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检测
TESTING
CNAS L2408

TEST REPORT

REPORT No.: R1DG1509223138E Date: October 23, 2015

SHENZHEN IP-COM NETWORKS CO., LTD
Room 101, Unit A, First Floor, Tower E3, No.1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China.518052

Report on the submitted samples said to be:

Sample Name	:	2.4G Outdoor Long Range Access Point
Style/ Item No.	:	AP615
Sample Receiving Date	:	October 19, 2015
Testing Period	:	From October 19, 2015 to October 23, 2015
Results	:	Please refer to next page(s).

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Summary of Test Results:

	TEST REQUEST	CONCLUSION
A	EU RoHS Directive 2011/65/EU and its amendment directives -XRF and Chemical test(Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs & PBDEs content)	**Pass**

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Signed for and on behalf of

BACL

Checked by: Candance
Candance Yu
Engineer

Approved by:
Leo Gao
Lab Manager

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TEST REPORT

Results:

A、EU RoHS Directive 2011/65/EU and its amendment directives on XRF

Test method: With reference to IEC62321-3-1:2013 screening by X-ray Fluorescence Spectroscopy (XRF)

Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
1	White paper with green/black coating(label, case)	BL	BL	BL	BL	BL
2	Grey plastic with black/white printing(label, case)	BL	BL	BL	BL	BL
3	White adhesive textile(sticker, label, case)	BL	BL	BL	BL	BL
4	White paper with black printing(label, mid case)	BL	BL	BL	BL	BL
5	White plastic with black printing(cover, LED, bottom case)	BL	BL	BL	BL	BL
6	White plastic(sheet, battery cover)	BL	BL	BL	BL	BL
7	White plastic with grey printing(shell)	BL	BL	BL	BL	BL
8	Silvery metal(screw, case)	BL	BL	BL	BL	---
9	Silvery metal(screw, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
10	Silvery metal(gasket, screw, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
11	Translucent plastic(holder, RF cable1, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
12	Nude plastic(cable jacket, RF cable1)	BL	BL	BL	BL	BL
13	Silvery metal(conductor, RF cable1)	BL	BL	BL	BL	---
14	Translucent soft plastic(wire jacket, RF cable1)	BL	BL	BL	BL	BL
15	Silvery plastic with transparent surface(wire, RF cable1)	BL	BL	BL	BL	BL
16	Silvery solder(wire, RF cable1)	BL	BL	BL	BL	---
17	Blue soft plastic(cover, plate, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
18	Silvery metal(plate, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
19	Silvery metal(screwed tube, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
20	Silvery metal(frame, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
21	Silvery plated golden metal(socket”J1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---

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Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
22	Silvery metal(shell, switch”SW1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
23	Black plastic(bobbin, switch”SW1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
24	Silvery metal with brown coating(foil, switch”SW1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
25*	Black plastic(base, switch”SW1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	IN
26	Silvery metal(connector, switch”SW1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
27*	Blue plastic(shell, net socket”J51”, PCB”10025406 V1.0”)	BL	BL	BL	BL	IN
28	Silvery plated golden metal(pin, net socket”J51”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
29	Silvery body(crystal”Y1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
30	Black plastic(base, crystal”Y1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
31	Brown body(SMD capacitor”C106”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
32	White body(EC”RV2”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
33	Black body(EC”RV7”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
34	Black/white body(SMD resistor”R133”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
35	Transparent body(LED”D40”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
36*	Black body(triode”Q2”, PCB”10025406 V1.0”)	BL	BL	BL	BL	IN
37	Gray body(inductor”L2”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
38	Lt-gray body(inductor”L16”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
39	Black plastic with white printing(shell, EC”T1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
40	Silvery solder(EC”T1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
41	Green coated coppery metal(coil, EC”T1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
42	Red coated coppery metal(coil, EC”T1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
43	Golden plated coppery metal(coil, EC”T1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	---
44	Dark gray magnet(core, EC”T1”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL
45	Green plastic(sleeve, capacitor”C58”, PCB”10025406 V1.0”)	BL	BL	BL	BL	BL

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Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
46	Silvery metal(shell, capacitor"C58", PCB"10025406 V1.0")	BL	BL	BL	BL	---
47	Black soft plastic(cover, capacitor"C58", PCB"10025406 V1.0")	BL	BL	BL	BL	BL
48	Transparent soft plastic(film, capacitor"C58", PCB"10025406 V1.0")	BL	BL	BL	BL	BL
49	Brown paper with liquid(film, capacitor"C58", PCB"10025406 V1.0")	BL	BL	BL	BL	BL
50	Silvery metal(foil, capacitor"C58", PCB"10025406 V1.0")	BL	BL	BL	BL	---
51	Dull silvery metal(foil, capacitor"C58", PCB"10025406 V1.0")	BL	BL	BL	BL	---
52	Silvery metal(connector, capacitor"C58", PCB"10025406 V1.0")	BL	BL	BL	BL	---
53	Silvery metal(pin, capacitor"C58", PCB"10025406 V1.0")	BL	BL	BL	BL	---
54	Black body with brown printing(IC"U1", PCB"10025406 V1.0")	BL	BL	BL	BL	BL
55	Black body with brown printing(IC"U30", PCB"10025406 V1.0")	BL	BL	BL	BL	BL
56	Black body(SMD inductor"L50", PCB"10025406 V1.0")	BL	BL	BL	BL	BL
57	White body(SMD capacitor"C785", PCB"10025406 V1.0")	BL	BL	BL	BL	BL
58	Black body(IC"U2", PCB"10025406 V1.0")	BL	BL	BL	BL	BL
59	Beige paper with black printing(label, PCB"10025406 V1.0")	BL	BL	BL	BL	BL
60*	Navy PCB(PCB"10025406 V1.0")	BL	BL	BL	BL	IN
61	Silvery solder(PCB"10025406 V1.0")	BL	BL	BL	BL	---

-- = Not Conducted

* = Screening by XRF and detected by chemical method. The test results of chemical method please refer to next pages.

Remark:

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

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Element	Unit	Polymers	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	LOD<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	--	BL≤250-3σ<X

Note:

BL = Below Limit
OL = Over Limit
IN = Inconclusive (questionable, need further chemical analysis)
LOD = Limit of Detection

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

(3) The maximum permissible limit is quoted from the RoHS directive 2011/65/EU:

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(Ⅵ))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominated diphenylethers (PBDEs)	1000

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Remark :

(4) As requested by applicant, only components shown in this report were screened by XRF spectroscopy for 2011/65/EU and its amendment directives, other components were not screened included in this report.

(5) Photo appendix is included.

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

The Test Results of Chemical Method:

Test method:

PBBs & PBDEs Content:
With reference to IEC 62321 Ed 1.0:2008 Annex A, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

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1) The test results of PBBs & PBDEs

Item	Unit	MDL	Results				Limit
			25	27	36	60	
Polybrominated Biphenyls (PBBs)							
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	N.D.	1000 mg/kg
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)							
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	N.D.	1000 mg/kg
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	**Pass**	

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Note:

- N.D. = Not Detected or less than MDL
- mg/kg = ppm
- MDL = Method Detection Limit
- The results less than MDL are not taken into account while calculating the sum contents.
- Photo appendix is included.

Appendix

Photograph of Sample

BACL authenticate the photo on original report only

*** End of Report ***

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