

TEST REPORT

Report No.: R-cn5-1603706-1-E

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Applicant Name
Applicant Address

The following information was submitted and identified by/on behalf of the client:

Product Name : MFI licensed 2 in 1 keychain cable
Model : P302.042
Material : /
Buyer : /
Supplier : /
Goods exported to : /
Country of Origin : /

Date of receipt : Sep.13,2016
Testing Period : Sep.13,2016- Sep.22,2016

Test Category : Applicant Testing
Test Requested : As specified by client
Test Method : Please refer to the following page
Test Instrument : Please refer to the following page

Testing Results : Please refer to the following page

Testing summary of Submitted Sample and Tested Component on Submitted Sample:

No.	Test items	Conclusion
1	RoHS – XRF Scanning (Pb, Hg, Cd, Cr, Br) + chemical method	Pass
2	Polycyclic aromatic hydrocarbons (PAHs)	Pass

Approved by:



Technical manager: Kevin Lee

Issued Date: Sep.30, 2016
No. 16217748

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Testing Results:

1. RoHS - XRF Scanning (Pb, Hg, Cd, Cr, Br) + chemical method

- Test method: (1) With reference to IEC 62321-3:2013, determination of Cadmium, Lead, Mercury, Chromium and Br by XRF;
 (2) With reference of IEC 62321-4:2013, IEC 62321-5:2013 to determine Cadmium, Lead and Mercury by ICP-OES;
 (3) With reference of IEC 62321:2008, IEC 62321-7-1:2015 to determine Hexavalent Chromium by UV-Vis
 (4) With reference of IEC 62321-6:2015 to determine PBBs and PBDEs by GC-MS.

No.	Parts Name	Test Item						Conclusion
		Pb	Cd	Hg	CrVI	PBBs	PBDEs	
001	Silver metal shell	ND	ND	ND	Ne	-	-	Pass
002	Metal ring	ND	ND	ND	Ne	-	-	Pass
003	Silver spindle	ND	ND	ND	Ne	-	-	Pass
004	Silver bolt	ND	ND	ND	Ne	-	-	Pass
005	Silver nut	ND	ND	ND	Ne	-	-	Pass
006	Big USB-Black rubber	BL	BL	BL	BL	BL	BL	Pass
007	Small USB-Black rubber	BL	BL	BL	BL	BL	BL	Pass
008	Semielliptical black plastic	BL	BL	BL	BL	BL	BL	Pass
009	Small screw	ND	ND	ND	Ne	-	-	Pass
010	Black line Peel	BL	BL	BL	BL	BL	BL	Pass
011	Red line Peel	BL	BL	BL	BL	BL	BL	Pass
012	Red line Peel -Copper wire	ND	ND	ND	Ne	-	-	Pass
013	White line Peel	BL	BL	BL	BL	BL	BL	Pass
014	Green line Peel	BL	BL	BL	BL	BL	BL	Pass
015	Aluminized paper	BL	BL	BL	BL	BL	BL	Pass
016	Black line Peel -Copper wire	ND	ND	ND	Ne	-	-	Pass
017	Big USB-Silver metal shell	ND	ND	ND	Ne	-	-	Pass
018	Big USB-White plastic	BL	BL	BL	BL	BL	BL	Pass
019	Big USB-Gold pin	ND	ND	ND	Ne	-	-	Pass
020	Welding and soldering in big USB connect the gold pin	ND	ND	ND	Ne	-	-	Pass
021	Big USB-Black rubber	BL	BL	BL	BL	BL	BL	Pass
022	Big USB-Yellow insulating film	BL	BL	BL	BL	BL	BL	Pass
023	Big USB-Red piece	BL	BL	BL	BL	BL	BL	Pass
024	Small USB-Silver metal shell	ND	ND	ND	Ne	-	-	Pass
025	Small USB-Dark grey plastic	BL	BL	BL	BL	BL	BL	Pass
026	Small USB-Creamy white plastic	BL	BL	BL	BL	BL	BL	Pass
027	Small USB-Gold small pin	ND	ND	ND	Ne	-	-	Pass
028	Welding and soldering in small USB connect the gold pin	ND	ND	ND	Ne	-	-	Pass
029	Small USB-Silver pin	ND	ND	ND	Ne	-	-	Pass

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No.	Parts Name	Test Item						Conclusion
		Pb	Cd	Hg	CrVI	PBBs	PBDEs	
030	Small USB-Cellophane tape	BL	BL	BL	BL	BL	BL	Pass
031	Mini USB socket-Silver metal shell (below)	ND	ND	ND	Ne	-	-	Pass
032	Mini USB socket-Black rubber	BL	BL	BL	BL	BL	BL	Pass
033	Mini USB socket-Head-Metal shell	ND	ND	ND	Ne	-	-	Pass
034	Mini USB socket-Head-White plastic	BL	BL	BL	BL	BL	BL	Pass
035	Mini USB socket-Head-Gold pin	ND	18	ND	Ne	-	-	Pass
036	Mini USB socket-Cellophane tape	BL	BL	BL	BL	BL	BL	Pass
037	Mini USB socket-Creamy white plastic	BL	BL	BL	BL	BL	BL	Pass
038	Mini USB socket-PCB board	BL	BL	BL	BL	BL	BL	Pass
039	Mini USB socket-PCB board-Sheetmetal	ND	ND	ND	Ne	-	-	Pass
040	Mini USB socket Chip	BL	BL	BL	BL	BL	BL	Pass
041	Mini USB socket-Capacitance	BL	BL	BL	BL	BL	BL	Pass
042	Mini USB socket-Resistance	BL	BL	BL	BL	BL	BL	Pass
043	Mini USB socket-Welding and soldering in Mini USB socket connect the gold pin	ND	ND	ND	Ne	-	-	Pass
044	Mini USB socket-Silver sheetmetal (upside)	ND	ND	ND	Ne	-	-	Pass

Parameter:	Unit	Requirement	Method Detection Limit (MDL)
Lead (Pb)	mg/kg	1000	10
Cadmium (Cd)	mg/kg	100	10
Mercury (Hg)	mg/kg	1000	10
Chromium VI (Cr VI)	mg/kg	1000	10
Group PBBs	mg/kg	1000	5
Group PBDEs	mg/kg	1000	5

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As specified by client, with XRF analysis toxic harmful substance content, All kinds of matrixs screening of the element is limited see chart (Unit: mg/kg)

Elements	Polymer material	Metal material/ Inorganic nonmetallic material	Electronic component
Lead (Pb)	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cadmium (Cd)	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Mercury (Hg)	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Chromium (Cr)	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Bromine (Br)	$BL \leq (300-3\sigma) < X$	/	$BL \leq (250-3\sigma) < X$

Note:

- Unit: mg/kg. 1mg/kg=1ppm=0.0001%
- MDL=Method Detection Limit
- ND=Not Detected(< MDL)
- "-"= Not Regulated or Not Applicable
- 3σ = Analysis shows that the instrument reproducibility
- BL=Below Limit; OL=Over Limit
- Ne=Negative, Absence of Cr(VI), the concentration of Cr (VI) in sample solution is less than 0.10μg/cm².
Po = Positive, Presence of Cr(VI), the concentration of Cr (VI) in sample solution is more than 0.13μg/cm².
- "Results of XRF" is the result on total Br and total Cr while restricted substances are PBBs/PBDEs and Cr(VI).

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2. Test specification: Polycyclic aromatic hydrocarbons (PAHs)

Test method : AfPS-GS-2014:01

Requirement : GS Mark (AfPS-GS-2014:01) Annex I

Test Item	MDL (mg/kg)	006 (mg/kg)
Naphthalene	0.2	0.4
Acenaphthylene	0.2	<0.2
Acenaphthene	0.2	<0.2
Fluorene	0.2	<0.2
Phenanthrene	0.2	<0.2
Anthracene	0.2	<0.2
Fluoranthene	0.2	<0.2
Pyrene	0.2	<0.2
Benz(a)anthracene	0.2	<0.2
Chrysene	0.2	<0.2
Benzo(b)fluoranthene	0.2	<0.2
Benzo(k)fluoranthene	0.2	<0.2
Benzo(a)pyrene	0.2	<0.2
Indeno(1,2,3-cd)pyrene	0.2	<0.2
Dibenzo(a,h)anthracene	0.2	<0.2
Benzo(g,h,i)perylene	0.2	<0.2
Benzo(j)fluoranthene	0.2	<0.2
Benzo(e)pyrene	0.2	<0.2
Sum	--	0.4
Conclusion	--	Pass

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Annex I

Parameter	Category 1	Category 2		Category 3	
	Materials indented to be put in the mouth, or materials of toys for children aged < 36 months with intended skin contact (contact >30s))	Materials not covered by category 1, with foreseeable skin contact for longer than 30 s (long-term skin contact) or repeated short term skin contact*		Materials not covered by category 1 or 2 with foreseeable skin contact up to 30 s (short term skin contact)	
		Toys acc to directive 2009/48/EC	All other products acc to ProdSG	Toys acc to directive 2009/48/EC	All other products acc to ProdSG
Benzo[a]pyrene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo[e]pyrene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo[a]anthracene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo[b]fluoranthene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo[j]fluoranthene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo[k]fluoranthene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Chrysene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Dibenzo[a,h]anthracene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo[ghi]perylene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Indeno[1,2,3-cd]pyrene mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene, mg/kg	<1sum	<5sum	<10sum	<20sum	<50Sum
Naphthalene mg/kg	<1	<2		<10	
Sum 18 PAHs mg/kg	<1	<5	<10	<20	<50

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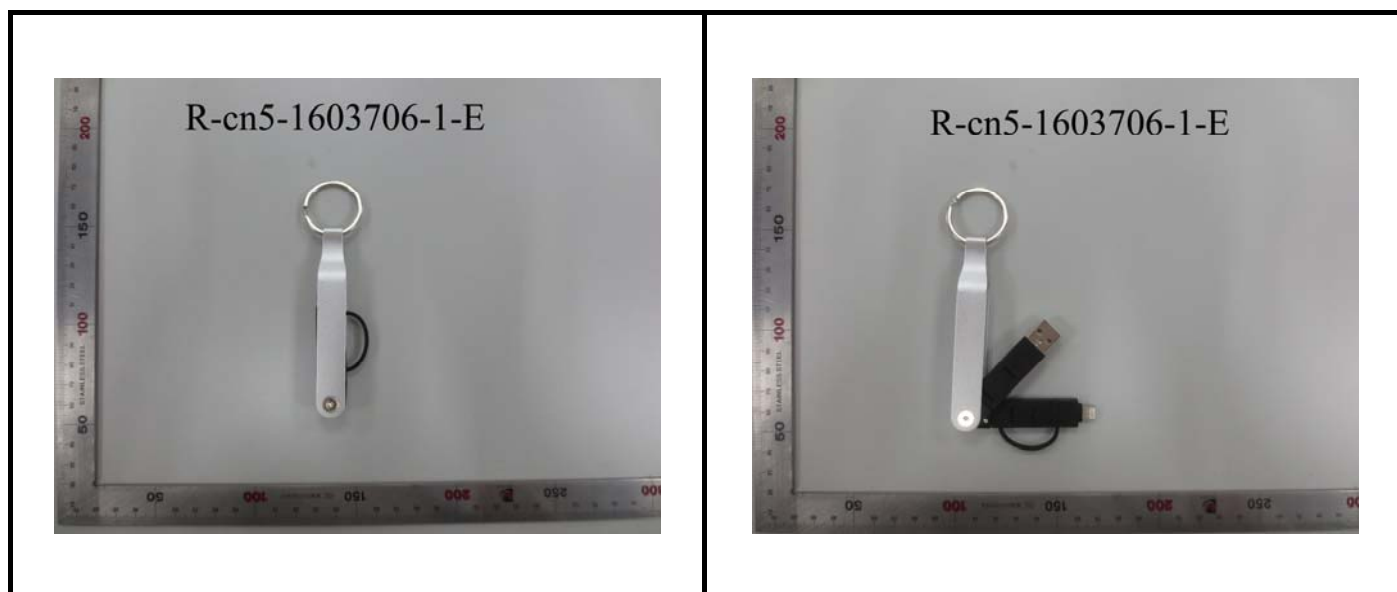
Note:

MDL:Method Detection Limit

Main test instruments used for this method:

Instrument	Manufactory	Model / Type
GC-MS	Agilent	7890B-5977A

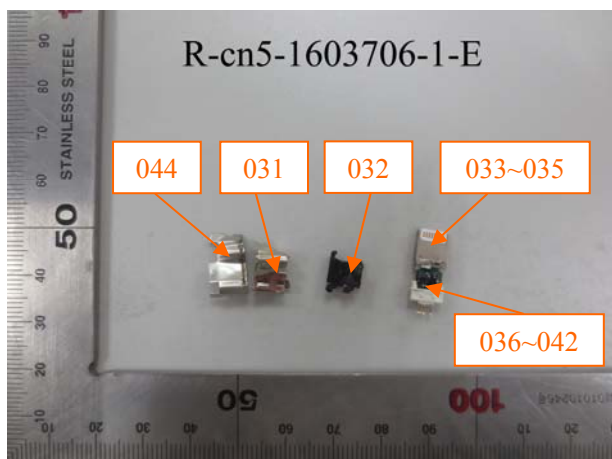
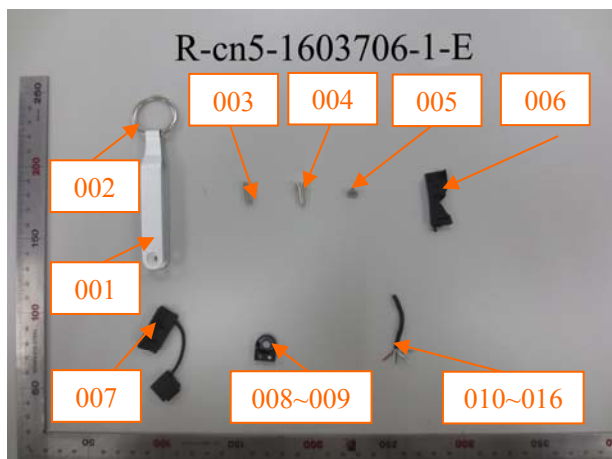
Annex: Sample Photo



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The results shown here refer only to the sample(s) tested, unless otherwise stated. This report can only be reproduced in full, not partially, except by explicit written permission of the laboratory.

***** End of Report *****