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TEST REPORT

Applicant: Ajax Systems Inc

Address: 910 Foulk Rd., Wilmington, DE 19803, United States

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

Product name: Ajax SpaceControl Model: Ajax SpaceControl

Trade mark:

XALA

Manufacturer: "Research and Production Enterprise "Ajax"LLC

Address: 04073, Ukraine, Kyiv, Sklyarenko, 5

Sample Received

Date: Nov. 28, 2016

Testing Period Nov. 28, 2016~ Dec. 14, 2016

Test Requirement: Conclusion:

1. As specified by client, to screen Lead(Pb), Cadmium(Cd), Mercury(Hg), Chromium(Cr) and Bromine(Br) in the submitted sample(s) by XRF. When screening results exceed the XRF screening limit in IEC62321-3-1: 2013, further use of chemical methods are required to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs) and Polybrominated Diphenyl Ethers(PBDEs) in the submitted samples in accordance with ROHS directive 2011/65/EU.

 As specified by client, to test Lead(Pb), Cadmium(Cd), Mercury(Hg) in the submitted sample(s) according to the requirement with battery directive 2006/66/EC and amendment 2013/56/EU.

Refer to
The Battery

Pass

Test Result(s): Please refer to the following page(s);

Test Method: Please refer to the following page(s);

Tested by

Reviewed by:

Approved by:

Date:

2016-12/15**

Shenzhen NTEK Testing Technology Co., Ltd.



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Test Result(s):

1. Shell

1. Official	N/ N/	- N		V 3V	N N
Sample No.	Sample Description	Tested Items	XRF Screening Test	Chemical Test (mg/kg)	Conclusion
2	2 2	Pb	BL S	<u> </u>	. 2
+ +	Distribution	↓ Cd ↓	BL	+ 1+	* *
1.4	Black plastic	Hg	BL	Y 1 Y	PASS
7	shell	Cr(Cr(VI))	BL		4
	4 4	Br(PBBs&PBDEs)	BL	0 10	A A
2	7, 7,	Pb S	BL		- 5
+ +	White label	L Cd	BL	+ 1+	* *
2	paper of black	Hg	BL	4 14	PASS
7	plastic shell	Cr(Cr(VI))	BL		
* 4	0	Br(PBBs&PBDEs)	BL	0 10	0
3	3. 3.	Pb	BL		- 31
+ +	Transparent	_ Cd	BL	4 / 4	A- A-
3	plastic of black	Hg	BL	V 14	PASS
4	plastic shell	Cr(Cr(VI))	BL	7 5	4
* 0	at at	Br(PBBs&PBDEs)	BL	05 105	at at

2. PCB

Sample No.	Sample Description	Tested Items	XRF Screening Test	Chemical Test (mg/kg)	Conclusion
	A W	Pb	Ø BL	Ø 10	
4	4. 4.	Cd e	BL	7 7	4
4	PCB	Hg	BL	0 10	PASS
3	317 317	Cr(Cr(VI))	BL		
		Br(PBBs&PBDEs)	BL		
	10 10	Pb	BL		
4	Silvery metal	Cd	BL	1	. 4.
5	shell of contact	Hg ,	BL	*	PASS
111	switch	Cr(Cr(VI))	IN IN	Negative	1 11
		Br(PBBs&PBDEs)			
		Pb	BL		0
4	Golden metal	Cd	BL		. 4.
6	button of	Hg H	BL	* 1*	PASS
110	contact switch	Cr(Cr(VI))	BL	1	10 110
		Br(PBBs&PBDEs)			



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	11/1	100	Pb	~	BL	The state of the s	1	1, 1,
	7	Silvery metal	Cd		BL	1	1	1
	7.	shrapnel of contact switch	Hg	4	BL		1.0	PASS
	7.		Cr(Cr(VI))		BL	7.	1	3 2
,	1	* *	Br(PBBs&PBDEs)	*	1	A.	- 11	+ /
	1	10 10	Pb	.47	BL	THE CO	1	10 10
	4	4 4	Cd	, '	BL	-		4
	8	Metal pin of	Hg	4	BL		16	PASS
	7,1	contact switch	Cr(Cr(VI))		BL	3		3 2
	-	1 1 1L	Br(PBBs&PBDEs)	4	1 1	الم	- 1 1	1
	100	, Q	Pb	· Ø	BL	10	19	· V
	4	4. 4.	Cd		BL	6		4 4
	9	Black plastic of	/ Hg /	1	BL	1	10	PASS
	1	contact switch	Cr(Cr(VI))		BL	1		4 4
	-		Br(PBBs&PBDEs)		BL	-	1	-
	-	.OT .OT	Pb	Ø	BL		10	· O
		7 7	Cd		BL	-5	7	4, 4,
	10	Silvery metal contact sheet	Hg	*	BL	A		PASS
	200		Cr(Cr(VI))	47	IN	1	Negative	717100
	7		Br(PBBs&PBDEs)		/	7	/	4 4
	.0	4	Pb Pb	0	BL	40	10	. C . C
	2	Chip	Cd		BL	2	Ä	3 2
	11		Hg	1	BL	7	- 11	PASS
	1		Cr(Cr(VI))	47	BL	AT CO	27	- C. 1100
	7		Br(PBBs&PBDEs)		BL	7		4 4
	-0	0 0	Pb	0	BL		10	0 4
	3	3" 3"	Cd		BL	2		3 2
	12	SMD resistor	Hg	AL-	BL	J. J.	- / 4	PASS
	1247	OWD Tesistor	Cr(Cr(VI))	4	BL	5	41	1 700
	5	4. 4.	Br(PBBs&PBDEs)		BL			4 4
	0	0 0	Pb	1	BL		10	0 0
	7.5	31, 31,	Cd	~	BL	7		
	12	CMD consoiter	· · · · · · · · · · · · · · · · · · ·		BL			PASS
13	SMD capacitor	Hg	Ø	-47		1	PASS	
	7, 7,	Cr(Cr(VI))		BL	-		4. 4.	
	*	* *	Br(PBBs&PBDEs)	*	BL	1	1	*
	114	The The	Pb	~	BL	1	147	100
14	4 4	Cd		BL	7		5 5	
	SMD diode	Hg	4	BL			PASS	
	7	317 317	Cr(Cr(VI))		BL	1		31. 31
			Br(PBBs&PBDEs)	4	BL	1		



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	11	100	Pb	~~	BL	4	1	100
15	4 4	Cd		BL	-	1		
	SMD audion	Hg	4	BL	47	10	PASS	
	2	2' 2'	Cr(Cr(VI))		BL	2	1	
_	1	* *	Br(PBBs&PBDEs)	4	BL	*	1	* 4
	1100	100	Pb	W.	BL	11.4	1	100
	4	7 7	Cd	, '	BL	7	7	4 4
-	16	LED light bead	Hg	1	BL	0	14	PASS
	7,1	of SMD	Cr(Cr(VI))		BL	3	1	31 31
	1	ملہ ملہ	Br(PBBs&PBDEs)	4	BL	1	1 1	ما الم
	100	10 10	Pb		BL	1	10	- Q
	7	4 4	Cd		BL	2	7	4 4
	17	SMD PCB	Hg	1	BL	0	165	PASS
	Till I	7,, 7,,	Cr(Cr(VI))		BL	4	1	3,1
	-		Br(PBBs&PBDEs)		BL		1	
	10	QF QF	Pb	Ø.	BL	Q-	19	4 4
		SMD resistor of SMD PCB	Cd		BL	-	\	-
_	18		Hg	×	BL	大	10	PASS
	1		Cr(Cr(VI))	4/	BL	1		30,7,000
	7		Br(PBBs&PBDEs)		BL	7	-	
	4	A A	Pb	0	BL	4	10	Q Q
	7,	SMD capacitor	Cd		BL	2	3	
	19		Hg	*	BL	*	14	PASS
	A.C.	of SMD PCB	Cr(Cr(VI))	47	BL	11	21	4
	7	4 4	Br(PBBs&PBDEs)		BL	7	1	4 4
	.0	0 0	Pb	0	BL	1	10	10 10
	3	SMD inductor	Cd		BL	2	7	3 3
	20		Hg	4	BL	\ \	12	PASS
	200	of SMD PCB	Cr(Cr(VI))	4	BL	5	41	7,000
	5	4, 4,	Br(PBBs&PBDEs)		/			4 4
	0	0 0	Pb	0	BL	0	10	0 0
	7.	71, 71,	Cd	· ·	BL	S	3	3 3 3
	21	Chip 1 of SMD	Hg		BL		1.4	PASS
	21	РСВ	47 47		BL		1	FASS
	7		Cr(Cr(VI))					4. 4.
_	*	* *	Br(PBBs&PBDEs) Pb	*	BL	t	1	1
	114	Cmustel	.4	~	BL		1.47	4 110
00		Crystal	Cd	1	BL			DACC
	22	oscillator of	Hg	4	BL	1	1	PASS
	3	SMD PCB	Cr(Cr(VI))		BL	-		4 2
			Br(PBBs&PBDEs)		1	7	1	



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Note: -N.D. = Not Detected (<MDL)

-MDL = Method Detection Limit

-mg/kg = ppm = parts per million

-/=Not Regulated or Not Applicable

-BL = Under the XRF screening limit

-IN = Further chemical test will be conducted when the screening result inconclusive

-OL = Further chemical test will be conducted while the result is above the screening limit.

-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.10 μ g/cm² with 50cm² sample surface area used.

-Positive = Presence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is equal to or greater than 0.13 $\mu g/cm^2$ with $50cm^2$ sample surface area used.

Remark: 1.The screening results are only used for reference.

2. When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.



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The Battery (Test result)

Test Items	Sample concentration (mg/kg)	MDL (mg/kg)	Standard requiement,mg/kg		
Lead(Pb)	N.D.	Q 2 Q	<40*		
Cadmium(Cd)	N.D.	2 2	<20		
Mercury(Hg)	N.D.	2	<5		
Result (P/F)	4 4 4 4	4 P 4	4 4 4		

Sample Description:

1: Battery

Note: -N.D. = (Not Detected) (<MDL)

-MDL = (Method Detection Limit)

-mg/kg = ppm = 0.0001%

-/= Not Regulated or Not Applicable

-P=Pass

-F=Fail

Remark: According to EU Directive 2006/66/EC and amendment 2013/56/EU

- 1. Without prejudice to directive 2000/53/EC, Member States shall prohibit the placing on the market of:
 - (a) all batteries or accumulators, whether or not incorporated into appliances, that contain more than 0.0005% of mercury by weight.
 - (b)protable batteries or accumulators, including those incorporated into appliances, that contain more than 0.002% of cadmium by weight.
- 2. The prohibition set out in paragraph 1(b) shall not apply to protable batteries and accumulators intended for use in:
 - (a) emergency and alarm systems, including emergency lighting; or
 - (b)medical equipment; or
 - (c)cordless power tools(expiration date Dec. 31, 2016)
- 3. Batteries, accumulators and button cells containing more than 0.004% of lead, shall be marked with the chemical symbol for the metal concerned: Pb.



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Test Method:

1. Screening test by XRF spectroscopy

XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013

Element -	Limit of IEC 62321-3	MDL +			
	Polymers and metals	Composite material	Polymers	Other material	
Pb BL≤(700-3σ) <x <(1300+3σ)≤ol<="" td=""><td>BL≤(500-3σ)<x <(1500+3σ)≤OL</x </td><td>10 mg/kg</td><td colspan="2">50 mg/kg</td></x>		BL≤(500-3σ) <x <(1500+3σ)≤OL</x 	10 mg/kg	50 mg/kg	
Cd	BL≤(70-3σ) <x <(130+3σ)<br="">≤OL</x>	LOD <x<(150+3σ)≤ol< td=""><td>10 mg/kg</td><td>50 mg/kg</td></x<(150+3σ)≤ol<>	10 mg/kg	50 mg/kg	
Hg	BL≤(700-3σ) <x <(1300+3σ)≤OL</x 	BL≤(500-3σ) <x <(1500+3σ)≤OL</x 	10 mg/kg	50 mg/kg	
Cr	BL≤(700-3σ)< X	BL≤(500-3σ)< X	10 mg/kg	50 mg/kg	
Br	BL≤(300-3σ)< X	BL≤(250-3σ)< X	10 mg/kg	50 mg/kg	

Note: -BL = Under the XRF screening limit

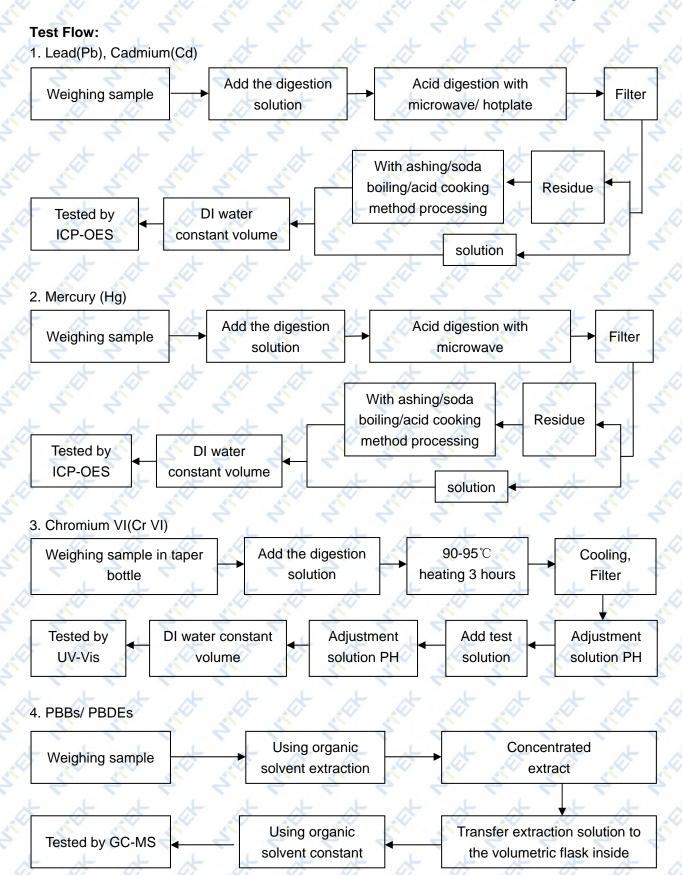
- -OL = Further chemical test will be conducted while result is above the screening limit.
- -X= The symbol "X" marks the region where further investigation is necessary.
- -3σ= The reproducibility of analytical instruments
- -LOD= Detection limit

2.Chemical Test

Test item	Pretreatment method	Test instrument	MDL	Limit	
Lead(Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	1000 mg/kg	
Cadmium(Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	100 mg/kg	
Mercury(Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES	2 mg/kg	1000 mg/kg	
Chromium VI (Cr VI)	IEC 62321:2008 Ed.1.0 & IEC 62321-7-1:2015 Ed.1.0	UV-Vis	2 mg/kg	1000 mg/kg	
PBBs/ PBDEs	IEC 62321-6:2015 Ed.1.0	GC-MS	5 mg/kg	1000 mg/kg	



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Sample photo(s):



Fig.1



Fig.2





Fig.3

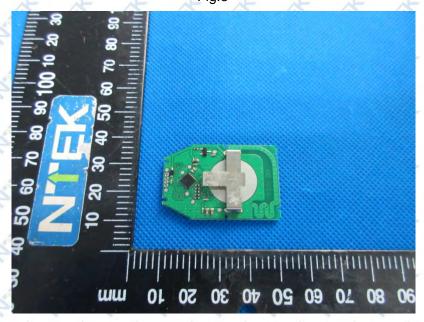


Fig.4



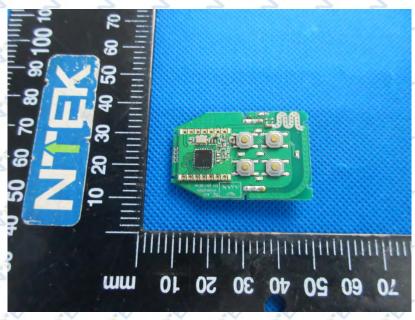
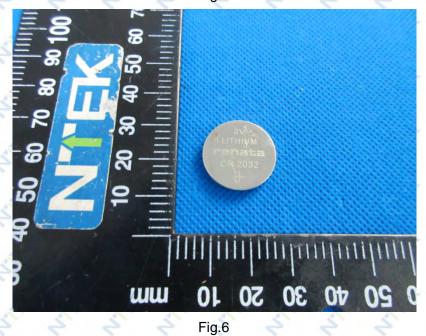


Fig.5



****End of Report****

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