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NINGBO HI-TECH PARK PEASWAY ELECTRONIC TECHNOLOGY CO.,LTD.

NO.66 JINTENG ROAD, WUXIANG INDUSTRY ZONE, YINZHOU DISTRICT, NINGBO, ZHEJIANG, CHINA

Sample Name: WATER ALARM(WATER DETECTOR)

SGS Job No.: NP13-001700 - NB

Tested Basic Model No. : PW-312
Client Ref. Information : PW-312R

Date of Sample Received: 10 Sep 2013

Verification Period: 10 Sep 2013 - 24 Sep 2013

Verification Requested: With reference to RoHS Directive 2011/65/EU recasting 2002/95/EC.

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

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

Verification Conclusion: Based on the review of previous reports and verification results of the submitted

samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium,

Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply

with the limits as set by RoHS Directive 2011/65/EU recasting 2002/95/EC.

Note: The test results are related only to the tested items. The report shall not be

reproduced except in full without the written approval of the testing laboratory.

Signed for and on behalf of SGS-CSTC Ltd.

Iris Xiao

**Approved Signatory** 

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- 1. With reference to IEC 62321-2:2013, review was performed for the samples disjointed from the submitted articles and the related test reports submitted by the Applicant
- 2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in the report.
- (1) With reference to IEC 62321-3-1: 2013, screening by EDXRF Spectroscopy (2) Wet Chemical Test Method:
- a. With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
- b. With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
- c. With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
- d. With reference to IEC 62321:2008, determination of Hexavalent Chromium by spot test / Colorimetric Method using UV-Vis.
- e. With reference to IEC 62321:2008, determination of PBBs and PBDEs by GC-MS.

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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
1	PW-312-White plastic		Pb	BL		Comply	10 Sep 2013
	shell		Cd	BL		Comply	·
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
2	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	contact piece(cover)		Cd	BL		Comply	10 000 2010
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				
3	PW-312-Beige solid		Pb	BL		Comply	10 Sep 2013
	adhesive(cover)		Cd	BL		Comply	10 000 2010
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
4	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	connecting sheet(wire)		Cd	BL		Comply	10 000 20 10
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
5	PW-312-Black plastic		Pb	BL		Comply	10 Sep 2013
	jacket(wire)		Cd	BL		Comply	'
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
6	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	core(wire)		Cd	IN	ND	Comply	17 Sep 2013
			Hg	BL		Comply	17 OCP 2010
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				
7	PW-312-Beige plastic		Pb	BL		Comply	10 Sep 2013
	shell		Cd	BL		Comply	10 00p 2010
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
8	PW-312-White solid		Pb	BL		Comply	10 Sep 2013
	adhesive		Cd	BL		Comply	2 2 2 7 2 0 . 0
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	



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9	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	screw		Cd	BL		Comply	10000
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				
10	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	core(wire)		Cd	BL		Comply	10 0ep 2010
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				
11	PW-312-Black plastic		Pb	OL	188	Comply	10 Sep 2013
	jacket(wire)		Cd	BL		Comply	17 Sep 2013
			Hg	BL		Comply	17 OCP 2010
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
12	PW-312-Black plastic		Pb	BL		Comply	10 Sep 2013
	sheath(battery case)		Cd	BL		Comply	
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	



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13	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	contact piece(battery		Cd	BL		Comply	
	case)		Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				
14	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	rivet(battery case)		Cd	BL		Comply	10 Sep 2013
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				
15	PW-312-Red paper		Pb	BL		Comply	10 Sep 2013
	board(battery case)		Cd	BL		Comply	10 000 2010
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
16	PW-312-Red plastic		Pb	BL		Comply	10 Sep 2013
	jacket(wire)		Cd	BL		Comply	
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
17	PW-312-Black plastic		Pb	BL		Comply	10 Sep 2013
	jacket(wire)		Cd	BL		Comply	·
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
18	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	soldering tin		Cd	OL	ND	Comply	17 Sep 2013
			Hg	BL		Comply	17 OCP 2010
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				
19	PW-312-Green PCB		Pb	BL		Comply	10 Sep 2013
	body		Cd	BL		Comply	17 Sep 2013
			Hg	BL		Comply	17 GGP 2010
			Cr(VI)	BL		Comply	
			PBBs	IN	ND	Comply	
			PBDEs	IN	ND	Comply	
20	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	pin(audion)(PCB)		Cd	OL	ND	Comply	17 Sep 2013
			Hg	BL		Comply	1.7 COP 2010
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
21	PW-312-Black audion body(PCB)		Pb Cd Hg	BL BL BL	 	Comply Comply Comply	10 Sep 2013 17 Sep 2013
			Cr(VI) PBBs PBDEs	BL IN IN	ND ND	Comply Comply Comply	
22	PW-312-White plastic shell(joint)(PCB)		Pb Cd Hg Cr(VI) PBBs PBDEs	BL BL BL BL BL	   	Comply Comply Comply Comply Comply Comply	10 Sep 2013
23	PW-312-Silvery metal pin(joint)(PCB)		Pb Cd Hg Cr(VI) PBBs PBDEs	BL BL BL 	   	Comply Comply Comply Comply	10 Sep 2013
24	PW-312-Black IC body(PCB)		Pb Cd Hg Cr(VI) PBBs PBDEs	BL BL BL BL BL	   	Comply Comply Comply Comply Comply	10 Sep 2013



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
25	PW-312-Black diode		Pb	BL		Comply	10 Sep 2013
	body(PCB)		Cd	BL		Comply	17 Sep 2013
			Hg	BL		Comply	17 GGP 2010
			Cr(VI)	BL		Comply	
			PBBs	IN	ND	Comply	
			PBDEs	IN	ND	Comply	
26	PW-312-Blue plastic		Pb	BL		Comply	10 Sep 2013
	jacket(joint)		Cd	BL		Comply	10 OCP 2010
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
27	PW-312-White plastic		Pb	BL		Comply	10 Sep 2013
	shell(joint)		Cd	BL		Comply	10 000 2010
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	
28	PW-312-Silvery metal		Pb	BL		Comply	10 Sep 2013
	connecting sheet(joint)		Cd	BL		Comply	
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
29	PW-312-Golden metal		Pb	BL		Comply	10 Sep 2013
	piece(buzzer)		Cd	BL		Comply	
			Hg	BL		Comply	
			Cr(VI)	BL		Comply	
			PBBs				
			PBDEs				
30	PW-312-White ceramic		Pb	OL▲		Comply	10 Sep 2013
	piece(buzzer)		Cd	BL		Comply	17 Sep 2013
			Hg	BL		Comply	17 OCP 2010
			Cr(VI)	BL		Comply	
			PBBs	BL		Comply	
			PBDEs	BL		Comply	



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#### Remark:

- (1) (a) There are the results on total Br while test items on restricted substances are PBBs and PBDEs. There is the result on total Cr while test item on restricted substances is Cr(VI).
  - (b) Results are obtained by EDXRF for primary screening, and further 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	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 $\leq$ (500-3 $\sigma$ ) $<$ X $<$ (1500+3 $\sigma$ ) $\leq$ 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) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection, -- = Not regulated.
- (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 = 0.0001%, MDL = Method detection Limit, ND = Not Detected (<MDL), --- = Not conducted, = Without BOM.
  - (b) Unit and MDL in wet chemical test

Test Item	Pb	Cd	Hg
Unit	mg/kg	mg/kg	mg/kg
MDL	2	2	2

The MDL for single compound of PBBs and PBDEs is 5 mg/kg, MDL of Cr(VI) for polymer and composite sample is 2 mg/kg.

(c) According to IEC 62321:2008, result on Cr(VI) for metal sample is shown as Positive/Negative. Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) coating.

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(d)▲=According to the declaration from the client, Lead (Pb) in No.30 is exempted by EU RoHS Directive 2011/65/EU based on: 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.

(3) According to the declaration from applicant, the materials of Model "PW-312." are the same as those in Model "PW-312R." and its results for support the results of Model "PW-312R.". The applicant will take the responsibility of all discrepancy and risk.

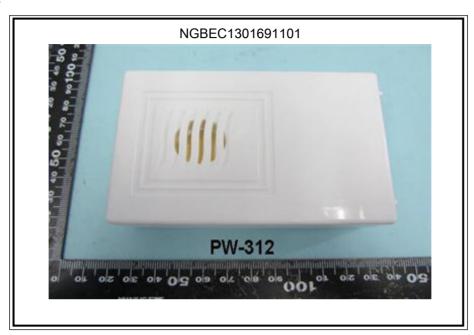


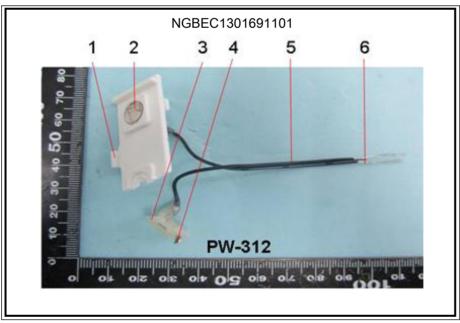
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Sample photo:





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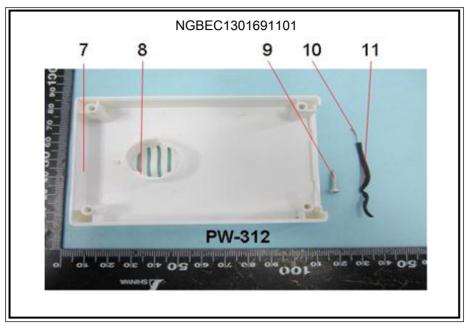
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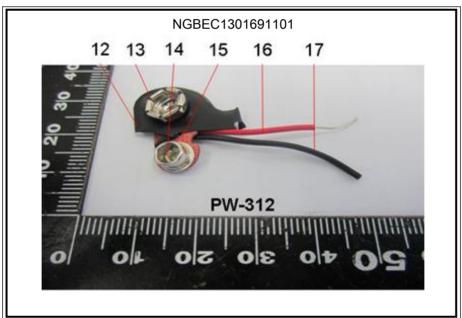


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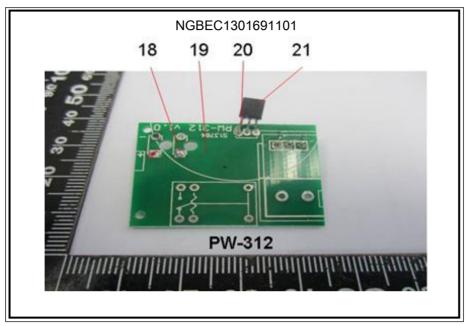
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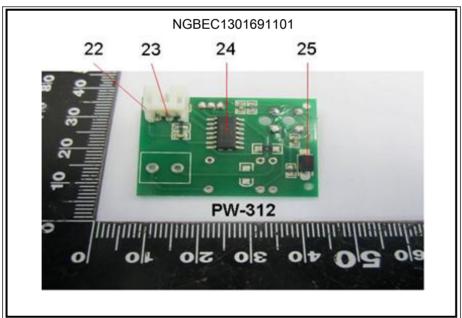


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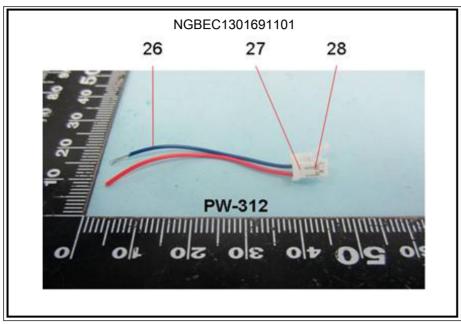
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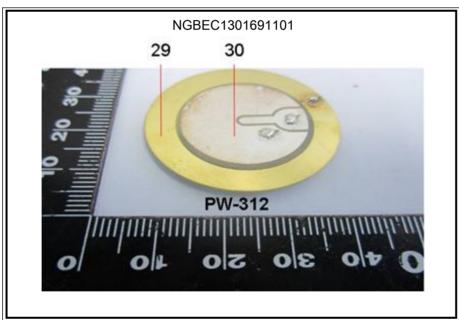


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