



# Test Report

Report No. A2240311016101026

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**Company Name** NANTONG HORNBY ELECTRONIC CO.,LTD./SMARTENGRAND LTD.  
**shown on Report**

**Address** NO.8,XING YUAN ROAD,INDUSTRY PARK RUCHENG TOWN,RUGAO,  
JIANGSU/NO.168,SEC.2,ZHONGZHENG ROAD,SANXIA DISTRICT,NEW TAIPEI  
CITY,TAIWAN,CHINA

**Sample Received Date** May 30, 2024  
**Testing Period** May 30, 2024 to Jun. 7, 2024

**Test Requested** As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg),  
Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs),  
Polybrominated Diphenyl Ethers (PBDEs), Beryllium(Be), Antimony(Sb),  
Phosphorus(P), Hexabromocyclododecane (HBCDD), Fluorine (F), Chlorine  
(Cl), Bromine (Br), Iodine (I), Middle Chain Chlorinated Paraffins (MCCPs),  
Phthalates,Perfluorooctanoic Acid(PFOA), Perfluorooctane Sulfonates(PFOS)  
in the submitted sample(s).

**Test Method/Test Result(s)** Please refer to the following page(s).

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### Conclusion

Tested Sample	According to standard/directive	Result
Submitted Sample	RoHS Directive 2011/65/EU with amendment (EU) 2015/863	PASS

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PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.



Approved by

Date

Jun. 11, 2024

Chen kaimin  
Lab Manager

No. R475311587

Centre Testing International Pinbiao(Shanghai) Co., Ltd.

No.1351, Wanfang Road, Minhang District, Shanghai, China

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The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

CTI Sample ID	Sample Name(s)	Used for	Reference Report No. - CTI Sample ID
001	WAFER	DIODE & BRIDGE RECTIFIERS(R-1, A-405(H), DO-41, DO-15, R-3, DO-201AD, R-6, R-7, MT09E, MT09ES, FT-30/MF-01, JA005/MK-01, MQ-01,GBP, GBL, GBU, GBJ, KBL, KBP, KBU, KBJ, JA, JB, 2S, D3K, TSB-5, S25VB10,	A2240311016101001
002	GPP Wafer	SKBPC, 2CL, CL, MD-M, MD-S, MD-F, DB-1, DB-S, DF, DF-S, LBF, ABS, MSBS, YBS, YBSL, SBS, SBSL, LDF, MBF(S/T1/T2), UMB-F, MSBL, TTF,	A2240311016101002
003	Copper Wire	WOM/RC-2/WOB, MKBPC, MKBPC-W, KBPC-1, KBPC-6, KBPC-8, KBPC, KBPC-W, MP, MP8, MBR, MBR-W, BR, BR-W, BR-L, BR-6, BR-8, RA/RAS, CXA, TO-220AC, TO-220AB,	A2240311016101003
004	Lead frame	ITO-220AC, ITO-220AB, TO-3P, TO-247(A/AD/S), SMA-X, DO-214AC/SMA, SMA-F, SMA-L, SMA-S, SMA-HE, SMA-T, DO-214AA/SMB, SMB-F, SMB-S, SMB-L, DO-214AB/SMC, SMC-F, SMC-T3, SMC-T4, SMC-HE,	A2240311016101004
005	Epoxy Molding Compound	DO-218(AB) , MINI-MELF, MELF, TO-92, TO-126, TO-252(A), TO252-4L, TO-251, TO-262, D-PAK, TO-263, D2PAK, SOD-123(FL/T/S/H1/HT/HE),	/
006	Halogen-Free Epoxy Molding Compound	1206(S), SOD-323(FL/T/HE), 0805, SOD-523(FL), 0603, SOD-723(FL), SOD-923(FL), SOD-882, 0402, 0201, SOT-23(-3/-3L/-3S/-5/-6/-6L), SOT-26, SOT-343, SOT-353, SOT-553, SOT-363, SOT-563,	/

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CTI Sample ID	Sample Name(s)	Used for	Reference Report No. - CTI Sample ID
007	Silicone	SOT-223, SOT-323(F), SOT-523(F), SOT-723(F), SOT-883, DFN1006-3L, 2928-8L, CP, SOT-143, TO-277(A), WFBFP, DFN1006-2, DFN1006-3, DFN0603, DSON10, DFN2510(-10L),	/
008	Solder	DFN2010, DFN1608, DFN1610, DFN1308, DFN3810(-9L), DFN5515(-18L), DFN1515-6L, DFN1515-6L, DFN2020-6L, DFN1610-6L, DFN1713-8L, DFN2010-8L, TO-89, SOP-8, MSOP-8, TSOP-6, TSSOP-8, MSOP-10, DFN2626-10L,	/
009	Pure Tin	DFN3020-10L, DFN4120-10L, DFN3316-16, LDFN4016-16L, PPAK2X3, PPAK3X3, DFN2X2-3L, DFN3X3(-8L), DFN2X2-6, DFN2X3-6, DFN2X3-8, PPAK5X6, DFN5X6-8L)	/

**Remark:**

The samples with the reference information in the table above are non-tested in this report. According to the client's statement, test results and the photos of the " CTI Sample ID " column reference to "Reference Report Number - CTI Sample ID " column.

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## Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Beryllium(Be)	Refer to US EPA 3052:1996 & US EPA 6010D:2018*	ICP-OES
Antimony(Sb)	Refer to US EPA 3050B:1996 & US EPA 6010D:2018*	ICP-OES
	Refer to US EPA 3052:1996 & US EPA 6010D:2018*	
Phosphorus(P)	Refer to US EPA 3052:1996 & US EPA 6010D:2018*	ICP-OES
Hexabromocyclododecane (HBCDD)	IEC 62321-9:2021	GC-MS
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC
Middle Chain Chlorinated Paraffins (MCCPs)	Refer to US EPA 3550C:2007 & US EPA 8270E:2018*	GC-MS(NCI)
Phthalates	IEC 62321-8:2017	GC-MS
Perfluorooctanoic Acid(PFOA)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007*	LC-MS-MS/LC-MS
Perfluorooctane Sulfonates(PFOS)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007*	LC-MS-MS/LC-MS

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## Test Result(s)

Tested Item(s)	Result			MDL	Limit
	001	002	003		
Lead (Pb)	N.D.	71207 mg/kg* <sup>1</sup>	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	N.D.	--	8 mg/kg	1000 mg/kg
	--	--	N.D.▼	0.10 µg/cm <sup>2</sup> (LOQ)	1000 mg/kg

Tested Item(s)	Result			MDL	Limit
	004	005	006		
Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	--	N.D.	N.D.	8 mg/kg	1000 mg/kg
	N.D.▼	--	--	0.10 µg/cm <sup>2</sup> (LOQ)	1000 mg/kg

Tested Item(s)	Result			MDL	Limit
	007	008	009		
Lead (Pb)	N.D.	933143 mg/kg* <sup>2</sup>	47 mg/kg	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	--	--	8 mg/kg	1000 mg/kg
	--	N.D.▼	N.D.▼	0.10 µg/cm <sup>2</sup> (LOQ)	1000 mg/kg

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Tested Item(s)	Result			MDL	Limit
	001	002	005		
<b>Polybrominated Biphenyls (PBBs)</b>					
Monobromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	

Tested Item(s)	Result		MDL	Limit
	006	007		
<b>Polybrominated Biphenyls (PBBs)</b>				
Monobromobiphenyl	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	N.D.	5 mg/kg	

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Tested Item(s)	Result			MDL	Limit
	001	002	005		
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>					
Monobromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	

Tested Item(s)	Result		MDL	Limit
	006	007		
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>				
Monobromodiphenyl ether	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	N.D.	5 mg/kg	

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Tested Item(s)	Result			MDL	Limit
	003	004	008		
<b>Polybrominated Biphenyls (PBBs)</b>					
Monobromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	

Tested Item(s)	Result	MDL	Limit
	009		
<b>Polybrominated Biphenyls (PBBs)</b>			
Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	5 mg/kg	



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Tested Item(s)	Result			MDL	Limit
	003	004	008		
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>					
Monobromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	

Tested Item(s)	Result	MDL	Limit
	009		
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>			
Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	5 mg/kg	

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Tested Item(s)	Result			MDL	Limit
	001	002	005		
<b>Phthalates (DBP, BBP, DEHP, DIBP)</b>					
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg

Tested Item(s)	Result		MDL	Limit
	006	007		
<b>Phthalates (DBP, BBP, DEHP, DIBP)</b>				
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	50 mg/kg	1000 mg/kg

Tested Item(s)	Result			MDL	Limit
	003	004	008		
<b>Phthalates (DBP, BBP, DEHP, DIBP)</b>					
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg

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Tested Item(s)	Result		MDL	Limit
	009			
<b>Phthalates (DBP, BBP, DEHP, DIBP)</b>				
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.		50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.		50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.		50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.		50 mg/kg	1000 mg/kg

Tested Item(s)	Result		MDL
	005	006	
Beryllium (Be)	N.D.	N.D.	10 mg/kg

Tested Item(s)	Result			MDL
	001	002	005	
Antimony (Sb)	N.D.	N.D.	6841 mg/kg	10 mg/kg

Tested Item(s)	Result		MDL
	006	007	
Antimony (Sb)	N.D.	N.D.	10 mg/kg

Tested Item(s)	Result			MDL
	003	004	008	
Antimony (Sb)	N.D.	N.D.	N.D.	10 mg/kg

Tested Item(s)	Result		MDL
	009		
Antimony (Sb)	N.D.		10 mg/kg

Tested Item(s)	Result		MDL
	005	006	
Phosphorus (P)	37 mg/kg	N.D.	20 mg/kg

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Tested Item(s)	Result			MDL
	001	002	005	
Hexabromocyclododecane (HBCDD)	N.D.	N.D.	N.D.	20 mg/kg

Tested Item(s)	Result			MDL
	006			
Hexabromocyclododecane (HBCDD)	N.D.			20 mg/kg

Tested Item(s)	Result			MDL
	001	002	005	
Fluorine (F)	N.D.	N.D.	N.D.	10 mg/kg
Chlorine (Cl)	N.D.	N.D.	170 mg/kg	10 mg/kg
Bromine (Br)	N.D.	N.D.	7946 mg/kg	10 mg/kg
Iodine (I)	N.D.	N.D.	N.D.	10 mg/kg

Tested Item(s)	Result			MDL
	006			
Fluorine (F)	N.D.			10 mg/kg
Chlorine (Cl)	125 mg/kg			10 mg/kg
Bromine (Br)	N.D.			10 mg/kg
Iodine (I)	N.D.			10 mg/kg

Tested Item(s)	Result			MDL
	001	002	003	
Middle Chain Chlorinated Paraffins (MCCPs)	N.D.	N.D.	N.D.	100 mg/kg

Tested Item(s)	Result			MDL
	004	005	006	
Middle Chain Chlorinated Paraffins (MCCPs)	N.D.	N.D.	N.D.	100 mg/kg

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Tested Item(s)	Result			MDL
	007	008	009	
Middle Chain Chlorinated Paraffins (MCCPs)	N.D.	N.D.	N.D.	100 mg/kg

Tested Item(s)	Result			MDL
	001	002	003	
<b>Phthalates</b>				
*Di-n-hexyl phthalate (DNHP/DHEXP) CAS#:84-75-3	N.D.	N.D.	N.D.	50 mg/kg
Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	N.D.	N.D.	50 mg/kg
Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	N.D.	N.D.	50 mg/kg
Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	N.D.	N.D.	50 mg/kg

Tested Item(s)	Result			MDL
	004	005	006	
<b>Phthalates</b>				
*Di-n-hexyl phthalate (DNHP/DHEXP) CAS#:84-75-3	N.D.	N.D.	N.D.	50 mg/kg
Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	N.D.	N.D.	50 mg/kg
Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	N.D.	N.D.	50 mg/kg
Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	N.D.	N.D.	50 mg/kg

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<b>Phthalates</b>				
*Di-n-hexyl phthalate (DNHP/DHEXP) CAS#:84-75-3	N.D.	N.D.	N.D.	50 mg/kg
Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	N.D.	N.D.	50 mg/kg
Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	N.D.	N.D.	50 mg/kg
Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	N.D.	N.D.	50 mg/kg

Tested Item(s)	Result			MDL
	001	002	005	
Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	N.D.	0.010 mg/kg

Tested Item(s)	Result		MDL
	006	009	
Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	0.010 mg/kg

Tested Item(s)	Result			MDL
	001	002	005	
Perfluorooctane Sulfonates (PFOS)	N.D.	N.D.	N.D.	0.010 mg/kg

Tested Item(s)	Result		MDL
	006	009	
Perfluorooctane Sulfonates (PFOS)	N.D.	N.D.	0.010 mg/kg

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**Sample/Part Description**

No.	CTI Sample ID	Description
1	001	Chip
2	002	Chip
3	003	Cupreous metal wire
4	004	Cupreous metal
5	005	Dark grey solid
6	006	Dark grey solid
7	007	White solid
8	008	Silvery metal
9	009	Silvery metal

**Remark:** The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Beryllium, Antimony, Phosphorus.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL or LOQ)

-mg/kg = ppm = parts per million

-1000 mg/kg = 0.1%

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10  $\mu\text{g}/\text{cm}^2$

-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10  $\mu\text{g}/\text{cm}^2$ . The coating is considered a non-Cr(VI) based coating. Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

-\*<sup>1</sup>=According to the client's statement, the material of the sample(s) fall into exemption items 7(c)-I according to EU Directive 2011/65/EU: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.

-\*<sup>2</sup>=According to the client's statement, the material of the sample(s) fall into exemption items 7(a) according to EU Directive 2011/65/EU: Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

**Note:** “\*” indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.

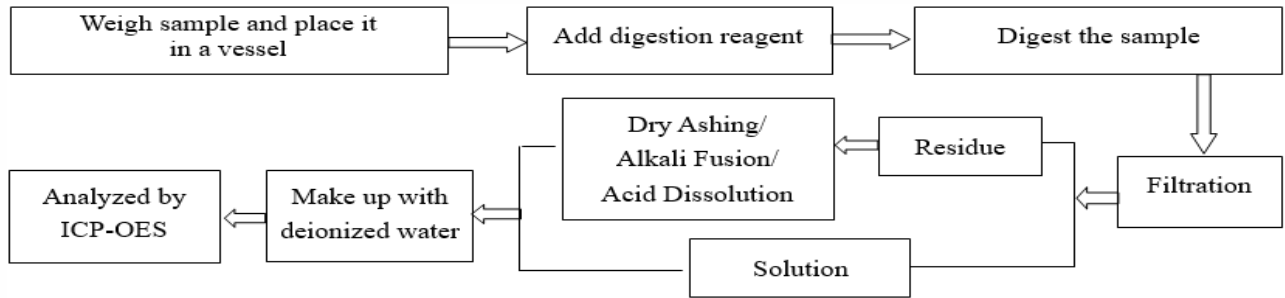
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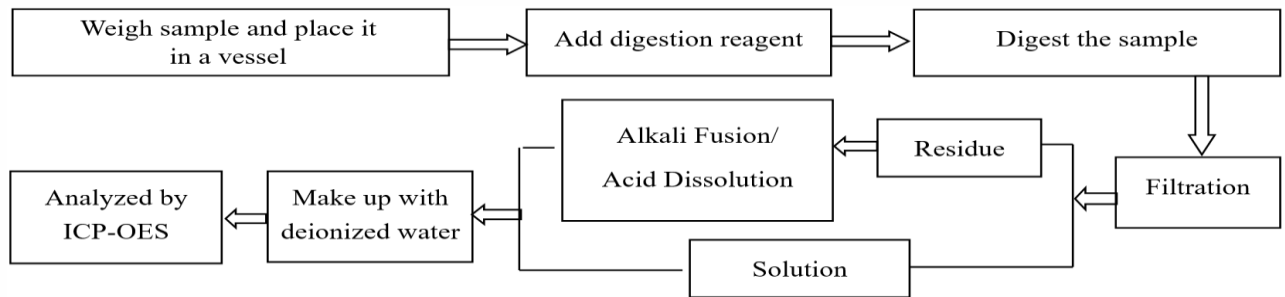
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## Test Process

### 1. Lead (Pb), Cadmium (Cd), Chromium(Cr)

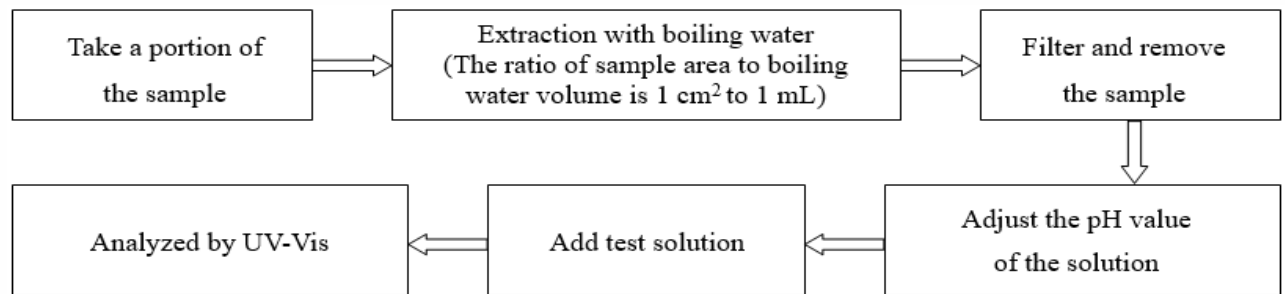


### 2. Mercury (Hg)

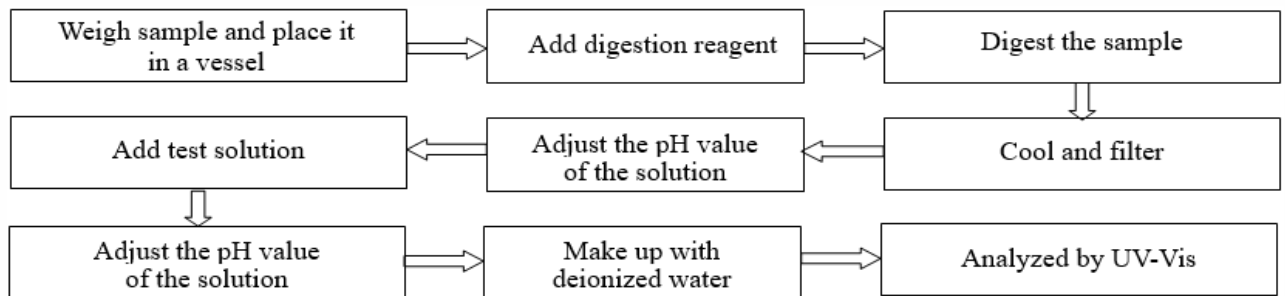


### 3. Hexavalent Chromium (Cr(VI))

#### (1) IEC 62321-7-1:2015



#### (2) IEC 62321-7-2:2017



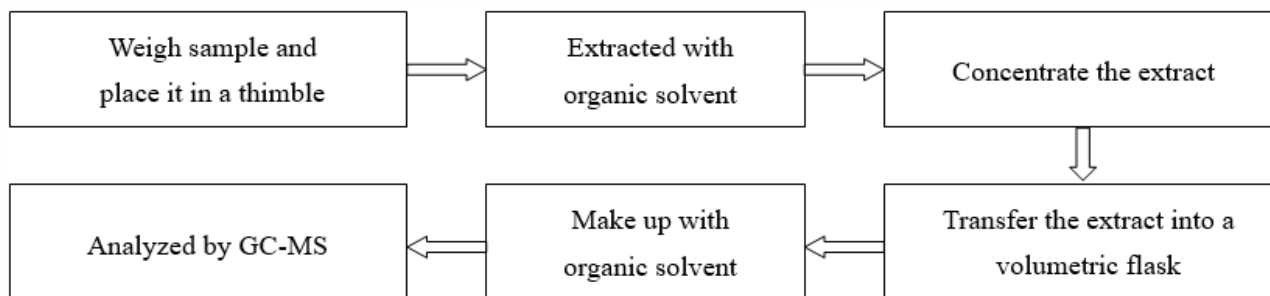


# Test Report

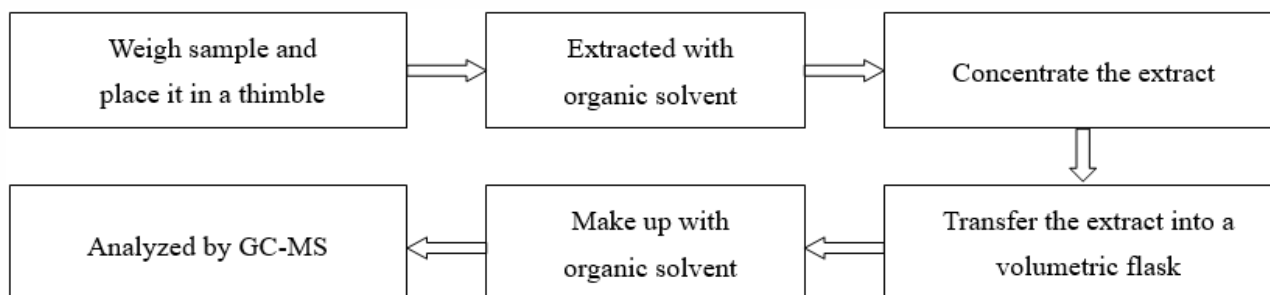
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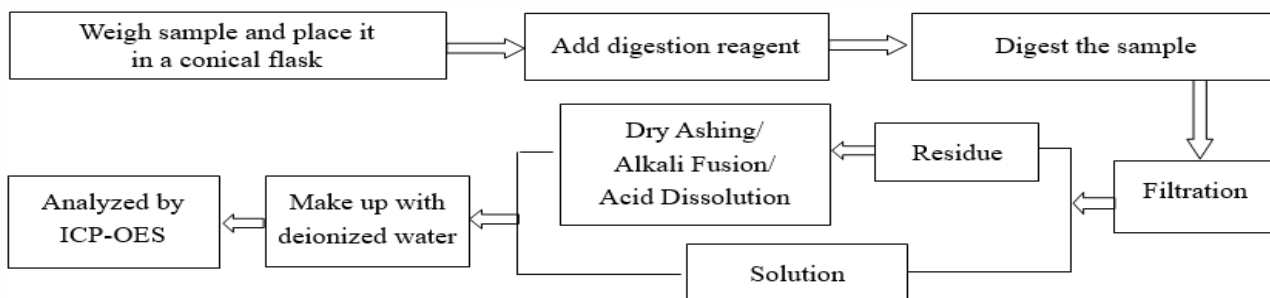
## 4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



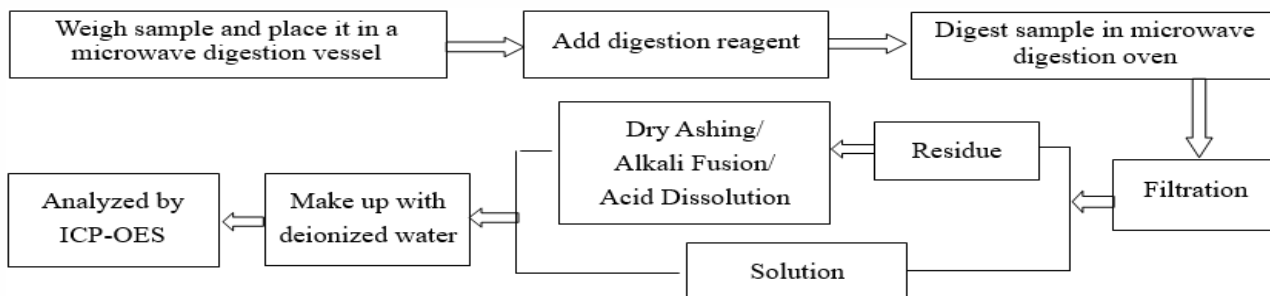
## 5. Phthalates



## 6. Antimony(Sb)



## 7. Beryllium(Be), Antimony(Sb), Phosphorus(P)

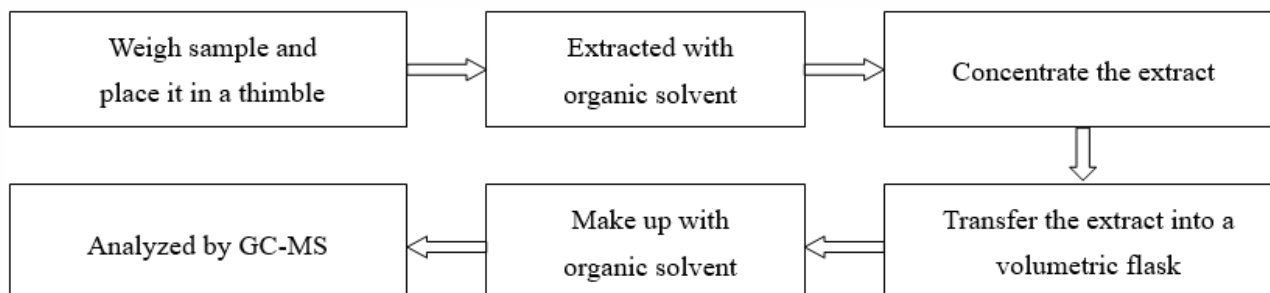


# Test Report

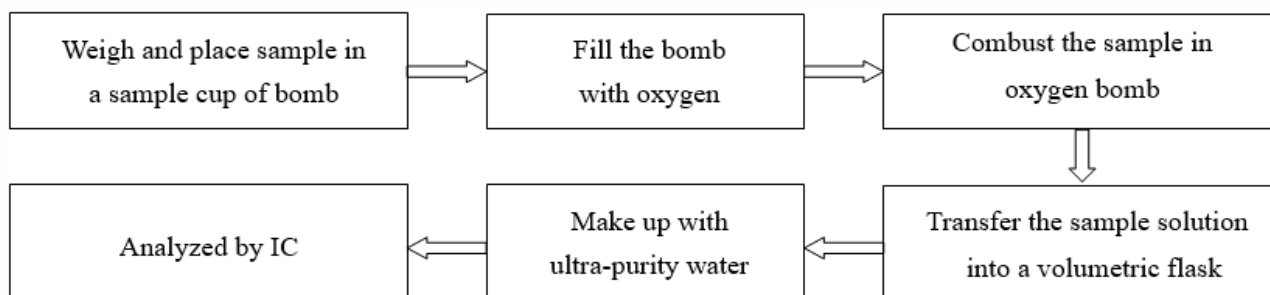
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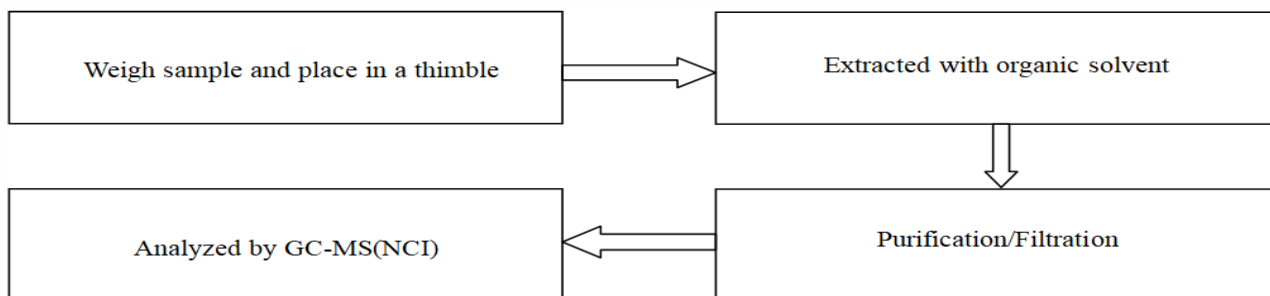
## 8. Hexabromocyclododecane (HBCDD)



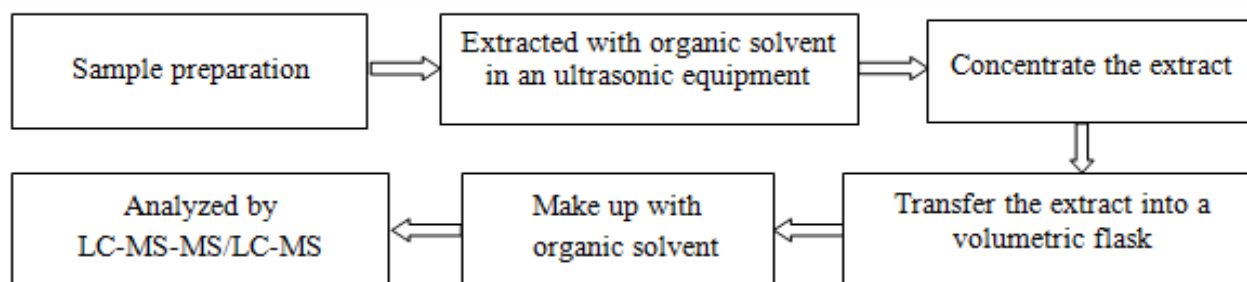
## 9. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



## 10. Middle Chain Chlorinated Paraffins (MCCPs)



## 11. Perfluorooctanoic Acid(PFOA), Perfluorooctane Sulfonates(PFOS)

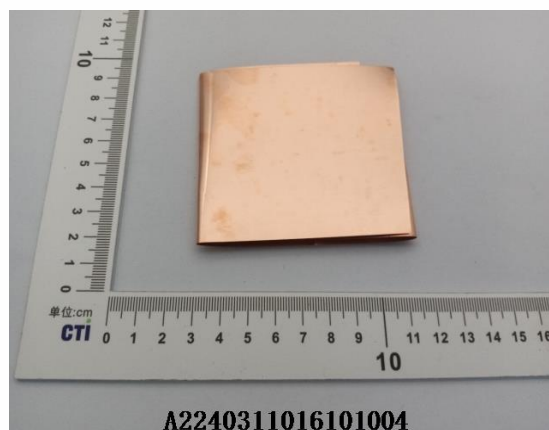
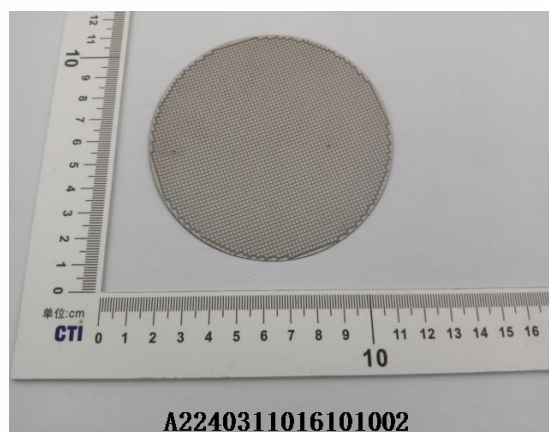
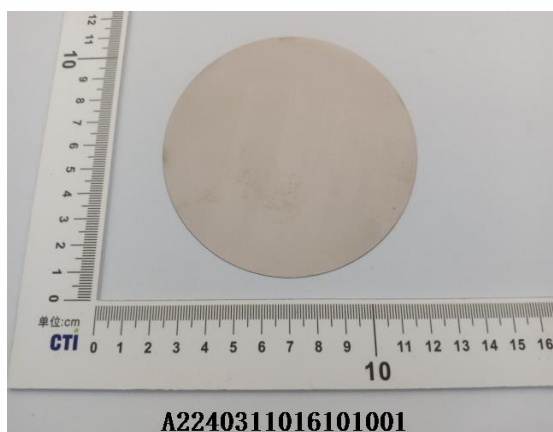


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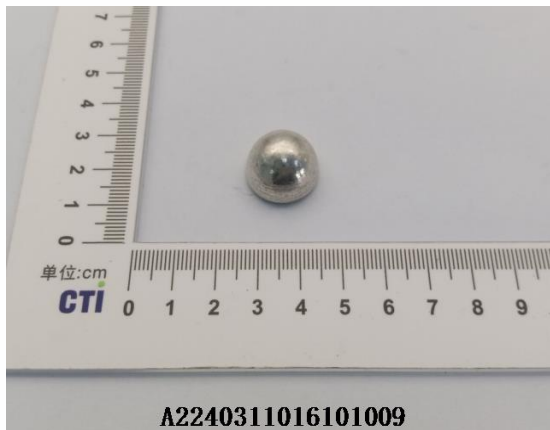
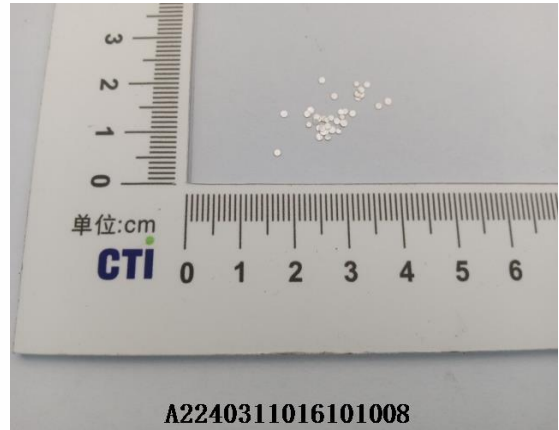
## Photo(s) of the sample(s)



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**Statement:**

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule ( $w=0$ ) stated in ILAC-G8:09/2019 / CNAS-GL015:2022;
5. Without written approval of CTI, this report can't be reproduced except in full;
6. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

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