Test Report No. : **ATL-RoHS-220503-1**

Client : **Xperix. Inc.**
1207, 37, Sagimakgol-ro 62beon-gil, Jungwon-gu,
Seongnam-si, Gyeonggi-do 13211, Republic of Korea

Test Item(s)/Model No.(s) : RealScan-D / RS-D

Test specification : Restriction of the Use of Hazardous Substances Directive(RoHS) 2011/65/EU with amendment 2015/863

Verification Period : May. 03. 2022 ~ May. 25. 2022

Issued date : Sep. 07. 2023

Test Result : Please refer to next page(s)

Verification Conclusion :

Based on the review of previous report and verification results of the submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Phthalates (DEHP, DBP, BBP, DIBP) comply with the limits set by RoHS Directive 2011/65/EU with amendment 2015/863.

Checked by : 

Mi Soon Yeo / Person in charge

Reviewed by : 

Yong Sung Park / Technical Manager

The report shall not be reproduced partly and published as advertisement without written approval of Analysis & Testing Laboratory. The test results are related only to the tested items. If a several homogenous materials, a wet chemistry reports for each material shall be provided by the applicant. All wet chemistry test reports are issued by third product consist of party test organization accredited by ISO/IEC 17025 including Analysis & Testing Laboratory.

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1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
1	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
2	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
3	Cd	BL		Comply	*C.1)
	Pb	OL	-	Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
4	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	OL	N.D	Comply	
	PBDEs		N.D	Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
5	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
6	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
7	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
8	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
9	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
10	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
11	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
12	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
13	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
14	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
15	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
16	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
17	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
18	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
19	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
20	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
21	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
22	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
23	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
24	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
25	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
26	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
27	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
28	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
29	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
30	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
31	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
32	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
33	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	OL	N.D	Comply	
	PBDEs		N.D	Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
34	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
35	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
36	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
37	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
38	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
39	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	OL	N.D	Comply	
	PBDEs		N.D	Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
40	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
41	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
42	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
43	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
44	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
45	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
46	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
47	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
48	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
49	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
50	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
51	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
52	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
53	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
54	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
55	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
56	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
57	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
58	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	OL	N.D	Comply	
	PBDEs		N.D	Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
59	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
60	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
61	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	N.D	Comply	
	DBP	-	N.D	Comply	
	BBP	-	N.D	Comply	
	DIBP	-	N.D	Comply	
62	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
63	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
64	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.1 Screening test results by XRF

Part Description Number	Restricted Substances	Results of EDXRF	Results of Related or Additional Wet Chemical Tests (mg/kg)	Conclusion on RoHS	Remark
65	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
66	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	
67	Cd	BL		Comply	
	Pb	BL		Comply	
	Hg	BL		Comply	
	Cr^{6+}	BL		Comply	
	PBBs	BL		Comply	
	PBDEs			Comply	
	DEHP	-	-	Comply	
	DBP	-	-	Comply	
	BBP	-	-	Comply	
	DIBP	-	-	Comply	

1.2 Results of Related or Additional Wet Chemical Tests

No.	Test item(s)	Unit	Test Method(s)	MDL	Result(s)
4	PBBs				
	Monobrominated biphenyl	mg/kg	IEC 62321-6 : 2015, GC/MS	5	N.D
	Dibrominated biphenyl				N.D
	Tribrominated biphenyl				N.D
	Tetrabrominated biphenyl				N.D
	Pentabrominated biphenyl				N.D
	Hexabrominated biphenyl				N.D
	Heptabrominated biphenyl				N.D
	Octabrominated biphenyl				N.D
	Nonabrominated biphenyl				N.D
	Decabrominated biphenyl				N.D
	PBDEs				
	Monobrominated diphenyl ether	mg/kg	IEC 62321-6 : 2015, GC/MS	5	N.D
	Dibrominated diphenyl ether				N.D
	Tribrominated diphenyl ether				N.D
	Tetrabrominated diphenyl ether				N.D
	Pentabrominated diphenyl ether				N.D
	Hexabrominated diphenyl ether				N.D
	Heptabrominated diphenyl ether				N.D
	Octabrominated diphenyl ether				N.D
	Nonabrominated diphenyl ether				N.D
	Decabrominated diphenyl ether				N.D
7	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
8	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
9	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
10	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D

1.2 Results of Related or Additional Wet Chemical Tests

No.	Test item(s)	Unit	Test Method(s)	MDL	Result(s)
14	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
15	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
16	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
17	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
18	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D

1.2 Results of Related or Additional Wet Chemical Tests

No.	Test item(s)	Unit	Test Method(s)	MDL	Result(s)
33	PBBs				
	Monobrominated biphenyl	mg/kg	IEC 62321-6 : 2015, GC/MS	5	N.D
	Dibrominated biphenyl				N.D
	Tribrominated biphenyl				N.D
	Tetrabrominated biphenyl				N.D
	Pentabrominated biphenyl				N.D
	Hexabrominated biphenyl				N.D
	Heptabrominated biphenyl				N.D
	Octabrominated biphenyl				N.D
	Nonabrominated biphenyl				N.D
	Decabrominated biphenyl				N.D
	PBDEs				
	Monobrominated diphenyl ether	mg/kg	IEC 62321-6 : 2015, GC/MS	5	N.D
	Dibrominated diphenyl ether				N.D
	Tribrominated diphenyl ether				N.D
	Tetrabrominated diphenyl ether				N.D
	Pentabrominated diphenyl ether				N.D
	Hexabrominated diphenyl ether				N.D
	Heptabrominated diphenyl ether				N.D
	Octabrominated diphenyl ether				N.D
	Nonabrominated diphenyl ether				N.D
	Decabrominated diphenyl ether				N.D

1.2 Results of Related or Additional Wet Chemical Tests

No.	Test item(s)	Unit	Test Method(s)	MDL	Result(s)
39	PBBs				
	Monobrominated biphenyl	mg/kg	IEC 62321-6 : 2015, GC/MS	5	N.D
	Dibrominated biphenyl				N.D
	Tribrominated biphenyl				N.D
	Tetrabrominated biphenyl				N.D
	Pentabrominated biphenyl				N.D
	Hexabrominated biphenyl				N.D
	Heptabrominated biphenyl				N.D
	Octabrominated biphenyl				N.D
	Nonabrominated biphenyl				N.D
	Decabrominated biphenyl				N.D
	PBDEs				
	Monobrominated diphenyl ether	mg/kg	IEC 62321-6 : 2015, GC/MS	5	N.D
	Dibrominated diphenyl ether				N.D
	Tribrominated diphenyl ether				N.D
	Tetrabrominated diphenyl ether				N.D
	Pentabrominated diphenyl ether				N.D
	Hexabrominated diphenyl ether				N.D
	Heptabrominated diphenyl ether				N.D
	Octabrominated diphenyl ether				N.D
	Nonabrominated diphenyl ether				N.D
	Decabrominated diphenyl ether				N.D

1.2 Results of Related or Additional Wet Chemical Tests

No.	Test item(s)	Unit	Test Method(s)	MDL	Result(s)
53	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
54	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
58	PBBs				
	Monobrominated biphenyl	mg/kg	IEC 62321-6 : 2015, GC/MS	5	N.D
	Dibrominated biphenyl				N.D
	Tribrominated biphenyl				N.D
	Tetrabrominated biphenyl				N.D
	Pentabrominated biphenyl				N.D
	Hexabrominated biphenyl				N.D
	Heptabrominated biphenyl				N.D
	Octabrominated biphenyl				N.D
	Nonabrominated biphenyl				N.D
	Decabrominated biphenyl				N.D
	PBDEs				
	Monobrominated diphenyl ether	mg/kg	IEC 62321-6 : 2015, GC/MS	5	N.D
	Dibrominated diphenyl ether				N.D
	Tribrominated diphenyl ether				N.D
	Tetrabrominated diphenyl ether				N.D
	Pentabrominated diphenyl ether				N.D
	Hexabrominated diphenyl ether				N.D
	Heptabrominated diphenyl ether				N.D
	Octabrominated diphenyl ether				N.D
	Nonabrominated diphenyl ether				N.D
	Decabrominated diphenyl ether				N.D
60	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D
61	Phthalate				
	DEHP(Di-2-ethylhexyl phthalate)	mg/kg	IEC 62321-8 : 2017, GC/MS	50	N.D
	DBP(Dibutyl phthalate)				N.D
	BBP(Butyl benzyl phthalate)				N.D
	DIBP(Diisobutyl phthalate)				N.D

Remark

A. Screening Test by XRF Spectroscopy.

Test method : 1.Cadmium, Lead, Mercury, Total Chromium, Total Bromine
With reference to IEC 62321-3-1 (ed1.0)b : 2013

XRF Screening limits for different matrics :

Element	Polymers	Metals	Composite material
Cd	X ≤50 (BL) 50 < X ≤ (OL)	X ≤50 (BL) 50 < X ≤ (OL)	X ≤50 (BL) 50 < X ≤ (OL)
Pb	X ≤500 (BL) 500 < X ≤ (OL)	X ≤500 (BL) 500 < X ≤ (OL)	X ≤500 (BL) 500 < X ≤ (OL)
Hg	X ≤500 (BL) 500 < X ≤ (OL)	X ≤500 (BL) 500 < X ≤ (OL)	X ≤500 (BL) 500 < X ≤ (OL)
Br	X ≤300 (BL) 300 < X ≤ (OL)	-	X ≤250 (BL) 250 < X ≤ (OL)
Cr	X ≤500 (BL) 500 < X ≤ (OL)	X ≤500 (BL) 500 < X ≤ (OL)	X ≤500 (BL) 500 < X ≤ (OL)

When the screening result of Cd, Pb and Hg were detected above the screening limits,
Thus the further wet chemistry tests were suggested.
And the Total Chromium content in sample was found to be exceeded the limit (OL).

Negative = Absence of Cr^{6+} coating, Positive = Presence of Cr^{6+} coating.
BL = Below Limit, OL = Over Limit

B. Confirmation Test by Wet Chemistry.

Test method : 1.Cadmium, Lead - Ref. to IEC 62321-5 : 2013, ICP-OES
2.Mercury - Ref. to IEC 62321-4 : 2013, ICP-OES
3.Chromium VI - Ref. to IEC 62321-7-1 : 2015(metal), UV/VIS
and IEC 62321-7-2 : 2017, UV/VIS(polymer)
4.PBBs, PBDEs - Ref. to IEC 62321-6 : 2015, GC/MS
5.Phthalates(DEHP, DBP, BBP, DIBP) - Ref. to IEC 62321-8 : 2017, GC/MS

unit (mg/kg)

Element	Cd	Pb	Hg	Cr^{6+}	PBBs & PBDEs	Phthalates
MDL	0.5	5	2	1	5	50

Abbreviation : Pb denotes Lead
Cd denotes Cadmium
Hg denotes Mercury
Cr ($^{6+}$) denotes Chromium (VI)
PBBs denotes Total Polybrominated Biphenyls
PBDEs denotes Total Polybrominated Diphenyl Ethers
N.D denotes Not detected
N.A denotes Not Applicable
MDL donotes Method Detection Limit

Remark

C. The others.

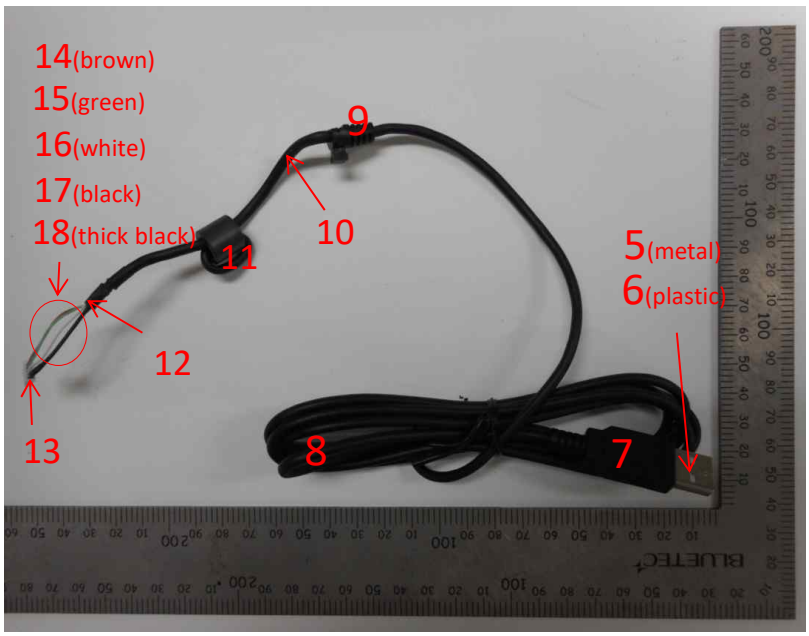
1) Lead(Pb) in specimen is exempted by EU RoHS directive 2011/65/EU based on {ANNEX III 6(C)}
Copper alloy containing up to 4 % lead by weight

2. Photos of product

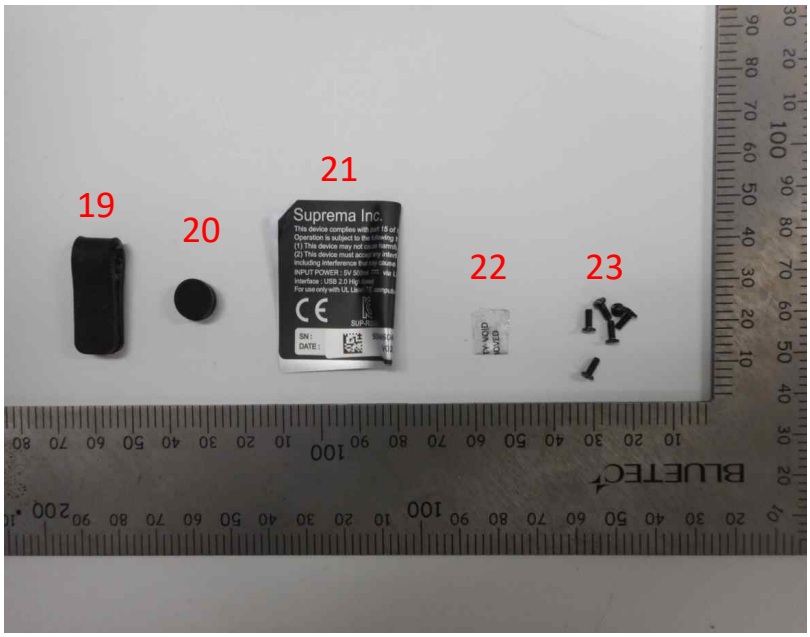


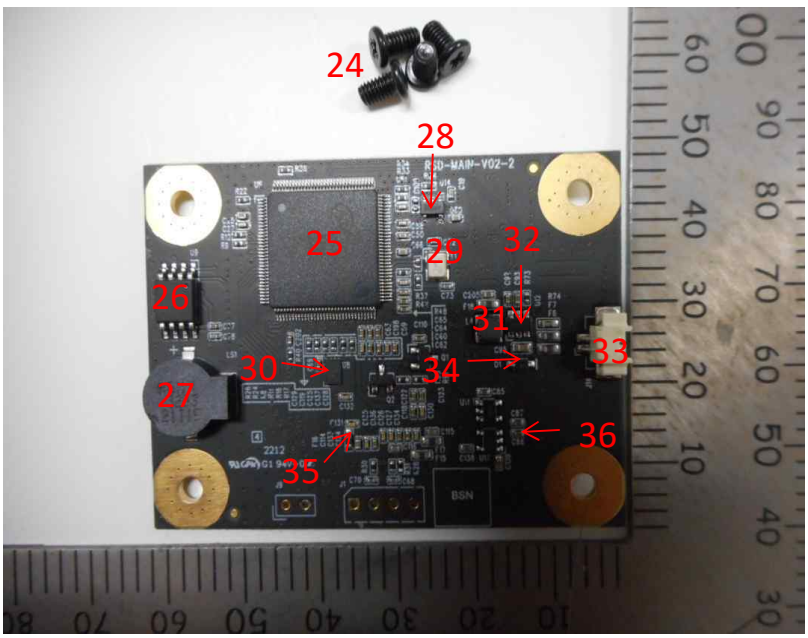
2. Photos of product



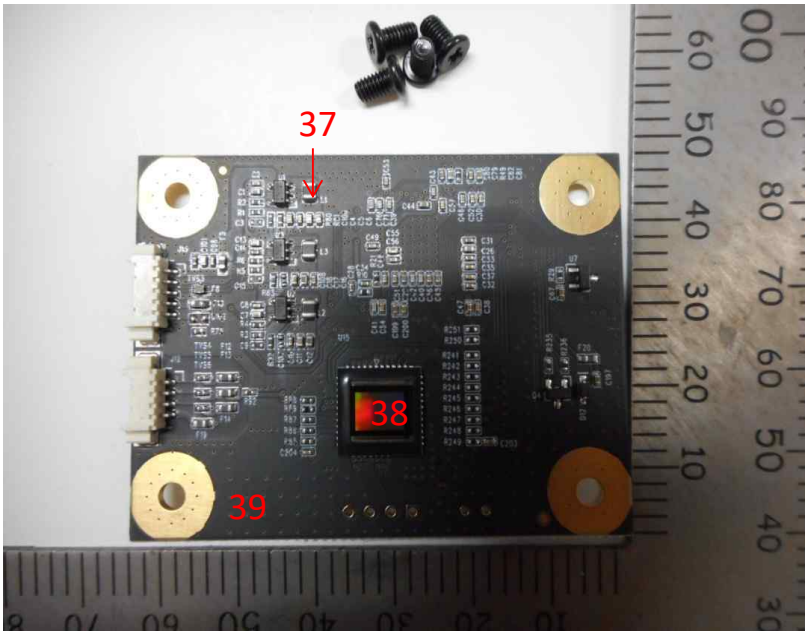


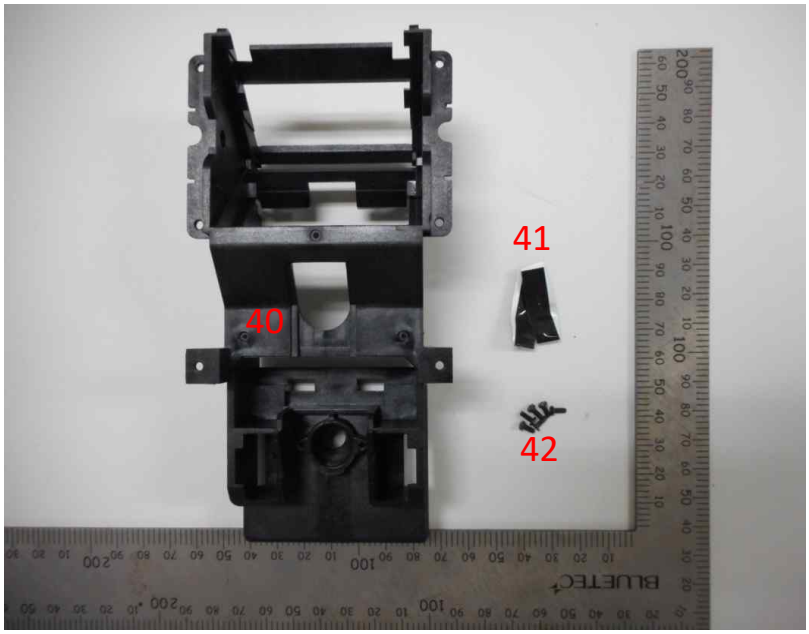
2. Photos of product





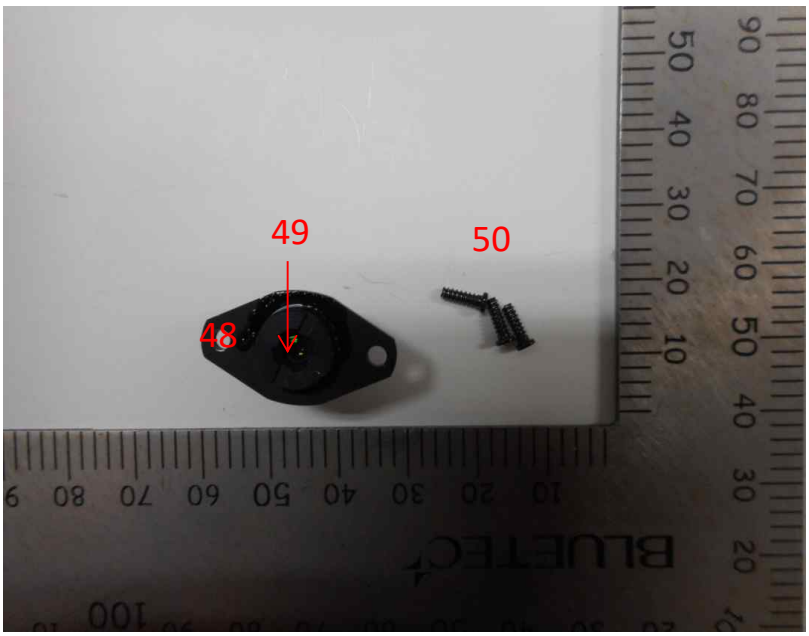
2. Photos of product



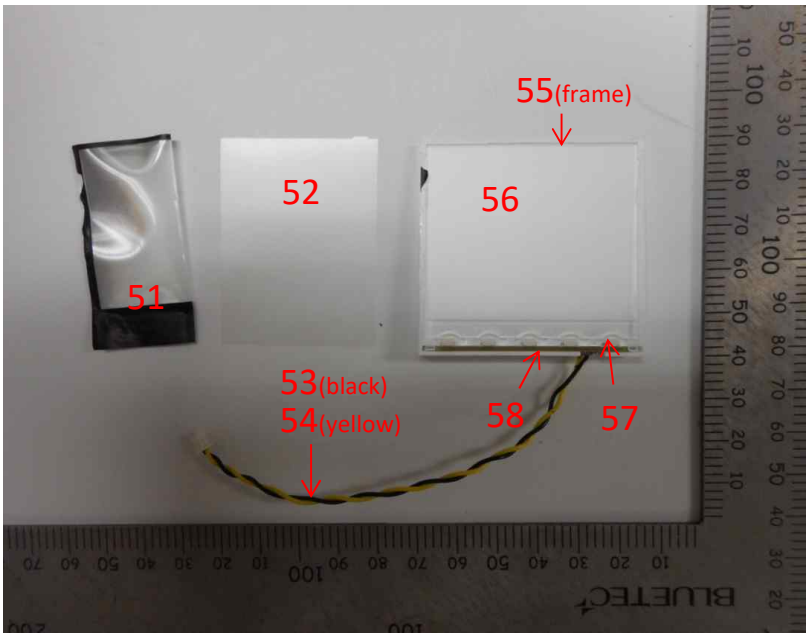


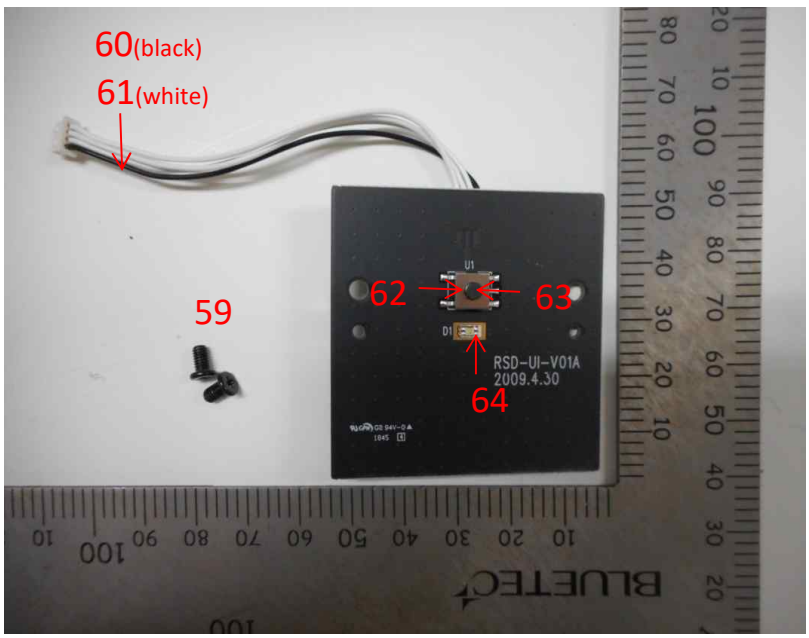
2. Photos of product



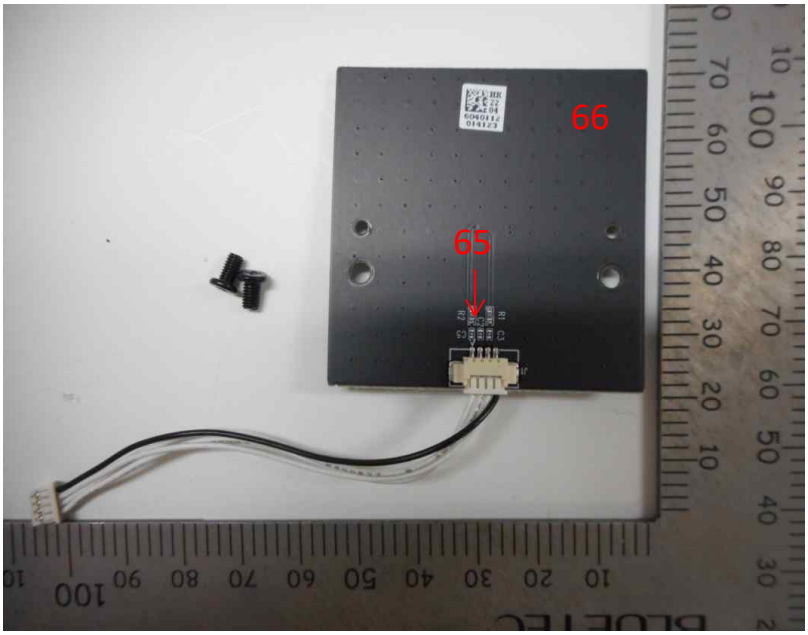


Picture of sample as Received :



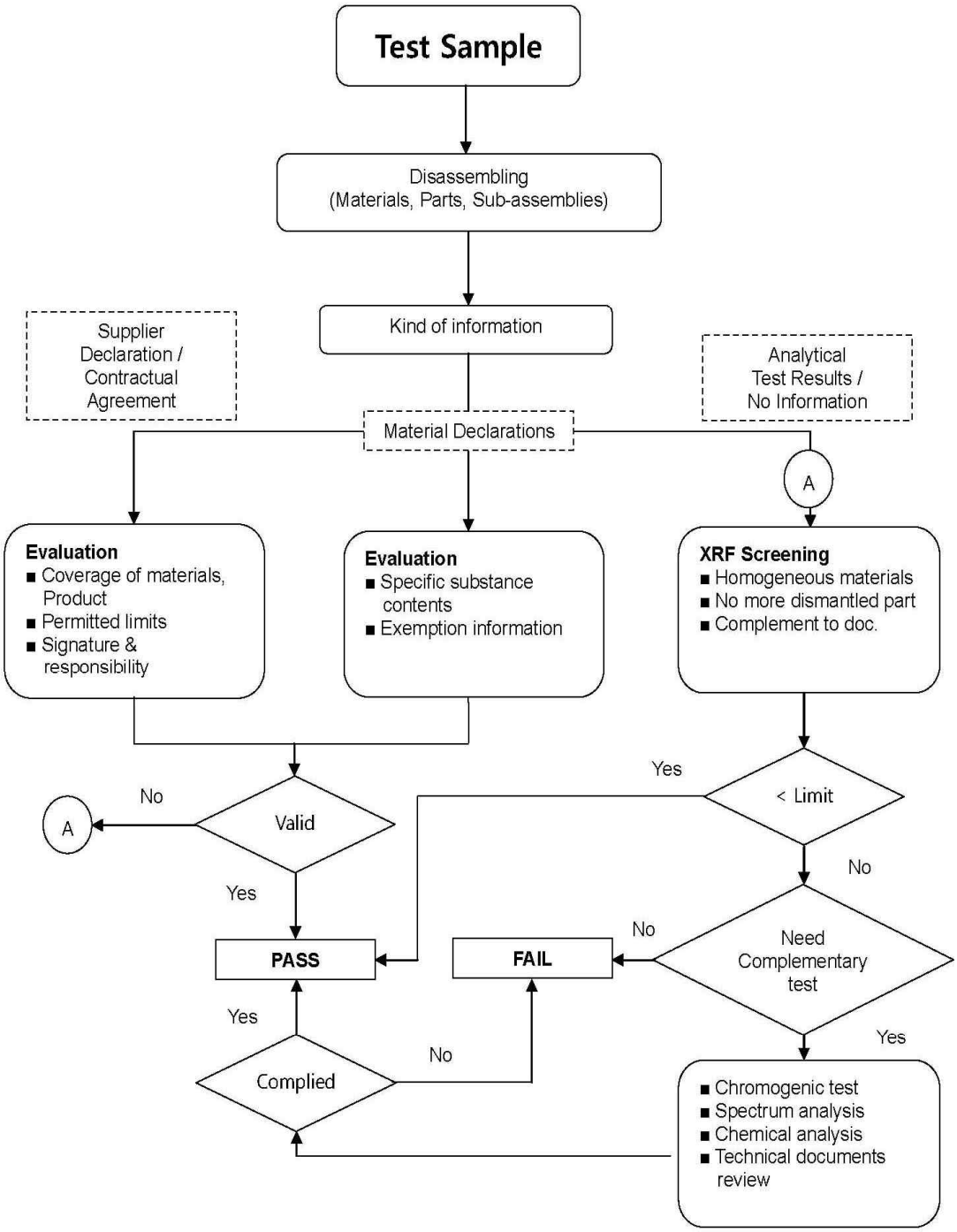


Picture of sample as Received :

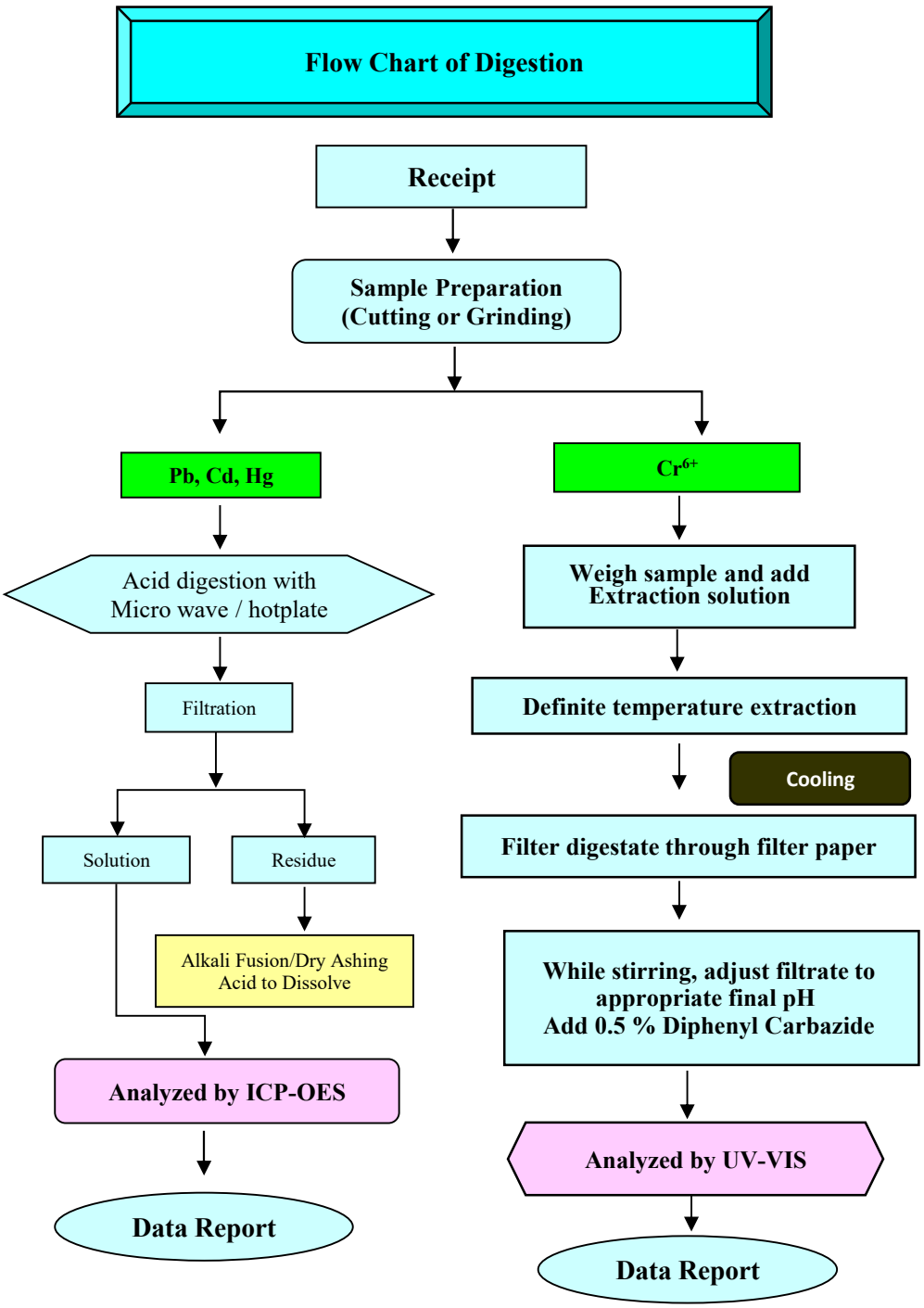




3. Evaluation procedures

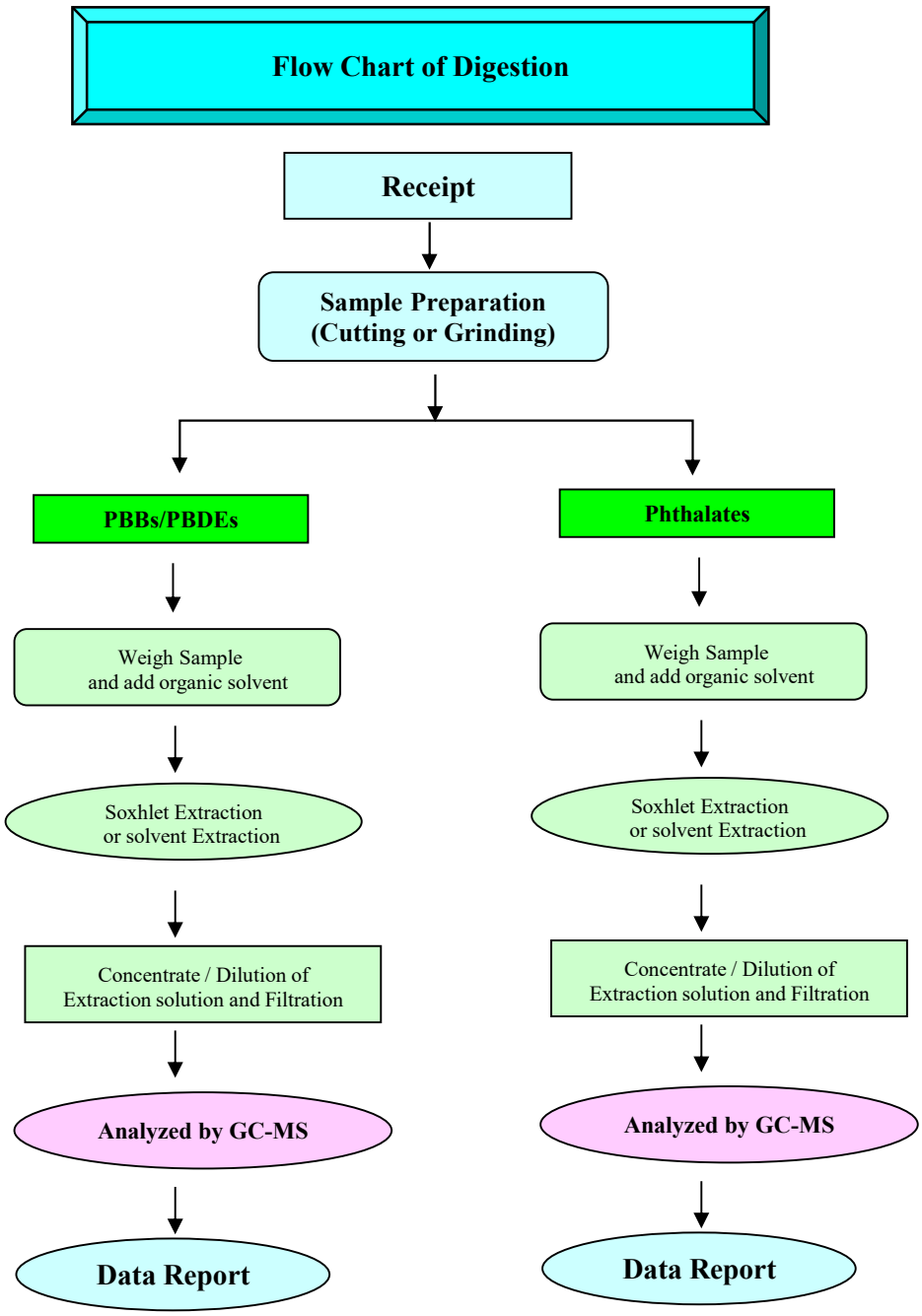


4. Wet Chemistry test Flow-Chart



▶ Remarks : The samples were dissolved totally by pre-conditioning method according to above flow chart

4. Wet Chemistry test Flow-Chart



▶ Remarks : The samples were dissolved totally by pre-conditioning method according to above flow chart

The plating / coating of all the metal sample(s) is not confirmed, it cannot be further mechanically disjointed into different materials. Testing Laboratory accredited by KOLAS according to ISO/IEC 17025. The accreditation is valid for the test methods stated in the certificate.

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