

TEST REPORT

SAMPLE INFORMATION:

Sample Name: Humidity temp dew point calibrator meter
Trade Mark: NA
Basic Model NO.: HK-J8A100 Series
Series Model NO.: HK-J8A102, HK-J8A103
Manufacturer: HENGKO Technology Co., Ltd.
Manufacturer Address: No. 51-3, Fuan West Road, Pinghu Street, Longgang District, Shenzhen, Guangdong, 518111 China

CLIENT INFORMATION:

Applicant: HENGKO Technology Co., Ltd.
Applicant Address: No. 51-3, Fuan West Road, Pinghu Street, Longgang District, Shenzhen, Guangdong, 518111 China
Date of Receipt: May 31, 2021
Date of Test: May 31, 2021-June 11, 2021

Test Requested:

With reference to RoHS Directive 2015/863/EU amending 2011/65/EU.

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

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

Summary

As requested by applicant, the submitted sample was/were tested, with is listed as specimen description in the following page. the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis (2-ethylhexyl) phthalate (DEHP), Dibutyl phthalate (DBP), Butylbenzyl Phthalate (BBP), Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

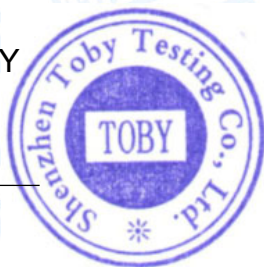
Conclusion

PASS

Signed for Shenzhen TOBY

Xiaoshan Ni

Xiaoshan Ni (Supervisor)



Remark:

(1) There are the results on total Br while tset items on restricted substances are PBBs and PBDEs. There are the results on total Cr while tset items on restricted substances Cr(VI)

(2) Results are obtained by EDXRF for primary screening, and futher chemical testing by ICP-OES (for Cd, Pb, Hg),UV-Vis (for Cr(VI) and GC-MS (for PBBs,PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit:mg.kg)

Element	Polymer Materials	Metal Materials	Composite Materials
Cd	$P \leq 70-3\sigma < D < 130+3\sigma \leq F$	$P \leq 70-3\sigma < D < 130+3\sigma \leq F$	$P \leq 50-3\sigma < D < 150+3\sigma \leq F$
Pb	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 500-3\sigma < D < 1500+3\sigma \leq F$
Hg	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 500-3\sigma < D < 1500+3\sigma \leq F$
Br	$P \leq 300-3\sigma < D$	----	$P \leq 250-3\sigma < D$
Cr	$P \leq 700-3\sigma < D$	$P \leq 700-3\sigma < D$	$P \leq 500-3\sigma < D$

(a) P = Below Limit, F = Over Limit, D=Inconclusive, LOD=Limit of Detection, ----=Not regulated.

(b)The XRF screening test for RoHS elements- the reading may be different to actual content in the sample be of non-uniformity composition

(3) Chemical Method

① With reference to IEC 62321-5:2013, determination of Cadmium,Lead by ICP-OES.

② With reference to IEC 62321-4:2013+AMD1:2017 CSV, determination of Mercury by ICP-OES.

③ With reference to IEC 62321-7-2:2017, determination of Hexavalent Chromium by UV-Vis.

④ With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.

⑤ With reference to IEC 62321-8:2017, determination of Phthalates by GC-MS.

(4) (a) mg/kg=0.0001%,MDL=MDL=Method Detection Limit,(3)ND=Not Detected(<MDL),(4)----=Not Regulated

(b)Unit and MDL in wet chemical test

Test Item	Pb	Cd	Hg	DBP	BBP	DEHP	DIBP
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	10	10	10	100	100	100	100

The MDL for single compound of PBBs and PBDEs is 100 mg/kg

MDL of Cr(VI) for polymer and composite anmple is 10 mg/kg

MDL of Cr(VI) for metal sample is 0.10ug/cm²

(c) ▼=Metal sample

a. The sample is negative for Cr⁶⁺ - the Cr⁶⁺ concentration is below the limit 0.10ug/cm². The coating is considered a non-Cr⁶⁺ based coating.

b. The sample positive for Cr⁶⁺ if the Cr⁶⁺ concentration is greater than 0.13ug/cm². The sample coating is considered to contain Cr⁶⁺.

c. The result between 0.10ug/cm² and 0.13ug/cm² is considered to be inconclusive unavoidable coating variations may influence the determination.

Test Results and Sample Description

The results of XRF screening and chemical test (Unit: mg/kg)

Part No.	Part Description	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
P1	Black plastic back cover	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P2	Black plastic front cover	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P3	Grey plastic key panel	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P4	Black plastic button	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P5	Black plastic battery cover	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P6	Silvery metal antenna	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	D	Negative		
		Br(PBBs&PBDEs)	---	---		
		DBP,BBP,DEHP,DIBP	---	---		
P7	Blue battery	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P8	Black metal screws	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	---	---		
		DBP,BBP,DEHP,DIBP	---	---		

Part No.	Part Description	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
P9	Silvery metal screws	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	D	Negative		
		Br(PBBs&PBDEs)	---	---		
		DBP,BBP,DEHP,DIBP	---	---		
P10	Grey plastic screw cap	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P11	Black glass display	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P12	Clear plastic lens	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P13	White plastic lens	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P14	White plastic sticker	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P15	Black plastic leather 1	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P16	Red plastic leather	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		

Part No.	Part Description	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
P17	Green plastic leather	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P18	Yellow plastic skin	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P19	Black plastic leather 2	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P20	White woolen	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P21	Silvery metal conductor	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P22	IC1	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P23	IC2	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P24	Audion 1	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		

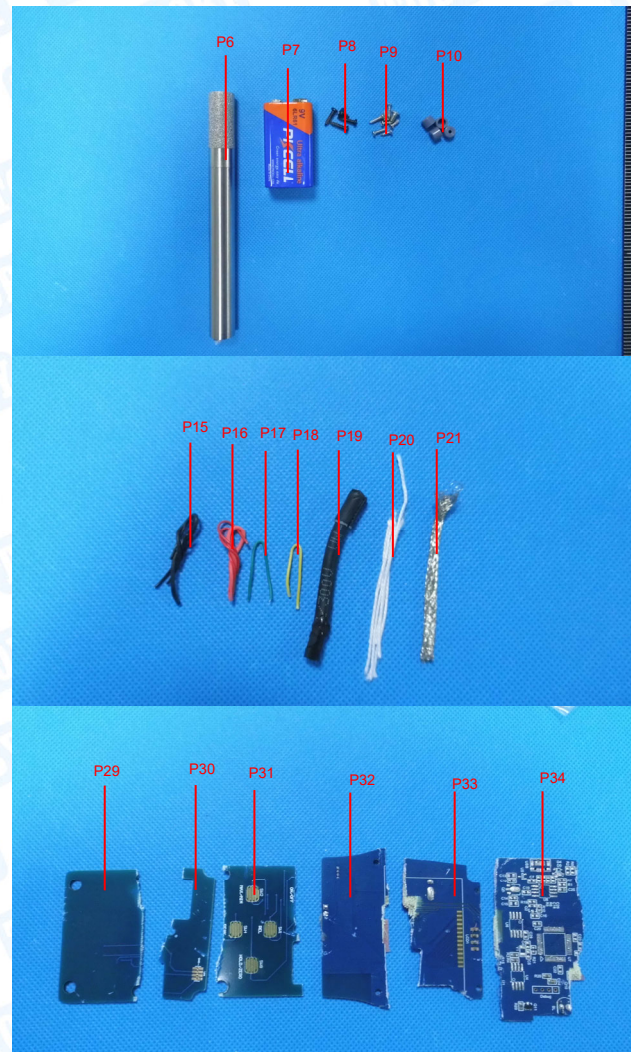
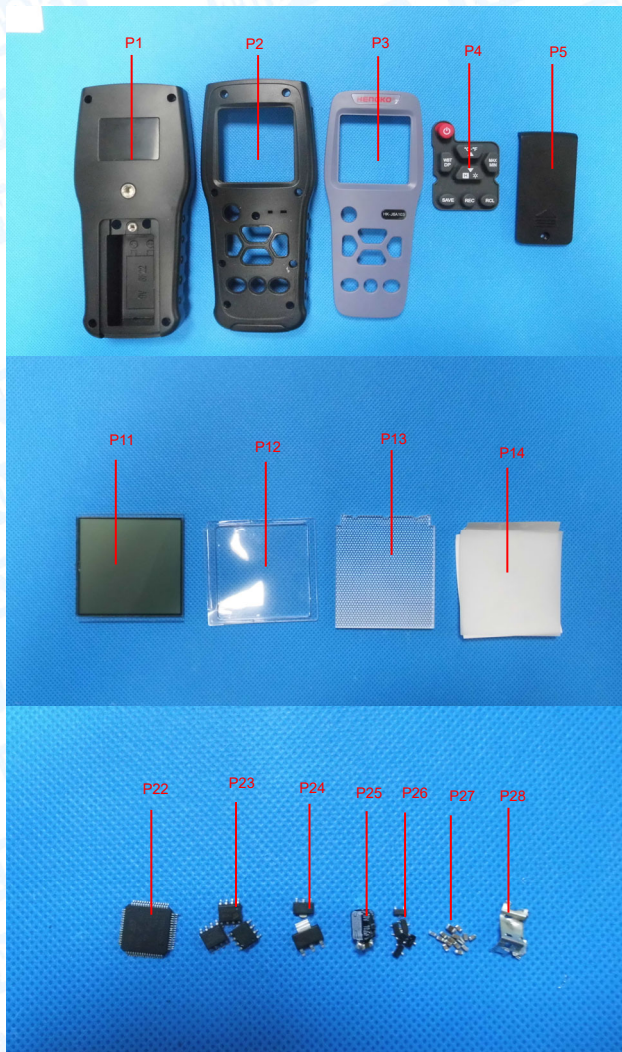
Part No.	Part Description	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
P25	Black inductance	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P26	Audion 2	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P27	Yellow patch capacitor	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P28	Silvery metal case	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	---	---		
		DBP,BBP,DEHP,DIBP	---	---		
P29	Green metal coating	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P30	Green wood	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	D	N.D.		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P31	Gold metal solder	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	---	---		
		DBP,BBP,DEHP,DIBP	---	---		
P32	Blue metal coating	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	P	---		
		DBP,BBP,DEHP,DIBP	---	N.D.		

Part No.	Part Description	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
P33	Blue wood	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	D	N.D.		
		DBP,BBP,DEHP,DIBP	---	N.D.		
P34	Silvery metal solder	Pb	P	---	Comply	/
		Cd	P	---		
		Hg	P	---		
		Cr(Cr ⁶⁺)	P	---		
		Br(PBBs&PBDEs)	---	---		
		DBP,BBP,DEHP,DIBP	---	---		

Remark:

- 1、a= Lead in copper alloy containing up to 4% lead by weight. The item is exempted from the requirements of the item 6(c) in ANNEX III, (Directive 2011/65/EU).
- 2、b=Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead, The item is exempted from the requirements of the item 7(a) in ANNEX III, (Directive 2011/65/EU)
- 3、c=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.
The item is exempted from the requirements of the item 7(c)-I in ANNEX III, (Directive 2011/65/EU).

Sample Photo



Verify only the photos on the original report.

***** END OF REPORT *****