

## Test Report

Applicant: Motien Technology Co., Ltd.  
No.9, Keji 2nd Rd., Annan Dist.,  
Tainan City 709031, Taiwan, R.O.C.

Number : TWNC00919409

Issue Date : Sep 22, 2020

### Sample Description:

One (1) Group of Submitted Samples Said To Be :

Sample Description : DC/DC CONVERTER

Style / Item No. : V1,V3,V4,VA,VE,VL,VL2,M1,M4,T1,F1,F2-Series

Date Sample Received : Sep 14, 2020

Date Test Started : Sep 14, 2020

### Test Conducted :

As requested by the applicant, for details please refer to attached pages.

Authorized By:  
On behalf of Intertek Testing Services  
Taiwan Limited

Matt Wang  
Sr. Manager



Signed by:

Thomas Chou  
Manager



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Test Conducted :

Test Result Summary:

Test Item	Unit	Test Method	Result	RL
			Mixed all kinds of submitted samples (#)	
Heavy Metal				
Cadmium (Cd) Content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	2
Lead (Pb) Content	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.	7	2
Mercury (Hg) Content	ppm	With reference to IEC 62321-4:2013+AMD1:2017, by microwave or acid digestion and determined by ICP-OES.	ND	2
Chromium VI (Cr(VI)) Content	ppm	With reference to IEC 62321-7-2: 2017, organic solvent was used to dissolve or swell sample matrix, followed by alkaline digestion and determined by UV-Vis Spectrophotometer.	ND	8
Polybrominated Biphenyls (PBBs)				
Monobrominated Biphenyls (MonoBB)	ppm	With reference to IEC 62321-6: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary.	ND	5
Dibrominated Biphenyls (DiBB)	ppm		ND	5
Tribrominated Biphenyls (TriBB)	ppm		ND	5
Tetrabrominated Biphenyls (TetraBB)	ppm		ND	5
Pentabrominated Biphenyls (PentaBB)	ppm		ND	5
Hexabrominated Biphenyls (HexaBB)	ppm		ND	5
Heptabrominated Biphenyls (HeptaBB)	ppm		ND	5
Octabrominated Biphenyls (OctaBB)	ppm		ND	5
Nonabrominated Biphenyls (NonaBB)	ppm		ND	5
Decabrominated Biphenyl (DecaBB)	ppm		ND	5



Test Conducted :

Test Item	Unit	Test Method	Result	RL
			Mixed all kinds of submitted samples (#)	
Polybrominated Diphenyl Ethers (PBDEs)				
Monobrominated Diphenyl Ethers (MonoBDE)	ppm	With reference to IEC 62321-6: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary.	ND	5
Dibrominated Diphenyl Ethers (DiBDE)	ppm		ND	5
Tribrominated Diphenyl Ethers (TriBDE)	ppm		ND	5
Tetrabrominated Diphenyl Ethers (TetraBDE)	ppm		ND	5
Pentabrominated Diphenyl Ethers (PentaBDE)	ppm		ND	5
Hexabrominated Diphenyl Ethers (HexaBDE)	ppm		ND	5
Heptabrominated Diphenyl Ethers (HeptaBDE)	ppm		ND	5
Octabrominated Diphenyl Ethers (OctaBDE)	ppm		ND	5
Nonabrominated Diphenyl Ethers (NonaBDE)	ppm		ND	5
Decabrominated Diphenyl Ether (DecaBDE)	ppm		ND	5
Phthalates				
Di(2-ethylhexyl) Phthalate (DEHP)	ppm	With reference to IEC 62321-8:2017, by solvent extraction and determined by GC-MS.	ND	50
Dibutyl Phthalate (DBP)	ppm		ND	50
Benzyl Butyl Phthalate (BBP)	ppm		ND	50
Diisobutyl Phthalate (DIBP)	ppm		ND	50

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg

ND = Not detected

RL = Reporting limit, quantitation limit of analyte in sample

# = Test results were for reference only and might not represent the real content in each component as the composite sampling procedure was according to the special request of client. Please be noted the fewer components are mixed up, the better representation of sampling will get.

Responsibility of Chemist: Pelny Hsiao/ Vita Fu

Date Sample Received : Sep 14, 2020

Test Period : Sep 14, 2020 to Sep 18, 2020



Test Conducted :

RoHS Limit

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr(VI)) content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000ppm)
Di(2-ethylhexyl) Phthalate (DEHP)	0.1% (1000ppm)
Dibutyl Phthalate (DBP)	0.1% (1000ppm)
Benzyl Butyl Phthalate (BBP)	0.1% (1000ppm)
Diisobutyl Phthalate (DIBP)	0.1% (1000ppm)

The limits were quoted from Annex II of 2011/65/EU and Amendment (EU) 2015/863 for homogeneous material.



Test Conducted :

Measurement Flowchart:

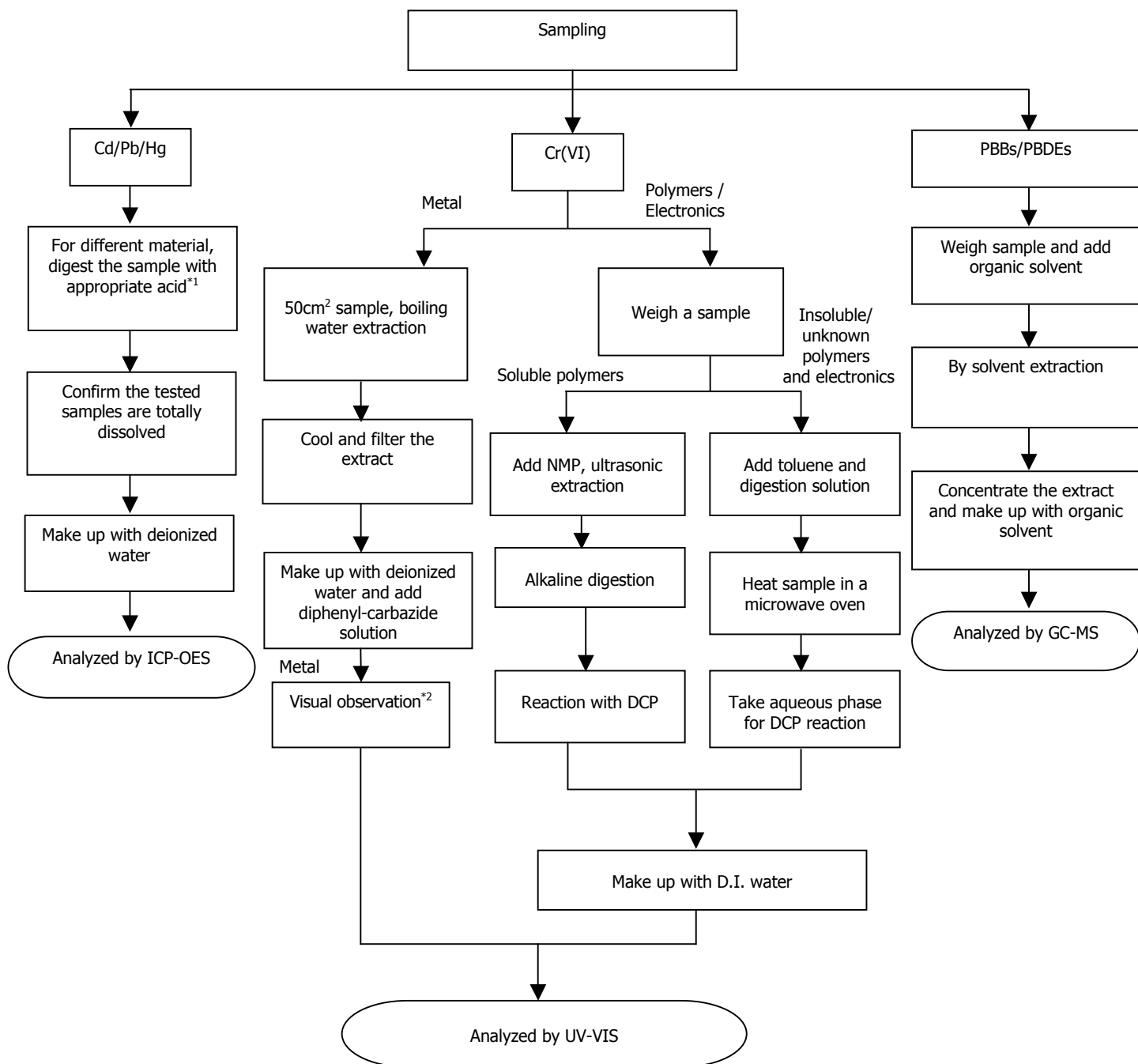
Test for Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Content

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013+AMD1:2017;

Chromium (VI): IEC 62321-7-1:2015 (boiling water extraction);

Chromium (VI): IEC 62321-7-2:2017 (solvent and alkaline extraction);

PBBs/PBDEs: IEC 62321-6:2015



Test Conducted :

Remarks:

\*1: List of Appropriate Acid :

Material	Acid Added for Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: If sample solution is significantly more intense than 0.13 µg/cm<sup>2</sup> equivalent comparison standard, Chromium VI would be determined as detected, the result of visual observation is positive.

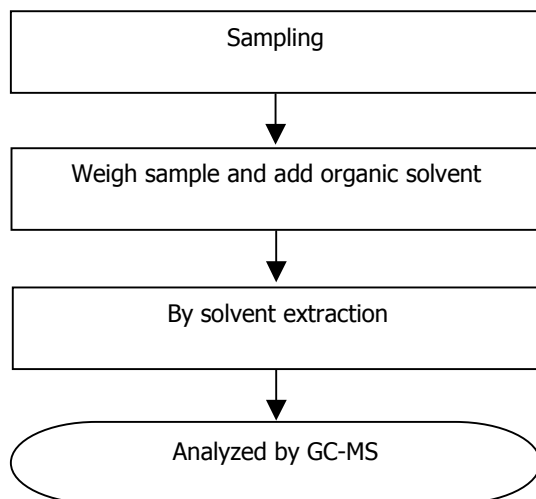
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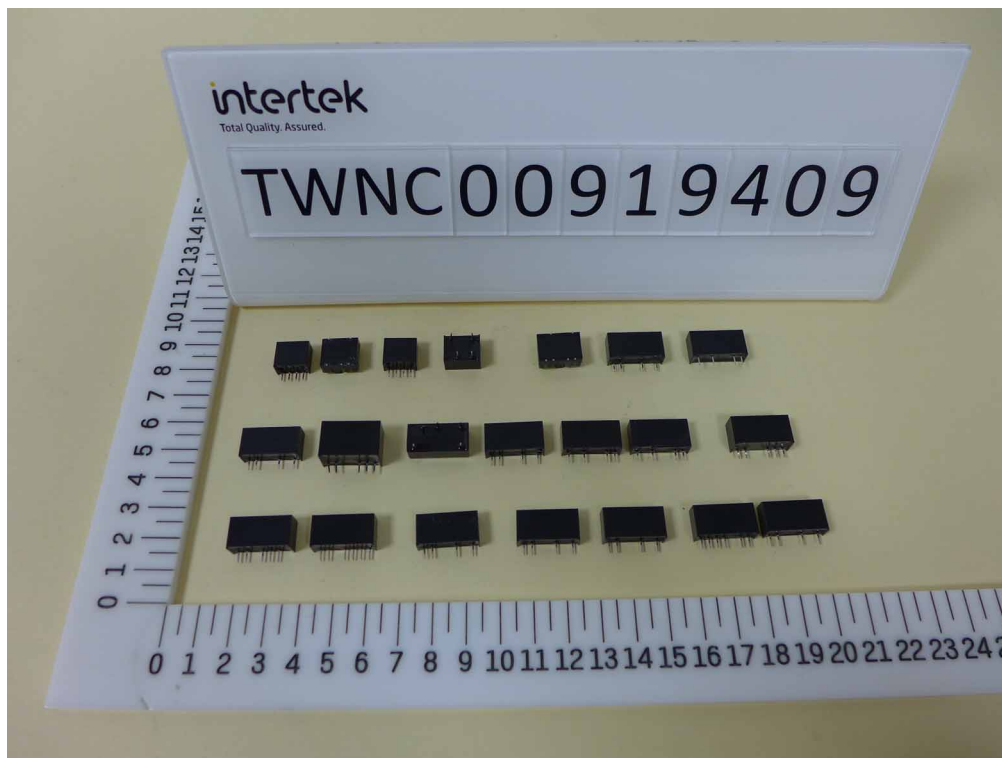
Test Conducted :

Measurement Flowchart:

Test for Phthalates Content  
Reference Method : IEC 62321-8:2017



Sample photo:



End of Report

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