Test Report

Applicant:

Address:

Manufacturer:

Address:

The following samples were submitted and identified on behalf of the clients

Sample Name:	Sports DV or Action camera
Model:	SDV-116, SDV-112, SDV-113, SDV-114, SDV-115, SDV-117, SDV-105, SDV-106, SDV-107, SDV-108, SDV-109, G3, H2, H9, LF-01, LF-02, LF-03, LF-04
Brand Name:	--
Sample Received Date:	July 11, 2017
Test Period:	From July 11, 2017 to July 17, 2017
Test Requested:	In accordance with The RoHS Directive 2011/65/EU Annex II —Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs Content
Test Method:	Please refer to next pages

Result Summary:

Item	Test parameter	Conclusion
1	Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs Content—RoHS Directive 2011/65/EU Annex II	**PASS**

Signed for and on behalf of

Shenzhen Jialian Testing Consulting Co., Ltd.

SHENZHEN JIALIAN TESTING CONSULTING CO.,LTD APPROVED

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Approved Signatory

The results shown in this Test Report refer only to the sample(s) tested unless otherwise stated. This Test Report is issued by the company subject to its General Conditions of service printed overleaf. This Test Report shall not be reproduced except in full, without written approval of the company.

Prepared By:

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Sample Description:

No.	Sample Name	Part Name	Description
1-1	Camera Case	Black Case	Black Plastics
1-2	Camera Case	Silvery Case	Silvery Plastics
2-1	View Screen	Optical Component	Multilayer Transparent Parts
2-2	View Screen	Electrical Component	Electrical Component
3-1	Camera	Optical Component	Glass Lens
3-2	Camera	Encapsulate Part	Mixed All Black Plastics
3-3	Camera	Mechanical Part	Mechanical Metal Part
3-4	Camera	Electrical Control Part	Electrical Component
4-1	PCB	PCB	Mixed All Camera PCB
5-1	Communication Interface	Mixed All Metal Parts	Silvery Metal

Test Methods: with reference to IEC 62321:2013

(1) Determination of Cadmium by ICP-OES

(2) Determination of Lead by ICP-OES

(3) Determination of Mercury by ICP-OES

(4) Determination of Hexavalent Chromium by Colorimetric Methodusing UV-Vis

(5) Determination of PBBs/PBDEs content by GC-MS

XRF Results:

No.	Sample Name	Part Name	Pb (ppm)	Cd (ppm)	Hg (ppm)	Cr (ppm)	Br (ppm)
1-1	Camera Case	Black Case	BL	BL	BL	BL	IN
1-2	Camera Case	Silvery Case	BL	BL	BL	BL	IN
2-1	View Screen	Optical Component	BL	BL	BL	BL	IN
2-2	View Screen	Electrical Component	BL	BL	BL	BL	BL
3-1	Camera	Optical Component	BL	BL	BL	BL	BL
3-2	Camera	Encapsulate Part	BL	BL	BL	BL	IN
3-3	Camera	Mechanical Part	BL	BL	BL	BL	BL
3-4	Camera	Electrical Control Part	BL	BL	BL	BL	BL
4-1	PCB	PCB	BL	BL	BL	BL	IN
5-1	Communication Interface	Mixed All Metal Parts	BL	BL	BL	BL	BL

NOTE:

- ppm=mg/kg=parts per million -BL=Below Limit - N.A.=Not Analysis
- IN= Inconclusive, chemical analysis necessary

Testing results are only used for reference.

Chemical Test Results:

Flame Retardants	MDL	Law Limit	Result(ppm)				
			1-1	1-2	2-1	3-2	4-1
Polybrominated Biphenyls (Mono- Deca)(PBBs)	---	---	---	---	---	---	---
Monobromobiphenyl	5ppm	1000 ppm	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	5ppm		N.D.	N.D	N.D.	N.D.	N.D.
Nonabromobiphenyl	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Polybrominated Diphenylethers (Mono - Deca) (PBDEs)	---	---	---	---	---	---	---
Monobromobiphenyl ether	5ppm	1000 ppm	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl ether	5ppm		N.D.	N.D.	N.D.	N.D.	N.D.

Note:

1. ppm=mg/kg
2. N.D.=Not Detected (Not detected is reported when the reading is less than detection limit value.)
3. Negative=absence of Cr(VI) in the metallic smaple
Positive= presence of Cr(VI) in the metallic sample
(The tested sample should further verifie by boiling-water-extraction method if the spot test result cannot be confirmed)
Boiling-water-ectraction:
Negative=absence of Cr(VI) in the metallic sample
Positive=presence of Cr(VI) in the metallic sample
Boiling-water-extraction solution is equal or greater that 0.02mg/kg with 50cm^2 sample surface area.
4. #=Positive indicates the presence of Cr(VI) on the tested areas and result the regarded as not comply with RoHS requirement.
Negative indicates the presence of Cr(VI) on the tested areas and result the regarded as comply with RoHS requirement
5. MDL=Method Detection Limit

Remark:

(1) (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^{6+}.

(b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-VIS(for CrVI) and GCMSD (for PBBs, PBDEs) is recommended to be performed. If the concentration exceeds the below warning value according to IEC 62321 Ed.1 111/95/2nd CDV (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	BL≤(70-3σ)<X<(130+3σ) ≤OL	BL≤(70-3σ)<X<(130+3σ) ≤OL	LOD<X<(150+3σ) ≤OL
Pb	BL≤(700-3σ)<X<(1300+3σ) ≤OL	BL≤(700-3σ)<X<(1300+3σ) ≤OL	BL≤(500-3σ)<X<(1500+3σ) ≤OL
Hg	BL≤(700-3σ)<X<(1300+3σ) ≤OL	BL≤(700-3σ)<X<(1300+3σ) ≤OL	BL≤(500-3σ)<X<(1500+3σ) ≤OL
Br	BL≤(300-3σ)<X	---	BL≤(250-3σ)<X
Cr	BL≤(700-3σ)<X	BL≤(700-3σ)<X	BL≤(500-3σ)<X

(c) OL=Over Limit, BL=Below Limit. LOD=limit of Detection, ---=not conducted.

(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)mg/kg=ppm=0.0001%, N.D.=not detected(<MDL),

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

Test Items	Pb	Cd	Hg
Units	Mg/kg	Mg/kg	Mg/kg
MDL	2	2	2

The MDL for single compound of PBBs & PBDEs is 5mg/kg and MDL of Cr^{6+} for polymer & composite sample is 2mg/kg.

(c) According to IEC 62321 Ed.1 111/95/2nd CDV, result on Cr^{6+} for metal sample is shown as Positive/Negative.

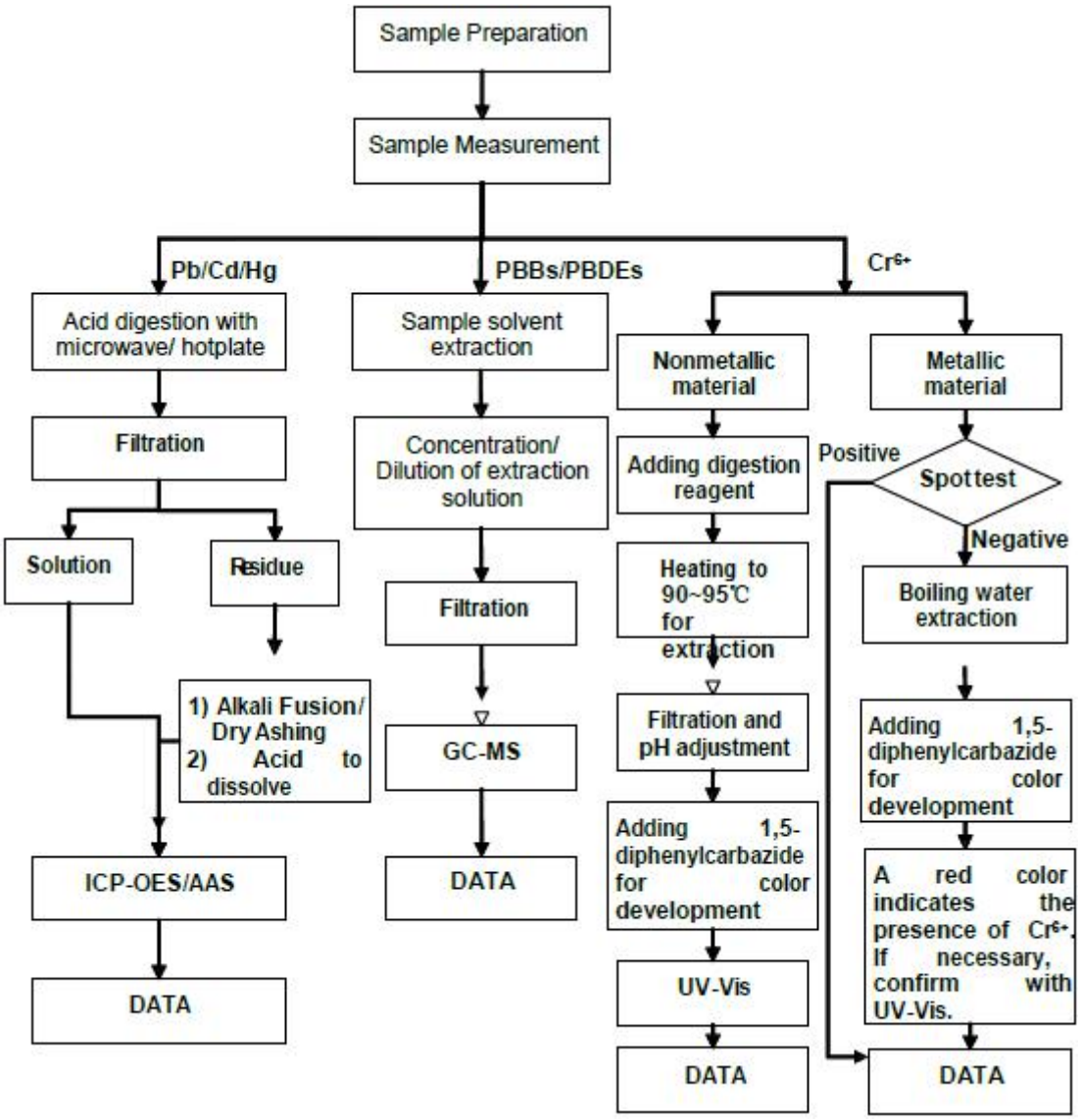
Negative=Absence of Cr^{6}+ coating, Positive= Persence of Cr^{6+} coating.

Appendix 1:
Photo of Submitted Sample

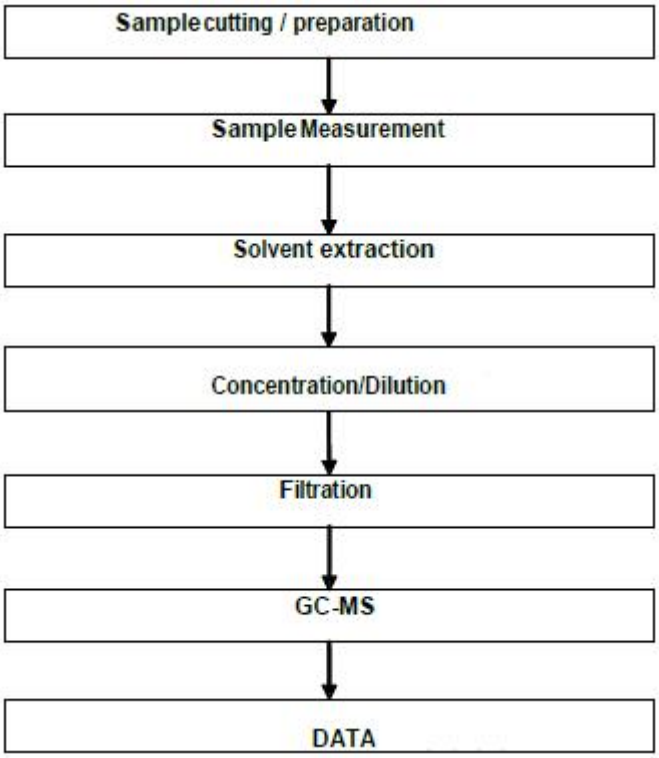
Appendix 2:

RoHS Testing Flow Chart

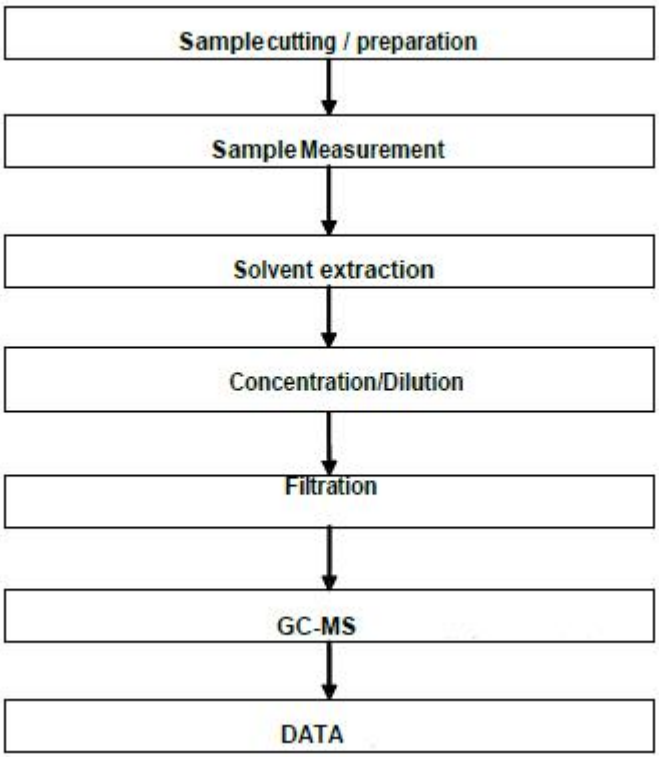
These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr6+ and PBBs/PBDEs test method excluded).



HBCDD Testing Flow Chart



Phthalates Testing Flow Chart



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