

Test Report

Report No.: NB20180828350

Date: September 3, 2018

Page:1/12

Applicant: INNOVISTA SENSORS
Address: 3RD FLOOR, NO. 6, HUIFENG WEST 2ND ROAD, PINGNAN INDUSTRIAL PARK - ZHONGKAI HI-TECH INDUSTRIAL DEVELOPMENT ZONE -HUIZHOU, GUANGDONG, P.R. CHINA

The following sample(s) was /were submitted and identified on behalf of the clients as:


Sample Name: Time Relay
 Model No.: PU2R10MV1、PA2R10MV1、PC2R10MV1、PL2R10MV1、OA2R10MV1、OU1R10MV1、OC1R10MV1、OL1R10MV1
 Brand: N/A Product End Use: Timing Control
 Vendor: N/A Country of Destination: N/A
 Manufacturer: N/A Supplier Reference: N/A
 Buyer: N/A Country of Origin: N/A
 Testing Period: From August 28, 2018 to September 3, 2018
 Test Results: Please refer to next page(s)

Summary of test results

Test Requested		Conclusion
1	Heavy Metals and 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)	PASS
2	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

Remark: Compositest test by client's request.

Signed for and on behalf of Guangdong NewBest Testing Service Co., Ltd.

Approved by: 
 Manager



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Test Report

Report No.: NB20180828350

Date: September 3, 2018

Page:2/12

Sample photograph

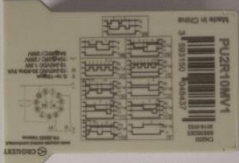




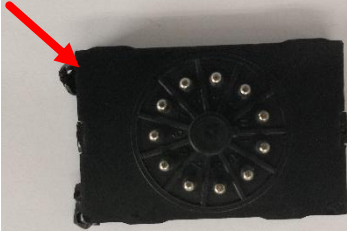





Test Report

Report No.: NB20180828350

Date: September 3, 2018

Page:3/12

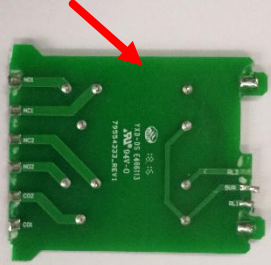
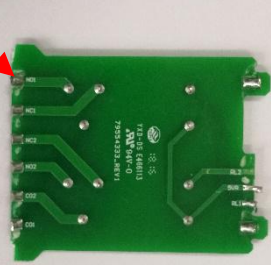





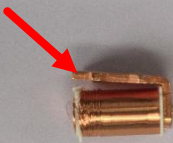

		
<p>I001</p>	<p>I002</p>	<p>I003</p>
		
<p>I004</p>	<p>I005</p>	<p>I006</p>
		
<p>I007</p>	<p>I008</p>	<p>I009</p>

Test Report

Report No.: NB20180828350

Date: September 3, 2018

Page:4/12

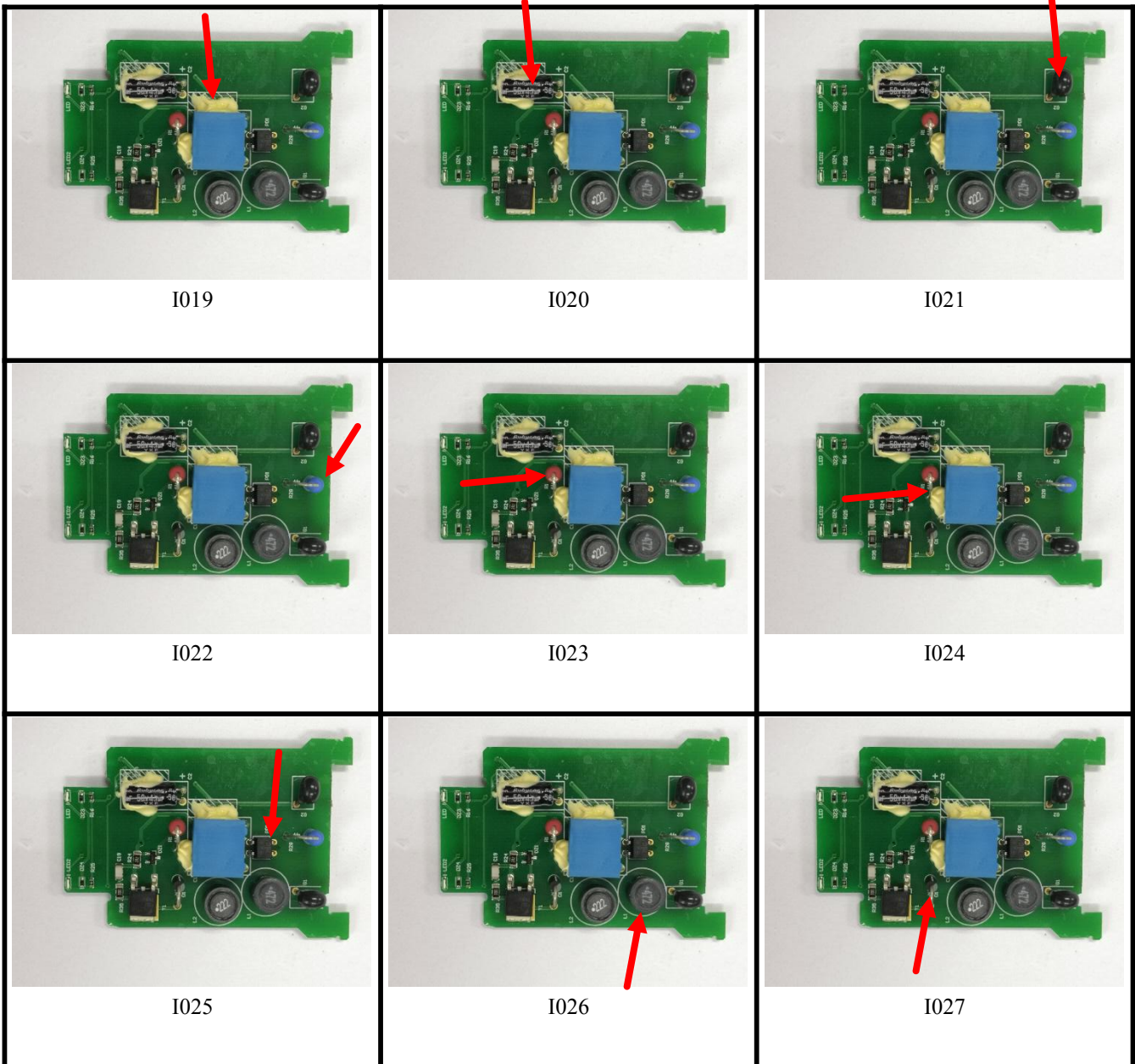
		
<p>I010</p>	<p>I011</p>	<p>I012</p>
		
<p>I013</p>	<p>I014</p>	<p>I015</p>
		
<p>I016</p>	<p>I017</p>	<p>I018</p>

Test Report

Report No.: NB20180828350

Date: September 3, 2018

Page:5/12



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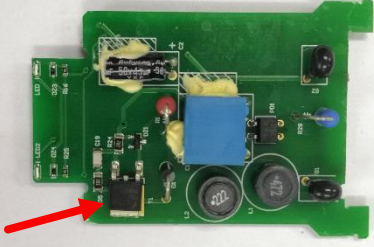
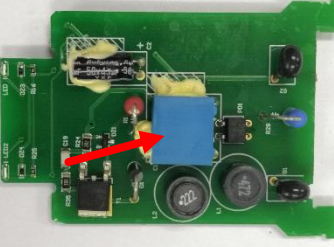







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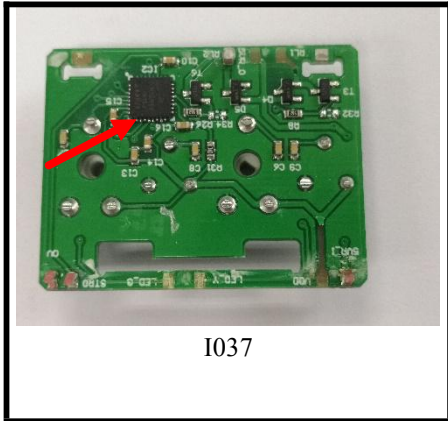
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<p>I028</p>	<p>I029</p>	<p>I030</p>
		
<p>I031</p>	<p>I032</p>	<p>I033</p>
		
<p>I034</p>	<p>I035</p>	<p>I036</p>



Test results:

Tested part(s) description:

Test Item(s)	Description	Location
I001	WhiteSmoke plastic with gray printing	Body of Shell
I002	Transparent plastic	Cap
I003	Orange plastic	Rotary knob
I004	Light gray plastic	Rotary knob
I005	Transparent plastic	Indicator lamp
I006	Black plastic	Plug
I007	Silvery metal pin	Plug
I008	White paper with black printing	Label on PCB
I009	Green paper with black printing	Label on PCB
I010	Green PCB	PCB
I011	Solder tin	PCB
I012	White plastic shell	Relay
I013	Black plastic	Relay
I014	Light golden metal	Relay
I015	Golden metal	Relay
I016	Light Copper color metal	Relay
I017	Copper color metal	Relay
I018	Copper color wire	Relay
I019	Light yellow glue	PCB
I020	Black capacitor	PCB
I021	Black safety capacitor	PCB
I022	Blue resistor	PCB

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Test Report

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Page:8/12

Test Item(s)	Description	Location
I023	Red resistor	PCB
I024	Silvery metal pin	PCB
I025	Rectifier bridge	PCB
I026	Coil inductors	PCB
I027	Diode	PCB
I028	Audion	PCB
I029	Resonator	PCB
I030	Audion	PCB
I031	Rectifier bridge	PCB
I032	Tantalum capacitor	PCB
I033	Blue plastic shell	Adjustable resistor
I034	White plastic	Adjustable resistor
I035	Golden metal	Adjustable resistor
I036	Silvery metal	Adjustable resistor
I037	IC	PCB

1. Heavy Metals and 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)

Test Method:	See Appendix.
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See Analytes and their corresponding Maximum Allowable Limit in Appendix

Analyte	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)	--	--	--	--	--	--	--
I001	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I003	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I004	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I006	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I007	19812	N.D.	N.D.	Negative	N.A.	N.A.	EX-EMPTED
I008	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I009	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I010	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS



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Test Report

Report No.: NB20180828350

Date: September 3, 2018

Page:9/12

Analyte	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)	--	--	--	--	--	--	--
I011	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I012	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I013	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I014	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I015	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I016	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I017	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I018	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I019	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I021	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I022	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I023	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I024	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I025	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I026	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I027	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I028	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I029	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I030	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I031	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I032	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I033	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I034	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
I035	16	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I036	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	PASS
I037	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS

Note: N.D. = Not detected(<MDL)

N.A. = Not applicable

mg/kg = milligram per kilogram = ppm = part per million

The list of analytes is summarized in table of Appendix.

MDL= Detection Limit

10 000 mg/kg = 1 %



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* 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.

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)(less than 0.10µg/cm²). 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)(greater than 0.13µg/cm²).

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) **1007** was (were) 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] :						
No.	Name of Analytes	Detection Limit (mg/kg)			Wet Chemistry	Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF) ^[a]				
		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 Note ^[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)	NA	NA	NA	Each 50 ^[f]	Sum 1000



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Report No.: NB20180828350

Date: September 3, 2018

Page:11/12

	- Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)					
<p>NA = Not applicable</p> <p>[a] Test method with reference to IEC 62321-3-1:2013.</p> <p>[b] Test method with reference to IEC 62321-5:2013.</p> <p>[c] Test method with reference to IEC 62321-4:2017.</p> <p>[d] Polymers and Electronic-Test method with reference to IEC 62321-7-2:2017.</p> <p>[e] Metal-Test method with reference to IEC 62321-7-1:2015.</p> <p>[f] Test method with reference to IEC 62321-6: 2015.</p>						

2. **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		
		I001+I002+I003	I004+I005+I006	I008+I009
Dibutyl phthalate (DBP)	1000	N.D.	N.D.	N.D.
Di-(2-ethyl hexyl) phthalate (DEHP)	1000	N.D.	N.D.	N.D.
Benzyl butyl phthalate (BBP)	1000	N.D.	N.D.	N.D.
Di-(iso-butyl) phthalate (DIBP)	1000	N.D.	N.D.	N.D.
Conclusion		PASS	PASS	PASS

Analyte	Requirement (mg/kg)	Result (mg/kg)		
		Test Item		
		I010+I012+I013	I019+I033+I034	--
Dibutyl phthalate (DBP)	1000	N.D.	N.D.	--
Di-(2-ethyl hexyl) phthalate (DEHP)	1000	N.D.	N.D.	--
Benzyl butyl phthalate (BBP)	1000	N.D.	N.D.	--
Di-(iso-butyl) phthalate (DIBP)	1000	N.D.	N.D.	--
Conclusion		PASS	PASS	--

Note: N.D. = Not detected(<MDL)

MDL= Detection Limit

N.A. = Not applicable

mg/kg = milligram per kilogram = ppm = part per million

10 000 mg/kg = 1 %

The list of analytes is summarized in table of Appendix.

Composited test by client's request.

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Page:12/12

APPENDIX:

List of Analytes and their Corresponding Test Methods [European Council Directive 2011/65/EU]:			
No.	Name of Analytes	Detection Limit(mg/kg)	Test Method(s)
1	Dibutyl phthalate (DBP) Di-(2-ethyl hexyl) phthalate (DEHP) Benzyl butyl phthalate (BBP) Di-(iso-butyl) phthalate (DIBP)	50(each)	With reference to IEC 62321-8:2017.

*** End of Report ***



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