



Test Report

Report No. A2220227830101022

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Company Name shown on Report NANTONG HORNBY ELECTRONIC CO.,LTD./SMARTENGRAND LTD.
Address NO.8, XING YUAN ROAD, INDUSTRY PARK RUCHENG TOWN,RUGAO,JIANGSU/
NO.168, SEC. 2, ZHONGZHENG ROAD, SANXIA DISTRICT, NEW TAIPEI CITY,
TAIWAN, R.O.C.

Sample Received Date Jun. 12, 2022
Testing Period Jun. 12, 2022 to Jun. 18, 2022

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), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA), Phthalates in the submitted sample(s).

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

Tested by Wang Dong Reviewed by Hu Wei

Approved by Chen Kaimin Date Jun. 23, 2022

Chen kaimin
Lab Manager

No. R475316484

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

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



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Conclusion

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

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.

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

Sample No.	Sample Name(s)	Used for	Reference Report No. -Sample No.
001	O/J Wafer	DIODE & BRIDGE RECTIFIERS(R-1, A-405(H), DO-41, DO-15, R-3, DO-201AD, R-6, R-7, GBP, GBL, GBU, GBJ, KBL, KBP, KBU, KBJ, JA, JB, 2S, D3K, TSB-5, S25VB10, SKBPC,	A2220227830101001
002	GPP Wafer	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), WOM/RC-2, MKBPC, MKBPC-W, KBPC-1, KBPC-6, KBPC-8,	A2220227830101002
003	Copper Wire	KBPC, KBPC-W, MP, MP8, MBR, MBR-W, BR, BR-W, BR-L, BR-6, BR-8, RA/RAS, CXA, TO-220AC, TO-220AB, ITO-220AC, ITO-220AB,	A2220227830101003
004	Lead frame	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, DO-218(AB),	A2220227830101004
005	Epoxy Molding Compound	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), 1206(S), SOD-323(FL/T/HE), 0805, SOD-523(FL), 0603, SOD-723(FL), SOD-923(FL), SOD-882, 0402,	/
006	Halogen-Free Epoxy Molding Compound	0201, SOT-23(-3/-3L/-3S/-5/-6/-6L), SOT-26, SOT-343, SOT-353, SOT-553, SOT-363, SOT-563, SOT-223, SOT-323(F), SOT-523(F), SOT-723(F), SOT-883, DFN1006-3L, 2928-8L, CP, SOT-143, TO-277(A), WBFBP, DFN1006-2, DFN0603, DSON10, DFN2510(-10L), DFN1608, DFN1610, 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, DFN3020-10L, DFN4120-10L, DFN3316-16, LDFN4016-16L, PPAK2X3, PPAK3X3, DFN2X2-3L, DFN3X3(-8L), DFN2X2-6, DFN2X3-6, DFN2X3-8, PPAK5X6, DFN5X6-8L)	/
007	Silicone		/
008	Solder		/
009	Pure Tin		/

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 "Sample No." column reference to "Reference Report Number - Sample No." 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)	ISO 18219:2015*	GC-MS(NCI)
Perfluorooctane Sulfonates(PFOS)	Refer to CEN/TS 15968:2010*	LC-MS-MS/LC-MS
Perfluorooctanoic Acid(PFOA)	Refer to CEN/TS 15968:2010*	LC-MS-MS/LC-MS
Phthalates	IEC 62321-8:2017	GC-MS

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Test Result(s)

Tested Item(s)	Result			MDL	Limit
	001	002	003		
Lead (Pb)	N.D.	43319 mg/kg* ¹	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 ² (LOQ)	1000 mg/kg

Tested Item(s)	Result			MDL	Limit
	004	005	006		
Lead (Pb)	10 mg/kg	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 ² (LOQ)	1000 mg/kg

Tested Item(s)	Result		MDL	Limit
	007	009		
Lead (Pb)	N.D.	74 mg/kg	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	--	8 mg/kg	1000 mg/kg
	--	N.D.▼	0.10 µg/cm ² (LOQ)	1000 mg/kg

Tested Item(s)	Result	MDL	Limit
	008		
Lead (Pb)*	965855 mg/kg* ²	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	--	8 mg/kg	1000 mg/kg
	N.D.▼	0.10 µg/cm ² (LOQ)	1000 mg/kg

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Tested Item(s)	Result			MDL	Limit
	001	002	005		
Polybrominated Biphenyls (PBBs)					
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		
Polybrominated Biphenyls (PBBs)				
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		
Polybrominated Diphenyl Ethers (PBDEs)					
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		
Polybrominated Diphenyl Ethers (PBDEs)				
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
	001	002	005		
Phthalates (DBP, BBP, DEHP, DIBP)					
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		
Phthalates (DBP, BBP, DEHP, DIBP)				
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

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Tested Item(s)	Result			MDL	Limit
	003	004	008		
Polybrominated Biphenyls (PBBs)					
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		
Polybrominated Biphenyls (PBBs)			
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		
Polybrominated Diphenyl Ethers (PBDEs)					
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		
Polybrominated Diphenyl Ethers (PBDEs)			
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
	003	004	008		
Phthalates (DBP, BBP, DEHP, DIBP)					
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
	009		
Phthalates (DBP, BBP, DEHP, DIBP)			
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	007	
Antimony (Sb)	N.D.	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

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

Tested Item(s)	Result		MDL
	005	006	
Phosphorus (P)	N.D.	N.D.	50 mg/kg

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.	175 mg/kg	10 mg/kg
Bromine (Br)	N.D.	N.D.	4472 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)	179 mg/kg		10 mg/kg
Bromine (Br)	N.D.		10 mg/kg
Iodine (I)	N.D.		10 mg/kg

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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

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	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

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

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Tested Item(s)	Result			MDL
	001	002	003	
Phthalates				
*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	
Phthalates				
*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
	007	008	009	
Phthalates				
*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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Sample/Part Description

001	Chip
002	Chip
003	Cupreous metal
004	Cupreous metal
005	Black solid
006	Black solid
007	White solid
008	Silvery metal
009	Silvery metal

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

-*¹= 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.

-*²= Testing results are only used for reference; 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.

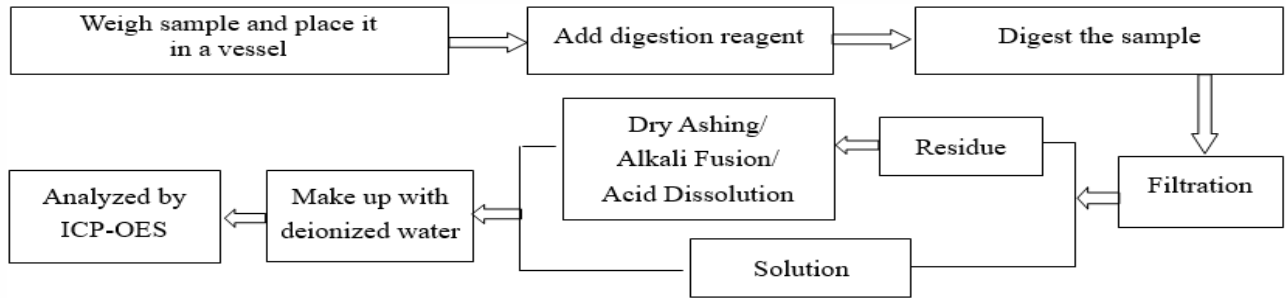
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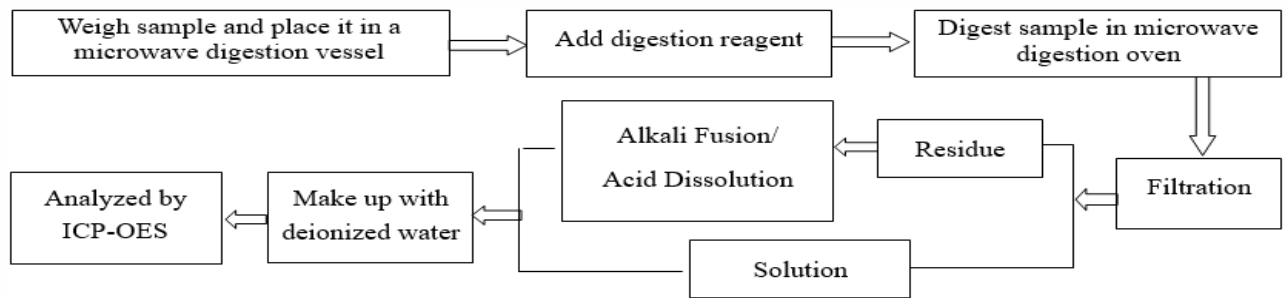
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Test Process

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

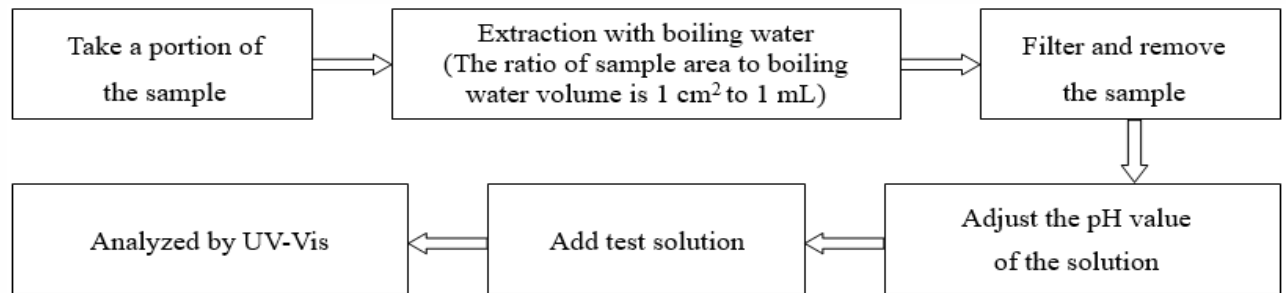


2. Mercury (Hg)

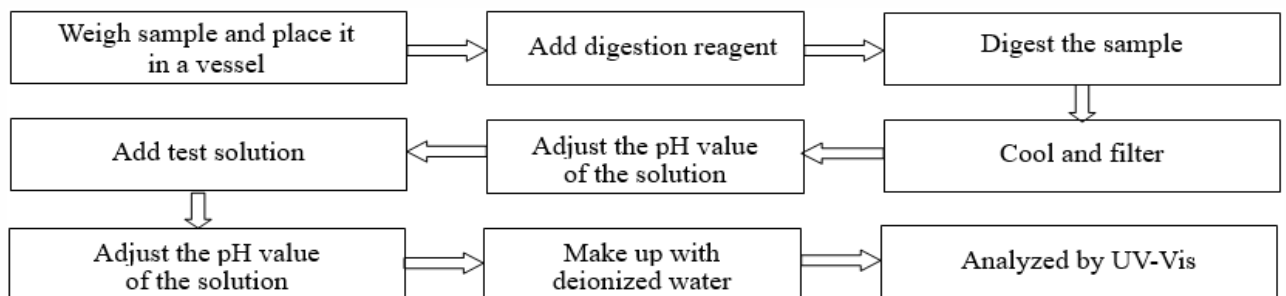


3. Hexavalent Chromium (Cr(VI))

(1) IEC 62321-7-1:2015



(2) IEC 62321-7-2:2017

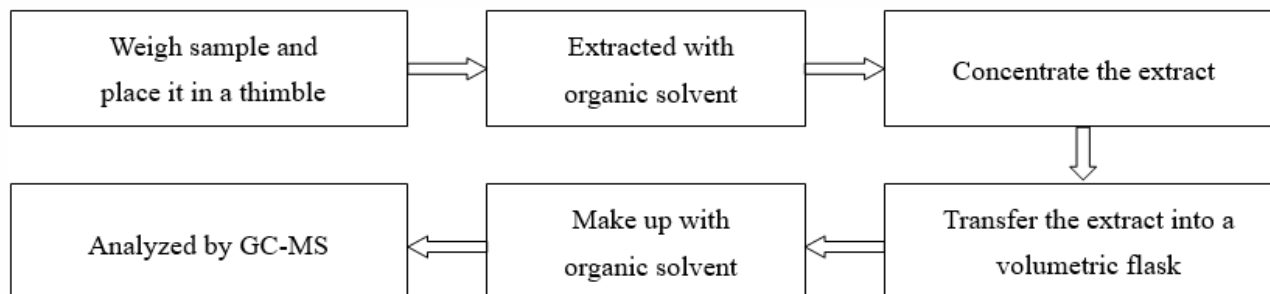


Test Report

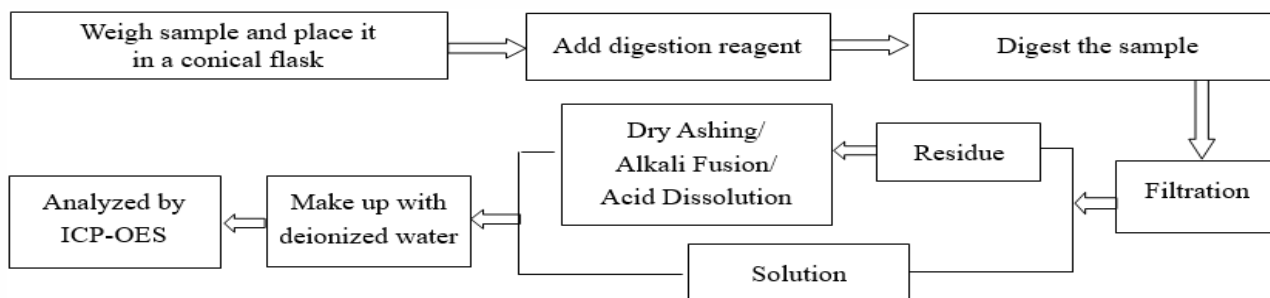
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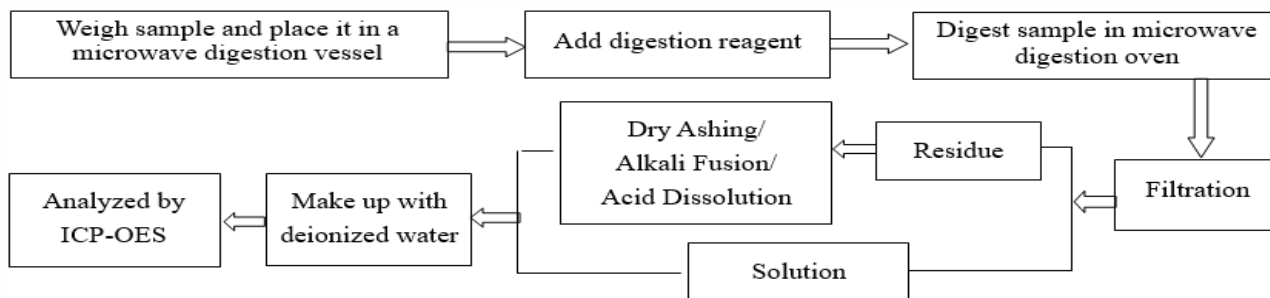
4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



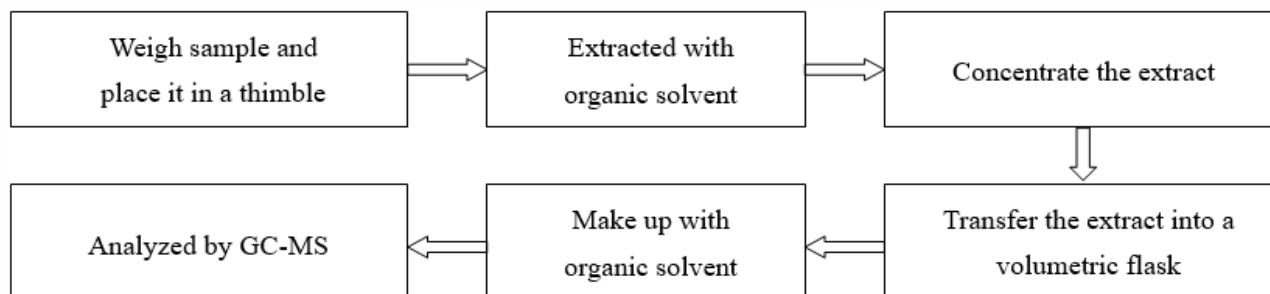
5. Antimony(Sb)



6. Beryllium(Be), Antimony(Sb), Phosphorus(P)



7. Hexabromocyclododecane (HBCDD)

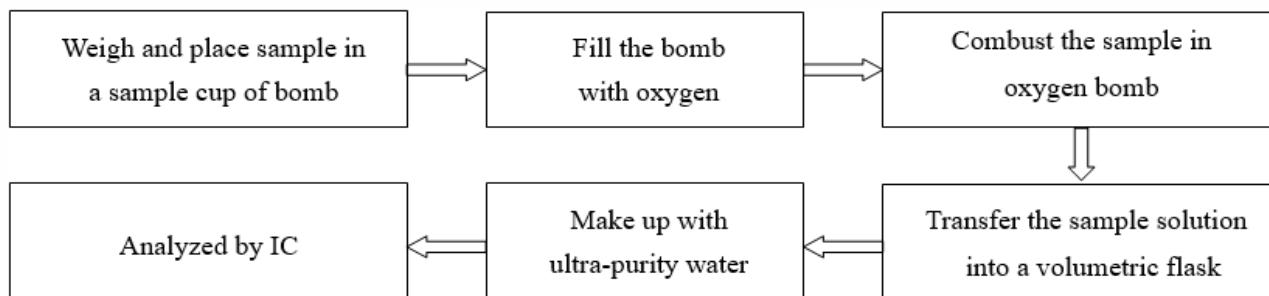


Test Report

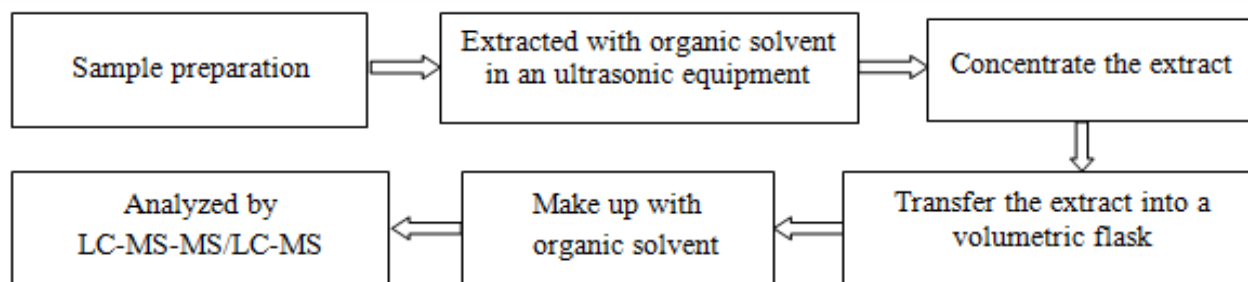
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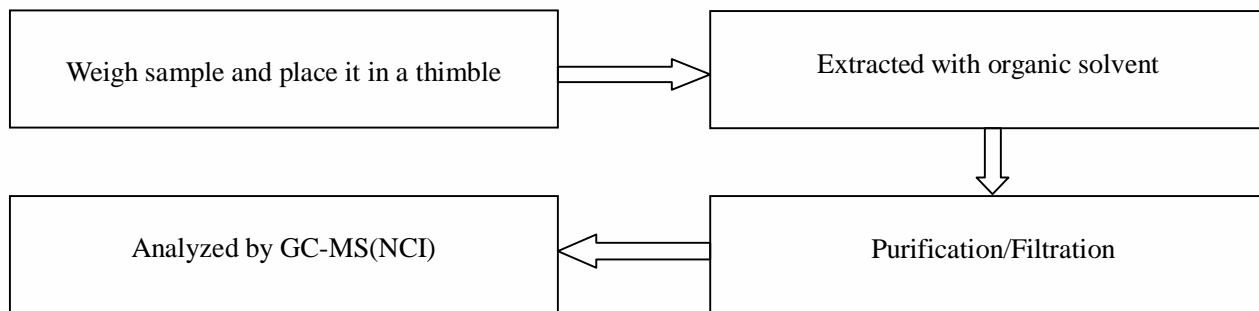
8. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



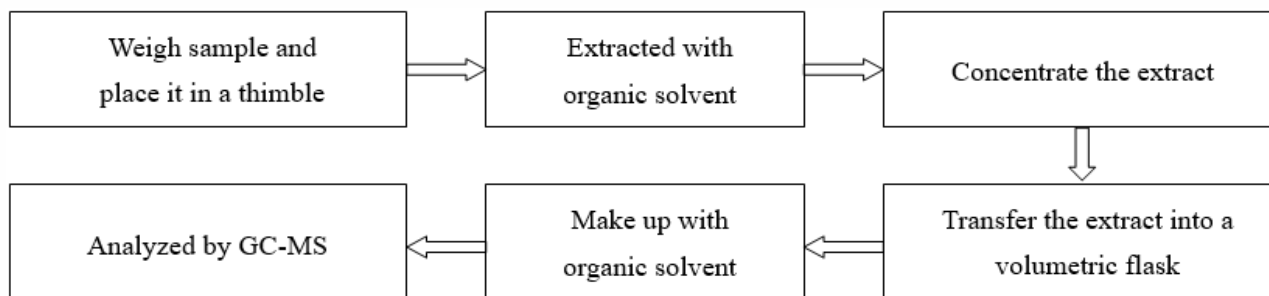
9. Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA)



10. Middle Chain Chlorinated Paraffins (MCCPs)



11. Phthalates



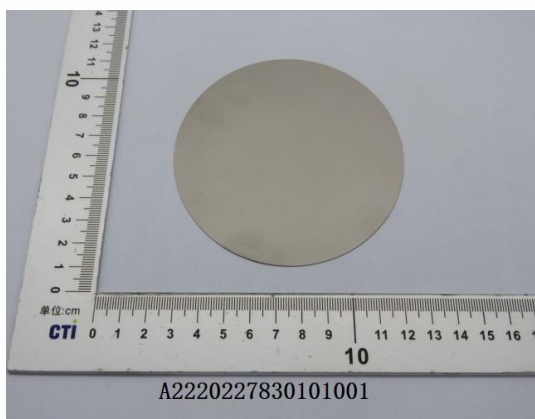
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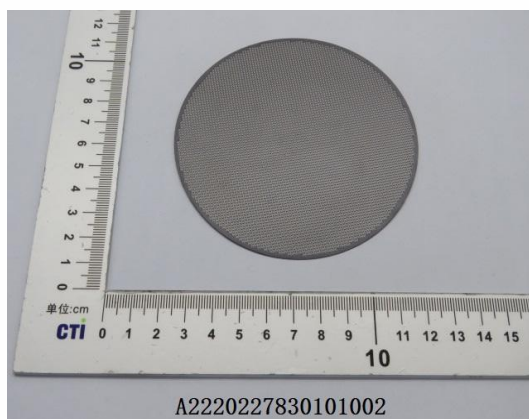
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Photo(s) of the sample(s)

001



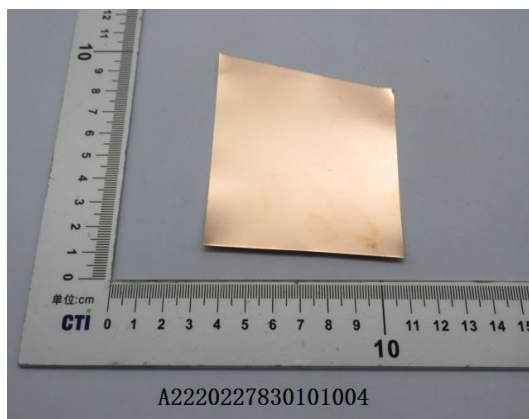
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003



004



005



006



Test Report

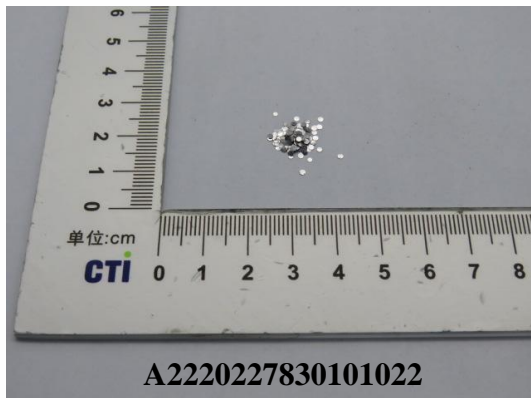
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008



009



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. Without written approval of CTI, this report can't be reproduced except in full;
5. 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 ***