TEST REPORT

Reference No. : TRHZ1407521 Date : Jul. 04, 2014 Page No. : 1 of 23

Client :

Address :

The following merchandise was (were) submitted and identified by the client as:

Name of Product :	SHAVER
Tested Main Model :	YD-398
Tested Other Model :	/
May Cover Model:	YD-368, YD-777, YD-2088, YD-8088, YD-388
Sample Received :	Jun. 26, 2014
Test Period :	Jun. 26, 2014 - Jul. 02, 2014
Test Request :	According to customer's requirements, Split the sample and determine the Pb, Cd, Hg, Cr(VI), PBBs & PBDEs content of the parts.
Test Method :	1. Sample prepared with reference to IEC 62321-2:2013 Determination of certain substances in electrotechnical products - Part 2: Disassembly, disjunction and mechanical sample preparation 2. Sample Screening testing with reference to IEC 62321-3-1:2013 Determination of certain substances in electrotechnical products - Part 3-1: Screening - Lead, mercury, cadmium, total chromium and total bromine using X-ray fluorescence spectrometry. 3. Wet Chemical Test Method a. Determination of Lead ,Cadmium by ICP-OES with reference to IEC 62321-5:2013 b. Determination of Mercury by ICP-OES with reference to IEC 62321-4:2013 c. Determination of Hexavalent Chromium by Spot test or UV-Vis Method with reference to IEC 62321:2008 d. Determination of PBBs and PBDEs by GC-MS with reference to IEC 62321:2008
Test Result :	Please refer to next page(s).
Conclusion :	Based on the analysis on the submitted samples, the test results **comply with** the RoHS Directive 2011/65/EU (RoHS 2.0) and its subsequent amendments.

Issued by:

TÜV NORD (Hangzhou)
Green Product Service Centre
Technical Manager

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TEST RESULTS:

Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
1#	Gray plastic frame (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
2#	Gray plastic component (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
3#	Silvery metal spring (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
4#	Silvery gray metal (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
5#	Black plastic shell (shell)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	

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Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
6#	Black plastic frame (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
7#	Transparent plastic shade (shell)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
8#	Oyster white rubber ring (shell)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
9#	Oyster white rubber pad (shell)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
10#	White plastic ring (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	

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Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
11#	Silvery plastic frame (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
12#	White plastic gear (gear set)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
13#	Silvery plastic shell (shell)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
14#	Transparent plastic frame (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
15#	Silvery metal component (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	

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Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
16#	Silvery metal screw (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
17#	Silvery metal screw (shell)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
18#	Silvery metal shade (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
19#	Silvery metal component (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
20#	Silvery metal connect clip (main body)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	

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Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
21#	Silvery metal blade (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
22#	White plastic component (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
23#	Oyster white plastic gear (gear set)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
24#	White plastic component (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
25#	Gray plastic component (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	

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Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
26#	Silvery metal pole (tool bit)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
27#	Solder (PCB)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
28#	Yellow wire jacket (connecting wire)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
29#	Coppery metal wire (connecting wire)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
30#	Resistor (PCB)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	

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Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
31#	Red LED lamp (PCB)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	IN	N.D.	Comply	
		PBDEs	IN	N.D.	Comply	
32#	Black diode (PCB)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	IN	N.D.	Comply	
		PBDEs	IN	N.D.	Comply	
33#	Green PCB (PCB)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	IN	N.D.	Comply	
		PBDEs	IN	N.D.	Comply	
34#	White plastic frame (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
35#	Red plastic gasket (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	

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Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
36#	White plastic component (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
37#	Silvery gray silicon steel sheet (motor)	Pb	BL	---	Comply	Jun. 27, 2014/ Jul. 02, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	IN	Negative	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
38#	Coppery metal sheet (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
39#	Silvery gray metal pole (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
40#	Coppery metal ring (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	

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Part No.	Part Description	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS	Data Submitted / Resubmitted Date
41#	Silvery gray metal shell (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
42#	Silvery metal bearing (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
43#	Coppery metal coil (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	---	---	NA	
		PBDEs	---	---	NA	
44#	Light yellow shell (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	
45#	Black magnet (motor)	Pb	BL	---	Comply	Jun. 27, 2014
		Cd	BL	---	Comply	
		Hg	BL	---	Comply	
		Cr(VI)	BL	---	Comply	
		PBBs	BL	---	Comply	
		PBDEs	BL	---	Comply	

******** To be continued ********

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Remark:

(1) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr^{6+}.

(b)Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr^{6+}) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	BL≤(70-3σ)<X<(130+3σ) ≤OL	BL≤(70-3σ)<X<(130+3σ) ≤OL	LOD<X<(150+3σ) ≤OL
Pb	BL≤(700-3σ)<X<(1300+3σ) ≤OL	BL≤(700-3σ)<X<(1300+3σ) ≤OL	BL≤(500-3σ)<X<(1500+3σ) ≤OL
Hg	BL≤(700-3σ)<X<(1300+3σ) ≤OL	BL≤(700-3σ)<X<(1300+3σ) ≤OL	BL≤(500-3σ)<X<(1500+3σ) ≤OL
Br	BL≤(300-3σ)<X	--	BL≤(250-3σ)<X
Cr	BL≤(700-3σ)<X	BL≤(700-3σ)<X	BL≤(500-3σ)<X

(c) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection, -- = Not Regulated, NA = Not Applicable.

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

(2) (a) mg/kg = ppm = 0.0001%, N.D.= Not Detected (<MDL), --- = Not Conducted.

(b) Unit and Method Detection Limit (MDL) in wet chemical test

Test Items	Pb	Cd	Hg
Units	mg/kg	mg/kg	mg/kg
MDL	2	2	2

The MDL for single compound of PBBs & PBDEs is 5 mg/kg and MDL of Cr^{6+} for polymer & composite sample is 2 mg/kg.

(c) According to IEC 62321:2008, result on Cr^{6+} for metal sample is shown as Positive/Negative. Positive = Presence of Cr^{6+} coating, Negative = Absence of Cr^{6+} coating.

******** To be continued ********

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(3) RoHS Exemptions

Exemptions	
RoHS Directive 2011/65/EU ANNEX III	
Exemption Items	**Expires Date**
1, Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	
1(a), For general lighting purposes < 30 W:2.5 mg	
1(b), For general lighting purposes≥ 30 W and < 50W:3.5mg	
1(c), For general lighting purposes ≥ 50 W and < 150 W: 5 mg	
1(d), For general lighting purposes ≥ 150 W: 15 mg	
1(e), For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm: 7 mg	
1(f), For special purposes: 5 mg	
1(g), For general lighting purposes < 30 W with a lifetime equal or above 20 000 h: 3,5 mg	Expires on 31 December 2017
2(a), Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	
2(a)(1), Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2): 4 mg	
2(a)(2), Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5): 3 mg	
2(a)(3), Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8):3.5mg	
2(a)(4), Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12): 3.5 mg	
2(a)(5), Tri-band phosphor with long lifetime (≥ 25 000 h): 5 mg	
2(b), Mercury in other fluorescent lamps not exceeding (per lamp):	
2(b)(2), Non-linear halophosphate lamps (all diameters): 15 mg	Expires on 13 April 2016
2(b)(3), Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9):15mg	
2(b)(4), Lamps for other general lighting and special purposes (e.g. induction lamps):15mg	
3, Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):	
3(a), Short length (≤500 mm):3.5mg	
3(b), Medium length (> 500 mm and ≤ 1 500 mm):5mg	
3(c), Long length (> 1 500 mm):13mg	
4(a), Mercury in other low pressure discharge lamps (per lamp):15mg	
4(b), Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60:	
4(b) -I, P ≤155 W:30mg	
4(b) -II, 155 W < P ≤ 405 W:40mg	
4(b) -III, P > 405 W:40mg	
4(c), Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):	
4(c)-I, P ≤ 155 W:25mg	

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Exemptions	
RoHS Directive 2011/65/EU ANNEX III	
Exemption Items	**Expires Date**
4(c)-II, 155 W < P ≤ 405 W:30mg	
4(c)-III, P > 405 W:40mg	
4(d), Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Expires on 13 April 2015
4(e), Mercury in metal halide lamps (MH)	
4(f), Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	
4(g), Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light-artwork, where the mercury content shall be limited as follows: (a) 20 mg per electrode pair+0,3mg per tube length in cm, but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20 ℃; (b) 15 mg per electrode pair+0,24mg per tube length in cm, but not more than 80 mg, for all other indoor applications	Expires on 31 December 2018’
5(a), Lead in glass of cathode ray tubes	
5(b), Lead in glass of fluorescent tubes not exceeding 0,2 % by weight	
6(a), Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0,35 % lead by weight	
6(b), Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	
6(c), Copper alloy containing up to 4 % lead by weight	
7(a), Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)	
7(b), Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	
7(c)-I, Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	
7(c)-II, Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	
7(c)-III, Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013
7(c)-Ⅳ, Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors	Expires on 21 July 2016
8(a), Cadmium and its compounds in one shot pellet type thermal cut-offs	Expires on 1 January 2012 and after that date may be used in spare parts for EEE placed on the market before 1 January 2012
8(b), Cadmium and its compounds in electrical contacts	
9, Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution	

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Exemptions	
RoHS Directive 2011/65/EU ANNEX III	
Exemption Items	**Expires Date**
9(b), Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	
11(a), Lead used in C-press compliant pin connector systems	May be used in spare parts for EEE placed on the market before 24 September 2010
11(b), Lead used in other than C-press compliant pin connector systems	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013
12, Lead as a coating material for the thermal conduction module C-ring	May be used in spare parts for EEE placed on the market before 24 September 2010
13(a), Lead in white glasses used for optical applications	
13(b), Cadmium and lead in filter glasses and glasses used for reflectance standards	
14, Lead in solders consisting of more than two elements for the connection between the pins and the package of micropro-cessors with a lead content of more than 80 % and less than 85 % by weight	Expires on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011
15, Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	
17, Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	
18(b), Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP ($BaSi_2O_5$:Pb)	
21, Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	
23, Lead in finishes of fine pitch components other than connectors with a pitch of 0,65 mm and less	May be used in spare parts for EEE placed on the market before 24 September 2010
24, Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	
25, Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	
29, Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC ([1])	
30, Cadmium alloys as electrical/mechanical solder joints to elec-trical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more	
31, Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)	
32, Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	
33, Lead in solders for the soldering of thin copper wires of 100 μm diameter and less in power transformers	

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Exemptions	
RoHS Directive 2011/65/EU ANNEX III	
Exemption Items	**Expires Date**
34, Lead in cermet-based trimmer potentiometer elements	
37, Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	
38, Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	
39, Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm^2 of light-emitting area) for use in solid state illumination or display systems	Expires on 1 July 2014
Note: 1. ([1]) OJ L 326, 29.12.1969, p.36. 2. For the purposes of Directive 2011/65/EU, a maximum concentration value of 0,1 % by weight in homogeneous materials for lead, mercury, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) and of 0,01 % by weight in homogeneous materials for cadmium shall be tolerated.	

Exemptions	
RoHS Directive 2011/65/EU ANNEX IV Equipment onizing or detecting onizing radiation	
Exemption Items	**Expires Date**
1. Lead, cadmium and mercury in detectors for onizing radiation.	
2. Lead bearings in X-ray tubes.	
3. Lead in electromagnetic radiation amplification devices: micro-channel plate and capillary plate.	
4. Lead in glass frit of X-ray tubes and image intensifiers and lead in glass frit binder for assembly of gas lasers and for vacuum tubes that convert electromagnetic radiation into electrons.	
5. Lead in shielding for onizing radiation.	
6. Lead in X-ray test objects.	
7. Lead stearate X-ray diffraction crystals.	
8. Radioactive cadmium isotope source for portable X-ray fluorescence spectrometers. Sensors, detectors and electrodes	
8.1a. Lead and cadmium in ion selective electrodes including glass of pH electrodes.	
8.1b. Lead anodes in electrochemical oxygen sensors.	
8.1c. Lead, cadmium and mercury in infra-red light detectors.	
8.1d. Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide.	
9. Cadmium in helium-cadmium lasers.	
10. Lead and cadmium in atomic absorption spectroscopy lamps.	
11. Lead in alloys as a superconductor and thermal conductor in MRI.	
12. Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (Nuclear Magnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors.	Expires on 30 June 2021
13. Lead in counterweights.	
14. Lead in single crystal piezoelectric materials for ultrasonic transducers.	

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Exemptions	
RoHS Directive 2011/65/EU ANNEX IV Equipment onizing or detecting onizing radiation	
Exemption Items	**Expires Date**
15. Lead in solders for bonding to ultrasonic transducers.	
16. Mercury in very high accuracy capacitance and loss measurement bridges and in high frequency RF switches and relays in monitoring and control instruments not exceeding 20 mg of mercury per switch or relay.	
17. Lead in solders in portable emergency defibrillators.	
18. Lead in solders of high performance infrared imaging modules to detect in the range 8-14 μm.	
19. Lead in Liquid crystal on silicon (LcoS) displays.	
20. Cadmium in X-ray measurement filters.	
21. Cadmium in phosphor coatings in image intensifiers for X-ray images until 31 December 2019 and in spare parts for X-ray systems placed on the EU market before 1 January 2020.	
22. Lead acetate marker for use in stereotactic head frames for use with CT and MRI and in positioning systems for gamma beam and particle therapy equipment.	Expires on 30 June 2021.
23. Lead as an alloying element for bearings and wear surfaces in medical equipment exposed to ionising radiation.	Expires on 30 June 2021
24. Lead enabling vacuum tight connections between aluminium and steel in X-ray image intensifiers.	Expires on 31 December 2019
25. Lead in the surface coatings of pin connector systems requiring nonmagnetic connectors which are used durably at a temperature below – 20 ℃ under normal operating and storage conditions.	Expires on 30 June 2021
26. Lead in — solders on printed circuit boards, — termination coatings of electrical and electronic components and coatings of printed circuit boards, — solders for connecting wires and cables, — solders connecting transducers and sensors, that are used durably at a temperature below – 20 ℃ under normal operating and storage conditions.	Expires on 30 June 2021
27. Lead in — solders, — termination coatings of electrical and electronic components and printed circuit boards, — connections of electrical wires, shields and enclosed connectors, which are used in magnetic fields within the sphere of 1 m radius around the isocentre of the magnet in medical magnetic resonance imaging equipment, including patient monitors designed to be used within this sphere, or magnetic fields within 1 m distance from the external surfaces of cyclotron magnets, magnets for beam transport and beam direction control applied for particle therapy.	Expires on 30 June 2020
28. Lead in solders for mounting cadmium telluride and cadmium zinc telluride digital array detectors to printed circuit boards.	Expires on 31 December 2017

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Exemptions	
RoHS Directive 2011/65/EU ANNEX IV Equipment onizing or detecting onizing radiation	
Exemption Items	**Expires Date**
29. Lead in alloys, as a superconductor or thermal conductor, used in cryo-cooler cold heads and/or in cryo-cooled cold probes and/or in cryo-cooled equipotential bonding systems, in medical devices (category 8) and/or in industrial monitoring and control instruments.	Expires on 30 June 2021
30. Hexavalent chromium in alkali dispensers used to create photocathodes in X-ray image intensifiers until 31 December 2019 and in spare parts for X-ray systems placed on the EU market before 1 January 2020.	
31. Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before 22 July 2014 and used in category 8 equipment placed on the market before 22 July 2021, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer.	Expires on 21 July 2021
32. Lead in solders on printed circuit boards of detectors and data acquisition units for Positron Emission Tomographs which are integrated into Magnetic Resonance Imaging equipment.	Expires on 31 December 2019
33. Lead in solders on populated printed circuit boards used in Directive 93/42/EEC class IIa and IIb mobile medical devices other than portable emergency defibrillators.	Expires on 30 June 2016 for class IIa and on 31 December 2020 for class IIb.
34. Lead as an activator in the fluorescent powder of discharge lamps when used for extracorporeal photopheresis lamps containing BSP (BaSi2O5:Pb) phosphors.	Expires on 22 July 2021
35. Mercury in cold cathode fluorescent lamps for back-lighting liquid crystal displays, not exceeding 5 mg per lamp, used in industrial monitoring and control instruments placed on the market before 22 July 2017	Expires on 21 July 2024
36. Lead used in other than C-press compliant pin connector systems for industrial monitoring and control instruments.	Expires on 31 December 2020. May be used after that date in spare parts for industrial monitoring and control instruments placed on the market before 1 January 2021.'
37. Lead in platinized platinum electrodes used for conductivity measurementswhere at least one of the following conditions applies: (a) wide-range measurements with a conductivity range covering more than 1 order of magnitude (e.g. range between 0,1 mS/m and 5 mS/m) in laboratory applications for unknown concentrations; (b) measurements of solutions where an accuracy of +/– 1 % of the sample range and where high corrosion resistance of the electrode are required for any of the following: (i) solutions with an acidity < pH 1; (ii) solutions with an alkalinity > pH 13; (iii) corrosive solutions containing halogen gas; (c) measurements of conductivities above 100 mS/m that must be performed with portable instruments.	Expires on 31 December 2018

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Exemptions	
RoHS Directive 2011/65/EU ANNEX IV Equipment onizing or detecting onizing radiation	
Exemption Items	**Expires Date**
38. Lead in solder in one interface of large area stacked die elements with more than 500 interconnects per interface which are used in X-ray detectors of computed tomography and X-ray systems	Expires on 31 December 2019. May be used after that date in spare parts for CT and X-ray systems placed on the market before 1 January 2020.
39. Lead in micro-channel plates (MCPs) used in equipment where at least one of the following properties is present: (a)a compact size of the detector for electrons or ions, where the space for the detector is limited to a maximum of 3 mm/MCP (detector thickness+space for installation of the MCP), a maximum of 6 mm in total, and an alternative design yielding more space for the detector is scientifically and technically impracticable; (b)a two-dimensional spatial resolution for detecting electrons or ions, where at least one of the following applies: (i)a response time shorter than 25 ns; (ii)a sample detection area larger than 149 mm2; (iii)a multiplication factor larger than 1,3 × 103. (c)a response time shorter than 5 ns for detecting electrons or ions; (d)a sample detection area larger than 314 mm2 for detecting electrons or ions; (e)a multiplication factor larger than 4,0 × 107.	(a) 21 July 2021 for medical devices and monitoring and control instruments; (b) 21 July 2023 for in-vitro diagnostic medical devices; (c) 21 July 2024 for industrial monitoring and control instruments
40. Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC for industrial monitoring and control instruments	Expires on 31 December 2020. May be used after that date in spare parts for industrial monitoring and control instruments placed on the market before 1 January 2021
41. Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council)	Expires on 31 December 2018

******** To be continued ********

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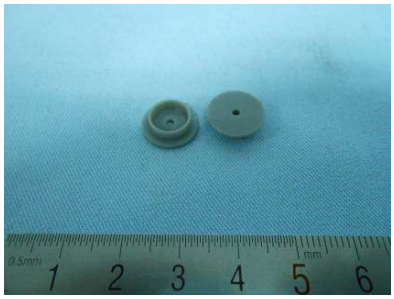
SAMPLE PHOTOS

1#



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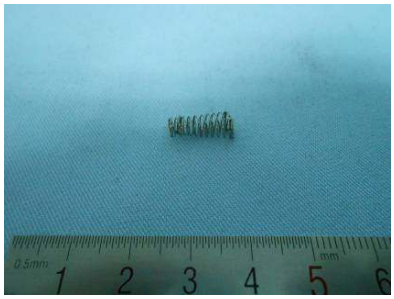

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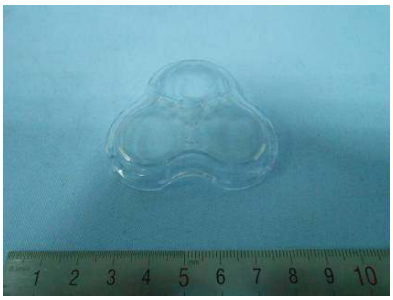

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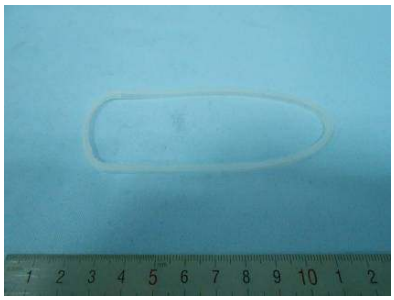

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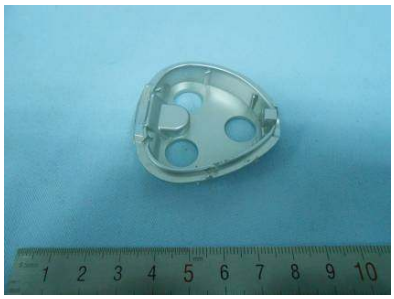

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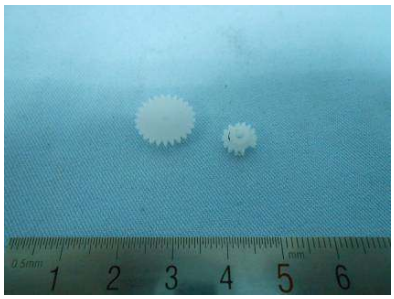

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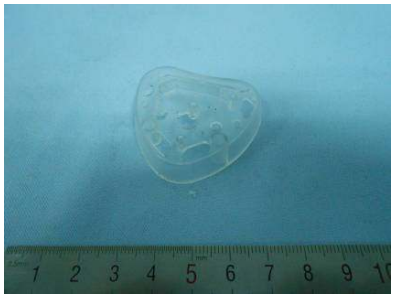

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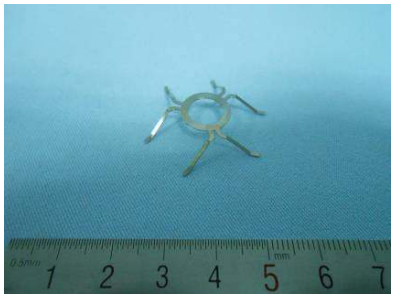

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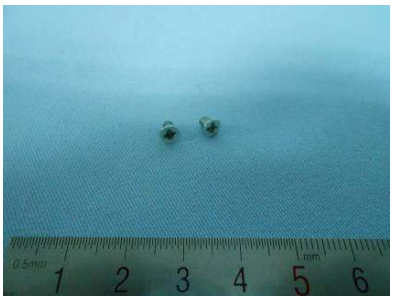

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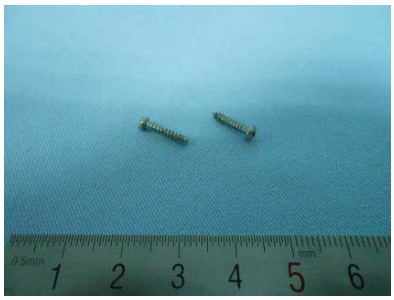

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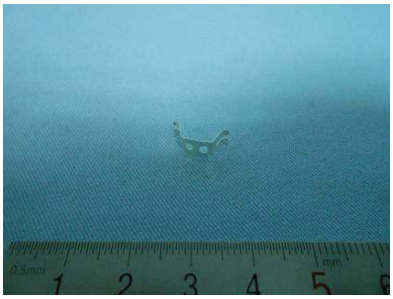

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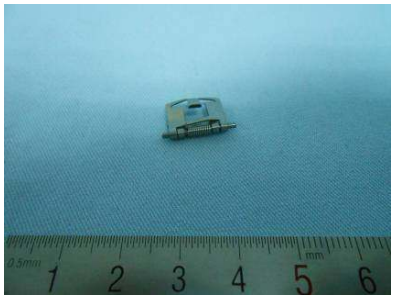

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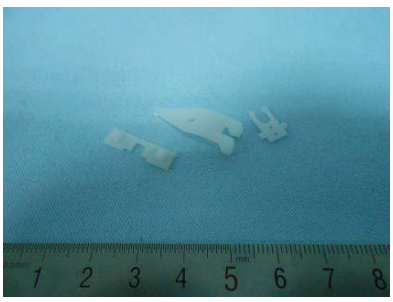

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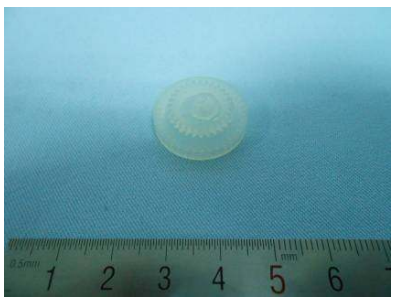

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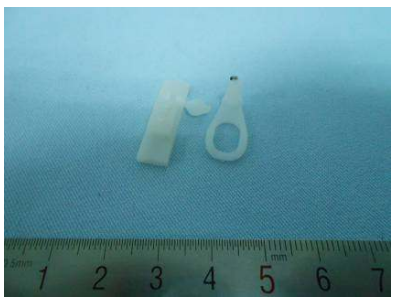

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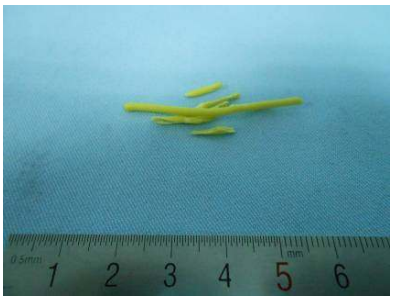

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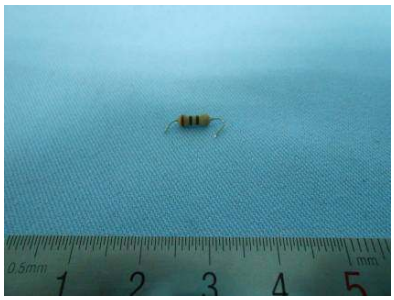

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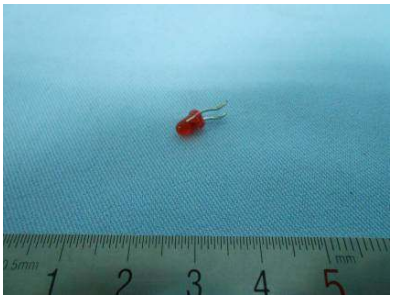

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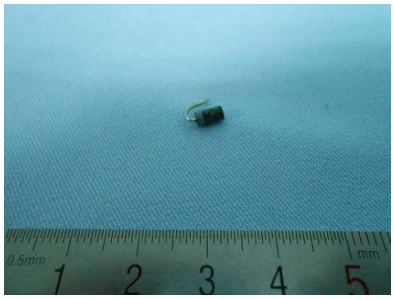

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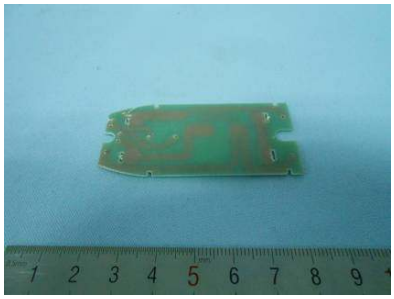

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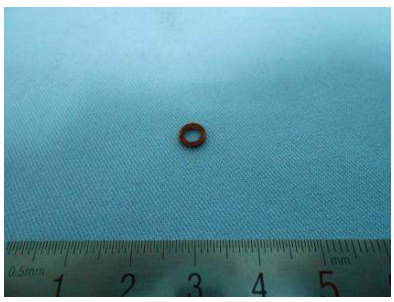

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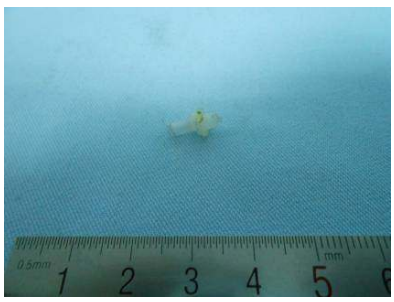

36#

******** To be continued ********

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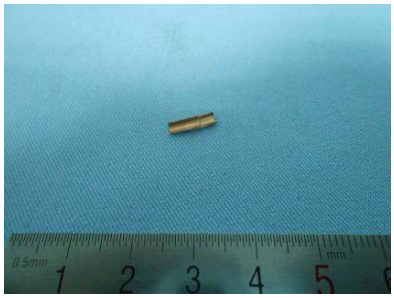
37#



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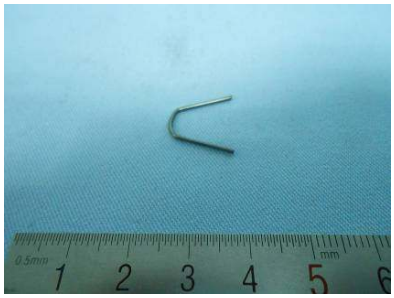

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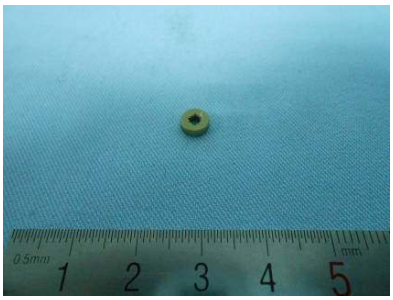

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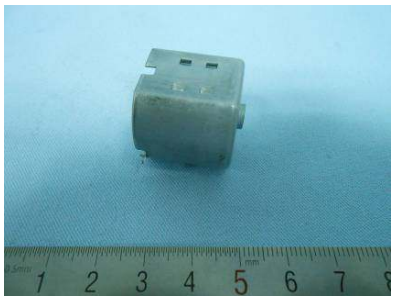

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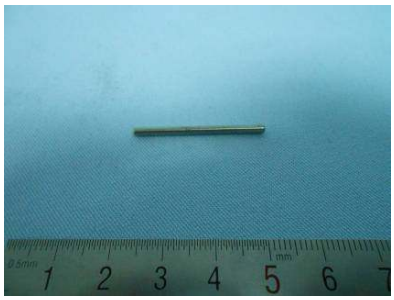

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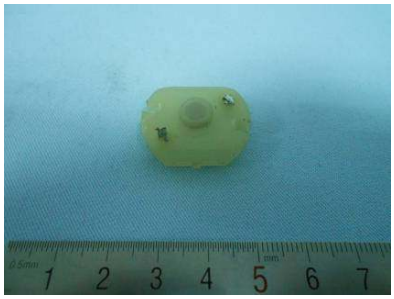

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******** To be continued ********

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TESTED MAIN MODEL'S PRODUCT PHOTO

******** END OF REPORT ********

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