



# TEST REPORT

Report No.: SZ1504184

Date: Dec 04, 2015

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Applicant : Hangzhou District Nine Technology Co.,Ltd

Applicant Address : Room 803 Unit 1 Bldg 2, No.99 Wen'er West Road, Xihu District, Hangzhou

The following sample was submitted by the client as:

Product Name : WIFI module

Model No. : HEKR V1.1

Sample Receiving Date : Nov 11, 2015

Testing Period : Nov 11, 2015 - Dec 11, 2015

Test Requested : Pb,Cd,Cr(VI),Hg,PBBs, PBDEs content by XRF

Test Results : Details, please refer to the following pages.

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Signed for and on behalf of  
Eco-industrial and Environmental Test Center

Grace Sheng  
Technical Supervisor

Declaration:

- (1) The report shall not be reproduced partly without the written approval of the laboratory, except in full produced.
- (2) All the results shown in the report apply to the tested sample,any erasion on the report is invalid
- (3) All tested sample will be kept for one month,if there is any doubt about the test result, please inform within this period



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**Tested components:**

No.	Sample Description	No.	Sample Description
(1)	IC ESP8266EX	(4)	Chip resistance
(2)	IC AL1504	(5)	Chip capacitance
(3)	Crystal	(6)	PCB

**(A) The test results of XRF:**

Tested Items	Results					
	(1)	(2)	(3)	(4)	(5)	(6)
Lead (Pb)	BL	BL	BL	BL	BL	BL
Cadmium(Cd)	BL	BL	BL	BL	BL	BL
Mercury(Hg)	BL	BL	BL	BL	BL	BL
Chromium(Cr)	BL	BL	BL	BL	BL	BL
Bromine(Br)	BL	BL	--	BL	BL	<b>D*</b>

Note:

BL = below limit by XRF analysis

OL = over limit by XRF analysis

D = Detected (questionable, need further chemical analysis)

\* = The screened result was found by XRF and further chemical test was suggested.

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 GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321 Ed 1.0

(Unit:mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	BL ≤70-3σ < D < 130+3σ ≤ OL	BL ≤70-3σ < D < 130+3σ ≤ OL	BL ≤50-3σ < D < 150+3σ ≤ OL
Pb	BL ≤700-3σ < D < 1300+3σ ≤ OL	BL ≤700-3σ < D < 1300+3σ ≤ OL	BL ≤500-3σ < D < 1500+3σ ≤ OL
Hg	BL ≤700-3σ < D <	BL ≤700-3σ < D <	BL ≤500-3σ < D <



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	1300+3σ≤OL	1300+3σ≤OL	1500+3σ≤OL
Cr	BL ≤700-3σ<D	BL ≤700-3σ<D	BL ≤500-3σ<D
Br	BL ≤300-3σ<D	---	BL ≤250-3σ<D

## **(B) The test results of chemical method:**

### **(1) The test results of PBBs & PBDEs:**

Testing Item	Results
	(6)
Sum of polybrominated biphenyls (PBBs)(mg/kg)	ND
Monobromobiphenyl (MonoBB)	ND
Dibromobiphenyl (DiBB)	ND
Tribromobiphenyl (TriBB)	ND
Tetrabromobiphenyl (TetraBB)	ND
Pentabromobiphenyl (PentaBB)	ND
Hexabromobiphenyl (HexaBB)	ND
Heptabromobiphenyl (HeptaBB)	ND
Octabromobiphenyl (OctaBB)	ND
Nonabromobiphenyl (NonaBB)	ND
Decabromobiphenyl (DecaBB)	ND
Sum of polybrominated diphenyl ethers (PBDEs)(mg/kg)	ND
Monobromodiphenyl ether (MonoBDE)	ND
Dibromodiphenyl ether (DiBDE)	ND
Tribromodiphenyl ether (TriBDE)	ND
Tetrabromodiphenyl ether (TetraBDE)	ND
Pentabromodiphenyl ether (PentaBDE)	ND
Hexabromodiphenyl ether (HexaBDE)	ND
Heptabromodiphenyl ether (HeptaBDE)	ND
Octabromodiphenyl ether (OctaBDE)	ND
Nonabromodiphenyl ether (NonaBDE)	ND
Decabromodiphenyl ether (DecaBDE)	ND

Note : mg/kg = milligram per kilogram

ND = Not detected



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**(C) Chemical test method:**

Testing item	Testing method	Reporting limit
polybrominated biphenyls (PBBs) & polybrominated diphenyl ethers (PBDEs)	IEC 62321-6:2015, by solvent extraction and determined by GC/MS.	5 mg/kg

**(D) RoHS requirement:**

Restricted substances	Limits
Cadmium (Cd)	0.01% (100 ppm)
Lead (Pb)	0.1% (1000 ppm)
Mercury (Hg)	0.1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	0.1% (1000 ppm)
Polybrominated biphenyls (PBBs)	0.1% (1000 ppm)
Polybrominated diphenyl ethers (PBDEs)	0.1% (1000 ppm)

The above limits were quoted from 2011/65/EU for homogeneous material.

**(E) Tested samples photos:**



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