



TEST REPORT

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Date:2018-11-15

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Client Company: Shenzhen Key Smart Limited

Address: 406-407 Jinqi Zhigu Building,4F Tangling Road,Nanshan District,Shenzhen City

Manufacturer's Name: Shenzhen Key Smart Limited

Address: 406-407 Jinqi Zhigu Building,4F Tangling Road,Nanshan District,Shenzhen City

Report on the submitted samples said to be:

Sample Name : Smart Watch
Style/ Item No. : Uwatch, Uwatch2, Uwatch3
Sample Receiving Date : 2018-11-14
Testing Period : 2018-11-14~2018-11-15
Results : Please refer to next page(s).

Summary of Test Results:

TEST REQUEST

CONCLUSION

A EU RoHS Directive 2011/65/EU and its amendment directives

Pass

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Test item:

- (1) Cd, Pb, Hg
- (2) Cr(VI)
- (3) PBBs, PBDEs ,DIBP,BBP,DBP,DEHP

Test standard:

- (1) With reference to IEC 62321, Ed.1 111/95/CDV, EPA3050B:1996,EPA3052:1996 Analysis was performed by ICP
- (2) With reference to IEC 62321, Ed.1 111/95/CDV, EPA3060A:1996, EPA 7196A:1992, ISO3613:2000(E), Analysis was performed by UV
- (3) With reference to IEC 62321, Ed.1 111/95/CDV, EPA3540C:1996, Analysis was performed by GC-MS

Conclusion: The delivery sample complied with ROHS directive

Check By:

Joe Kwong

Approve By:



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SAMPLE NO.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
1	Cable	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P
2	black plastic	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P
3	Red plastic	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P
4	Screw	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	/	<1000	P
		PBDEs	D	/	<1000	P
5	solder	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	/	<1000	P
		PBDEs	D	/	<1000	P
6	coating	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P



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SAMPLE NO.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
7	PCB	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P
8	Screen	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P
9	SMD resistor	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P
10	metal	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	/	<1000	P
		PBDEs	D	/	<1000	P
11	Glass	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P
12	Ink	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	P	N.D.	<1000	P
		PBDEs	P	N.D.	<1000	P



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Remark:

(1) It is the result on total Br while test PBBs and PBDEs by EDXRF. It is the result on total Cr while test Hexavalent Chromium by EDXRF.

(2) Results are obtained by EDXRF for primary screening, and chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (Cr(VI)) and GCMS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321:2013 (unit:mg/kg)

Element	Polymer		
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	$P \leq 700-3 \sigma < D$	$P \leq 700-3 \sigma < D$	$P \leq 500-3 \sigma < D$

P = PASS; F = FAIL; D = DETECTED;

(3) mg/kg = ppm; N.D. = NOT DETECTED (<MDL) Pb, Cd, Hg: 10 mg/kg; Cr(VI): 2mg/kg; PBBs, PBDEs: 5mg/kg

(4) According to IEC 62321:2013, result on Cr(VI) for metal sample is shown as Positive/Negative. Positive = Presence of Cr(VI) coating, Negative = Absence of Cr(VI) coating



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EU Directive 2005/84/EC on Phthalates content

Test method: With reference to US EPA 3540C:1996/ EPA 3550C:2007/ EPA 8270D:2007,
by solvent extraction and analysis was performed by gas chromatographic-mass
spectrometer (GC-MS)

Item	Unit	MDL	Results	Limit
			(1)	
Dibutyl Phthalate (DBP)	%	0.003	N.D.	See Remark
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	
Bis-(2-ethylhexyl)Phthalate (DEHP)	%	0.003	N.D.	
DBP + BBP + DEHP	%	/	N.D.	
Di-n-octyl Phthalate (DNOP)	%	0.003	N.D.	
Diisononyl Phthalate (DINP)	%	0.001	N.D.	
Diisodecyl Phthalate (DIDP)	%	0.001	N.D.	
DNOP + DINP + DIDP	%	/	N.D.	
Diisobutyl phthalate (DIBP)	%	0.003	ND	
Conclusion	/	/	Pass	

Sample Description: LCD module

The test site: Cable、black plastic、Red plastic、Screw、solder、coating、PCB、Screen、SMD resistor、
Metal、Glass、Ink



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*** End of Report ***