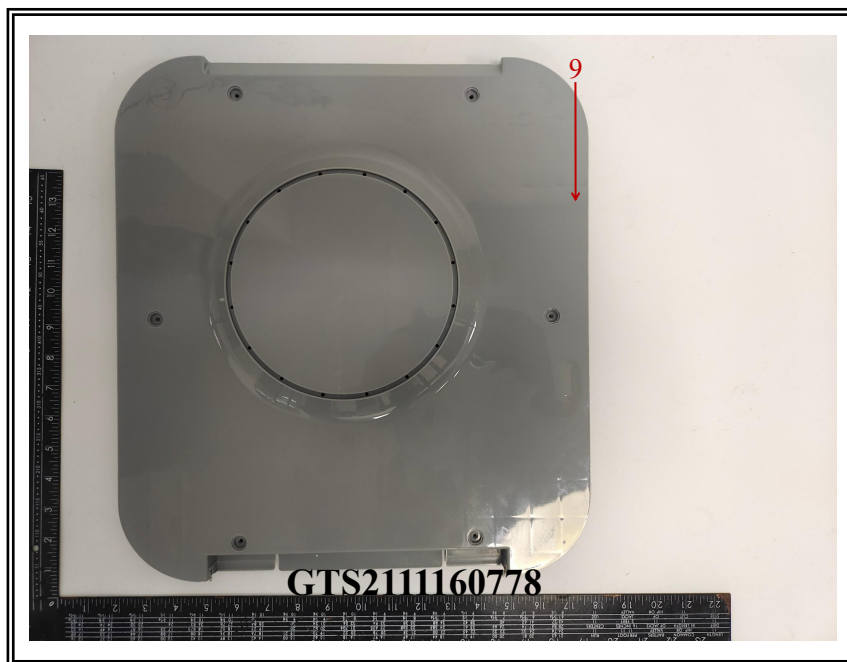


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