Test Report

Applicant: Radiolink Electronic Limited

Address: 3/F,Building 2, Fuguo industrial park, Kaifeng Road, Meilin, Shenzhen, Guangdong China

The following merchandise was (were) submitted and identified by client as:

Sample Name:	Flight controller & GPS
Model No.:	MINI PIX with TS100 GPS
Manufacturer:	Radiolink Electronic Limited
Address:	3/F,Building 2, Fuguo industrial park, Kaifeng Road, Meilin, Shenzhen, Guangdong China
Test Period:	From Oct.08, 2021 to Oct.12, 2021

SUMMARY OF TEST RESULTS

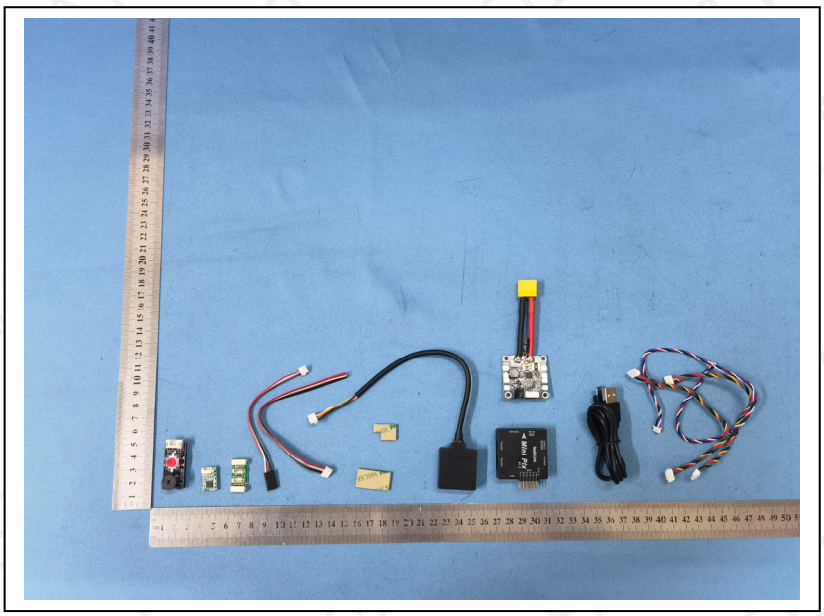
TEST REQUESTED	CONCLUSION
Heavy Metals , Flame Retardants and Phthalates Content - European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments Commission Delegated Directive (EU) 2015/863	PASS

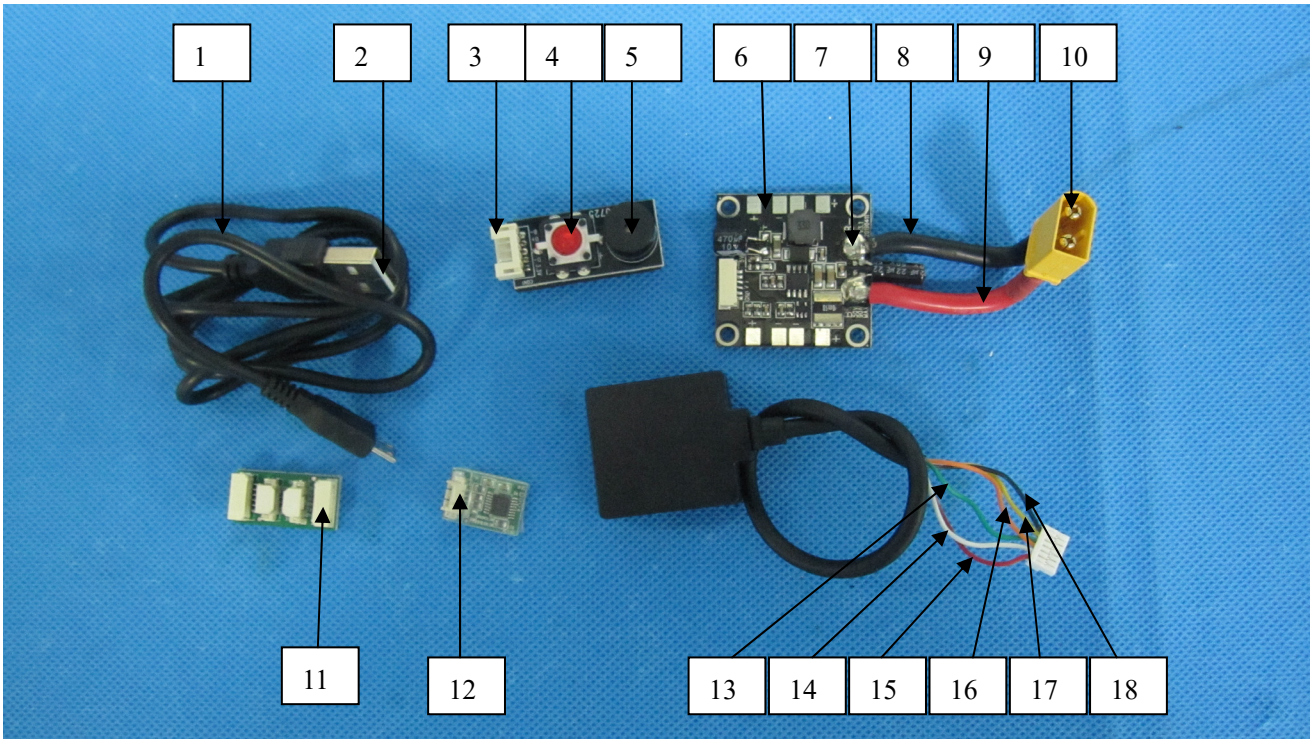
Test Result(s): Please refer to next page(s).

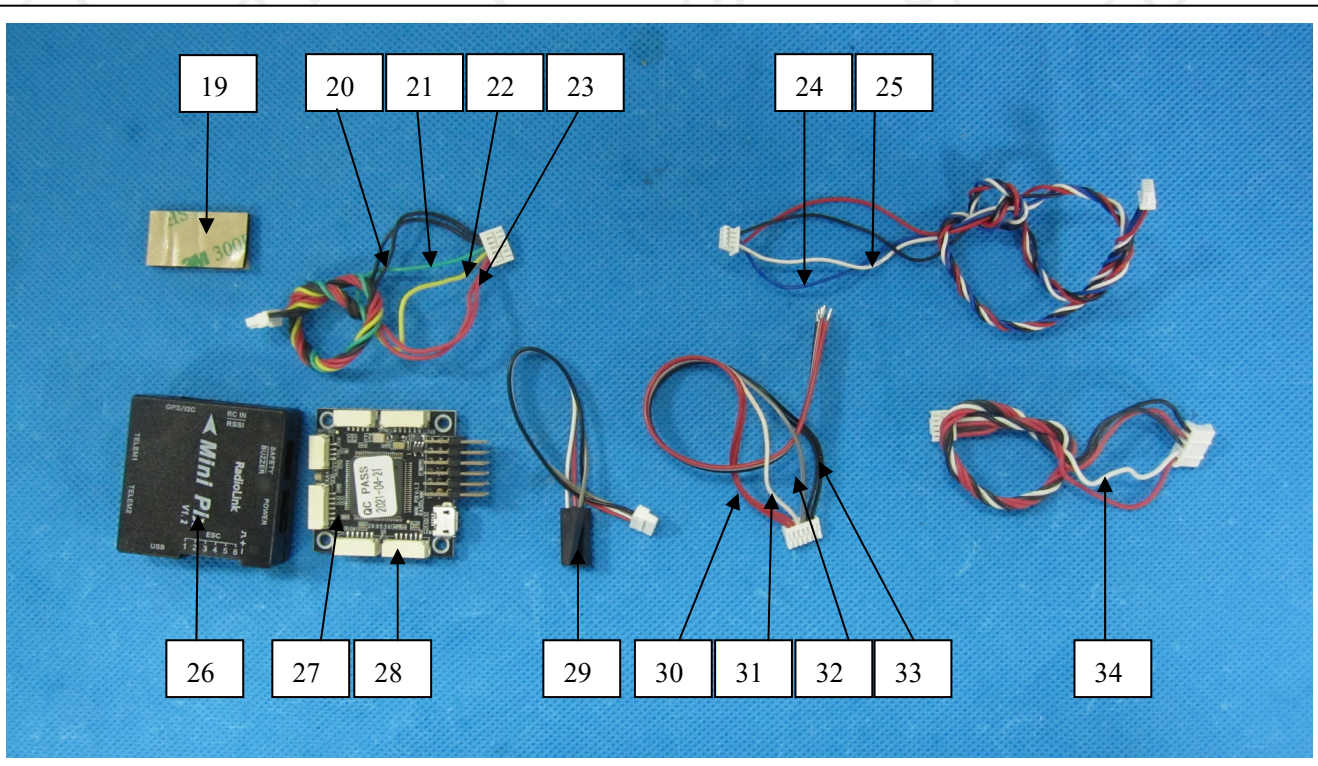
Signed for and on Behalf of SFT

Jack Zhong / Technical Manager
Guangdong Safety Testing Co., Ltd.

Photo of the Submitted Sample







Test Item(s)	Component Description(s)	Style
1	Black soft plastic wire jacket	-
2	White plastic	-
3	Beige plastic	-
4	Red plastic	-
5	Black plastic	-
6	PCB	-
7	Silver solder tin	-
8	Black soft plastic wire jacket with white printing	-
9	Red soft plastic wire jacket with white printing	-
10	Copper metal	-
11	Beige plastic	-
12	Beige plastic	-
13	Green soft plastic wire jacket	-
14	White soft plastic wire jacket	-
15	Red soft plastic wire jacket	-
16	Orange soft plastic wire jacket	-
17	Yellow soft plastic wire jacket	-
18	Black soft plastic wire jacket	-
19	Mounting tape	-
20	Black soft plastic wire jacket with white printing	-
21	Green soft plastic wire jacket with white printing	-
22	Yellow soft plastic wire jacket with black printing	-
23	Red soft plastic wire jacket with white printing	-
24	Blue soft plastic wire jacket with white printing	-
25	White soft plastic wire jacket with black printing	-
26	Black plastic with white printing	-
27	PCB	-
28	Beige plastic	-
29	Black plastic	-
30	Red soft plastic wire jacket	-
31	White soft plastic wire jacket	-
32	Gray soft plastic wire jacket	-
33	Black soft plastic wire jacket	-
34	White soft plastic wire jacket with black printing	-

Test Result(s):

Heavy Metals , Flame Retardants Content - European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments Commission Delegated Directive (EU) 2015/863

Test Method:	See Appendix.

See Analytes and their corresponding Maximum Allowable Limit in Appendix

Parameter	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	**Conclusion**
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item(s)	-	-	-	-	-	-	-
001	ND	ND	ND	ND	ND	ND	PASS
002	ND	ND	ND	ND	ND	ND	PASS
003	ND	ND	ND	ND	ND*	ND*	PASS
004	ND	ND	ND	ND	ND	ND	PASS
005	ND	ND	ND	ND	ND	ND	PASS
006	ND	ND	ND	ND	ND*	ND*	PASS
007	ND	ND	ND	ND	NA	NA	PASS
008	ND	ND	ND	ND	ND	ND	PASS
009	ND	ND	ND	ND	ND	ND	PASS
010	23212#	ND	ND	ND	NA	NA	EX-EMPTED
011	ND	ND	ND	ND	ND	ND	PASS
012	ND	ND	ND	ND	ND	ND	PASS
013	ND	ND	ND	ND	ND	ND	PASS
014	ND	ND	ND	ND	ND	ND	PASS
015	ND	ND	ND	ND	ND	ND	PASS
016	ND	ND	ND	ND	ND	ND	PASS
017	ND	ND	ND	ND	ND	ND	PASS
018	ND	ND	ND	ND	ND	ND	PASS
019	ND	ND	ND	ND	ND	ND	PASS
020	ND	ND	ND	ND	ND	ND	PASS
021	ND	ND	ND	ND	ND	ND	PASS
022	ND	ND	ND	ND	ND	ND	PASS
023	ND	ND	ND	ND	ND	ND	PASS
024	ND	ND	ND	ND	ND	ND	PASS
025	ND	ND	ND	ND	ND	ND	PASS
026	ND	ND	ND	ND	ND	ND	PASS
027	ND	ND	ND	ND	ND*	ND*	PASS
028	ND	ND	ND	ND	ND	ND	PASS
029	ND	ND	ND	ND	ND*	ND*	PASS
030	ND	ND	ND	ND	ND	ND	PASS
031	ND	ND	ND	ND	ND	ND	PASS

032	ND	ND	ND	ND	ND	ND	PASS
033	ND	ND	ND	ND	ND	ND	PASS
034	ND	ND	ND	ND	ND	ND	PASS

Note / Key:

ND = Not detected ">" = Greater than
NA= Not applicable mg/kg = milligram(s) per kilogram = ppm = part(s) per million
% = percent 10000 mg/kg = 1 %
Detection Limit : See Appendix.

Phthalates Content - European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments Commission Delegated Directive (EU) 2015/863

Analyte	Requirement (mg/kg)	Result (mg/kg)		
		Test Item		
		1+8+9	13+14+15	20+23+24
Dibutyl phthalate (DBP)	1000	ND	ND	ND
Di-(2-ethyl hexyl) phthalate (DEHP)	1000	ND	ND	ND
Benzyl butyl phthalate (BBP)	1000	ND	ND	ND
Di-(iso-butyl) phthalate (DIBP)	1000	ND	ND	ND
Conclusion		PASS	PASS	PASS

Note / Key:

ND = Not detected ">" = Greater than
NA= Not applicable mg/kg = milligram(s) per kilogram = ppm = part(s) per million
% = percent 10000 mg/kg = 1 %
Report Limit: See Appendix.

Remark:

- The testing approach is listed in table of Appendix.
- * denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.。
- Only selected example(s) is (are) indicated on the photograph(s) in Comment.
- According to European Council Directive 2011/65/EU, Article 5 "Adaptation of the Annexes to scientific and technical progress", exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.
- Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Council Directive 2011/65/EU, Article 4(1).

- a. The sample is positive for Cr^{6+} if the Cr^{6+} concentration is greater than 0.13μg/cm^2, The sample coating is considered to contain Cr^{6+}.
  b. The sample is negative for Cr^{6+} if the Cr^{6+} is N.D. (concentration less than 0.10μg/cm^2), The coating is considered a non-Cr^{6+} based coating.
  c. The result between 0.10μg/cm^2 and 0.13μg/cm^2 is considered to be inconclusive-unavoidable coating variations may influence the determination information on storage conditions and production date of the tested sample is unavailable and thus Cr^{6+} results represent status of the sample at the time of testing.
- "#"According to Annex III of European Council Directive 2011/65/EU, exemptions were granted a few materials and Clause 6(c) is reiterated here "Copper alloy containing up to 4 % lead by weight.". Test Item(s) *<10>* was claimed as is by client (received as is). Therefore, this (these) Test Item(s) containing the found lead level should be exempted.

APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit [for European Council Directive 2011/65/EU&(EU) 2015/863] :

No.	Name of Analytes	Report Limit (mg/kg)				Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF)[a]			Wet Chemistry	
		Plastic	Metallic / glass / ceramic	Others		
1	Lead (Pb)	100	200	200	10[b]	1000
2	Cadmium (Cd)	50	50	50	10[b]	100
3	Mercury (Hg)	100	200	200	10[c]	1000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	10[d] / See [e]	1000 / Negative
6	Bromine (Br)	200	NA	200	NA	NA
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50 [f]	Sum 1000
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50 [f]	Sum 1000

9	Dibutyl phthalate (DBP) Di-(2-ethyl hexyl) phthalate (DEHP) Benzyl butyl phthalate (BBP) Di-(iso-butyl) phthalate (DIBP)	NA	NA	NA	Each 50 [g]	Each 1000

NA = Not applicable

[a] Test method with reference to IEC 62321-3-1:2013.

[b] Test method with reference to IEC 62321-5:2013.

[c] Test method with reference to IEC 62321-4:2013.

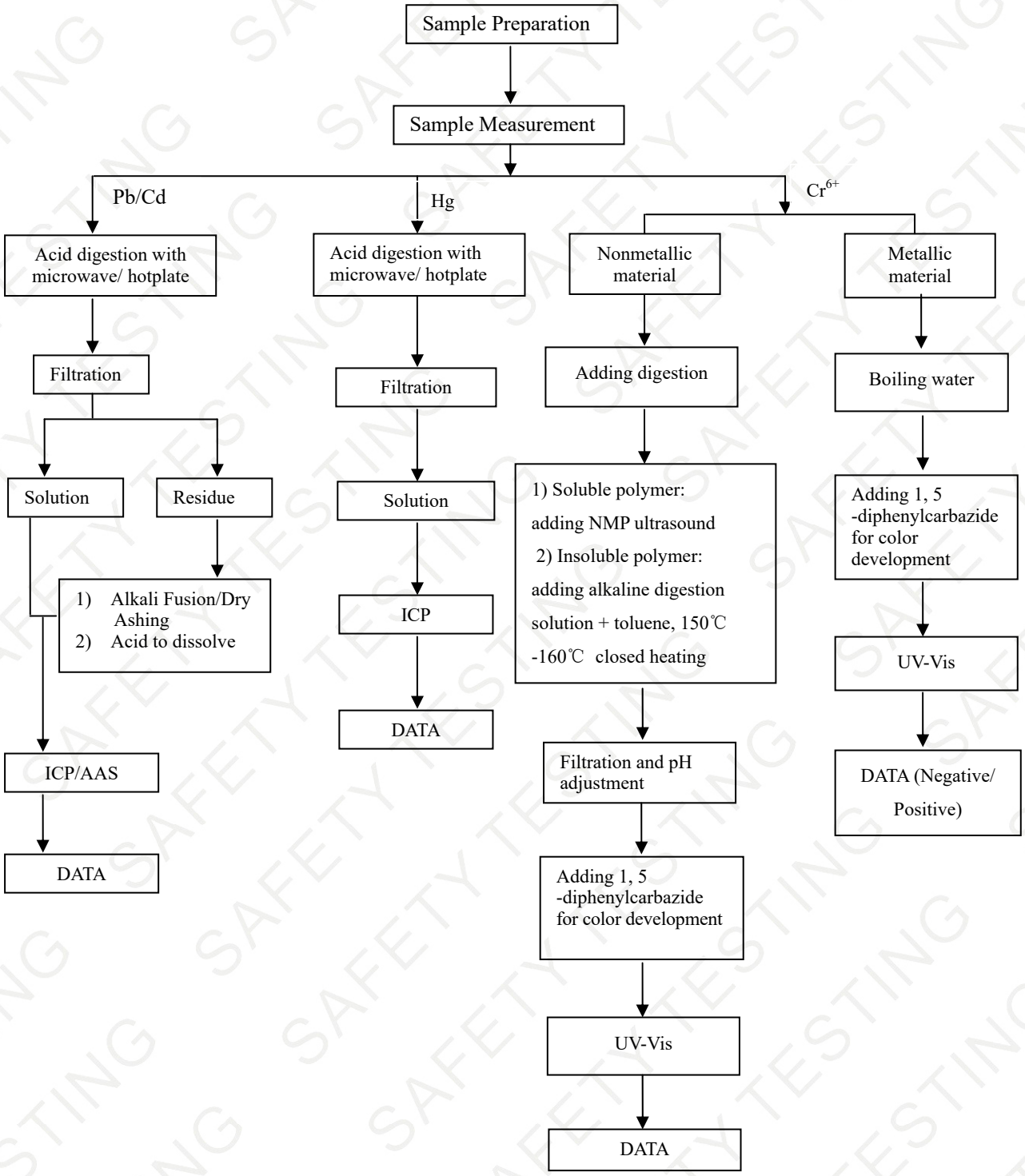
[d] Polymers and Electronic-Test method with reference to European standard IEC 62321-7-2:2017.

[e] Metal-Test method with reference to European standard IEC 62321-7-1:2015.

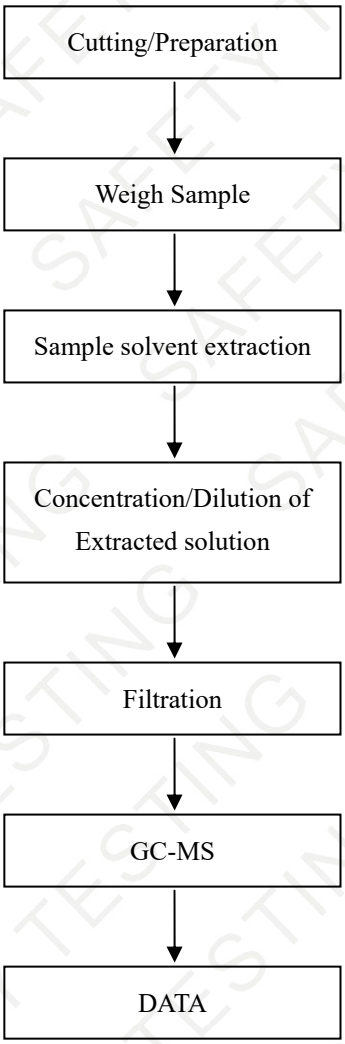
[f] Test method with reference to European standard IEC 62321-6: 2015.

[g] Test method with reference to IEC 62321-8:2017.

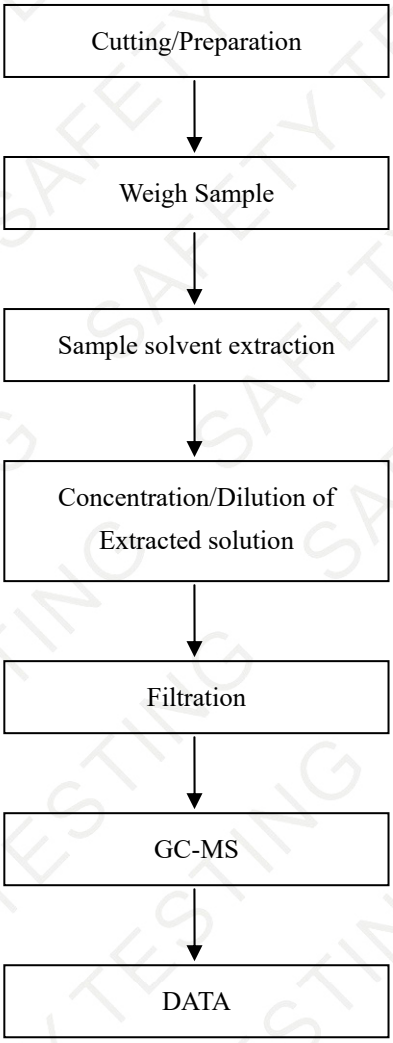
Pb/Cd/Hg/Cr^{6+} Testing Flow Chart



PBBs/PBDEs Testing Flow Chart



Phthalates Testing Flow Chart



End of Report