

Test Report

No. : CE/2012/85139 Date : 2012/09/07 Page : 1 of 9

HITANO ENTERPRISE CORP.
7F-7, NO. 3, WU-CHUAN 1ST RD., NEW TAIPEI INDUSTRIAL PARK, NEW TAIPEI CITY,
TAIWAN, R. O. C.



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

Sample Description : DIPPED TANTALUM CAPACITOR
Style/Item No. : TCR
Sample Receiving Date : 2012/08/31
Testing Period : 2012/08/31 TO 2012/09/07

=====
Test Requested : (1) As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs contents in the submitted sample.

(2) As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine contents in the submitted sample.

Test Method : Please refer to next page(s).

Test Result(s) : Please refer to next page(s).

Conclusion : (1) Based on the performed tests on submitted samples, the test results of Cadmium, Lead, Mercury, Hexavalent Chromium Cr(VI), PBBs and PBDEs comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.


Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

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Test Result(s)

PART NAME No.1 : BODY
PART NAME No.2 : PLATING LAYER OF SILVER COLORED METAL
PART NAME No.3 : BASE MATERIAL OF SILVER COLORED METAL

Test Item(s)	Unit	Method	MDL	Result			Limit
				No.1	No.2	No.3	
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	---	n.d.	100
	mg/kg	IEC 62321: 2008 application of modified digestion by surface etching and performed by ICP-AES.	2	---	n.d.	---	100
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	---	n.d.	1000
	mg/kg	IEC 62321: 2008 application of modified digestion by surface etching and performed by ICP-AES.	2	---	42	---	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	---	n.d.	1000
	mg/kg	IEC 62321: 2008 application of modified digestion by surface etching and performed by ICP-AES.	2	---	n.d.	---	1000
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	---	---	1000
	**	With reference to IEC 62321: 2008 and performed by Boiling water extraction Method.	#	---	Negative	Negative	#
Halogen							
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.	---	---	-
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)			50	143	---	---	-
Halogen-Bromine (Br) (CAS No.: 10097-32-2)			50	6390	---	---	-
Halogen-Iodine (I) (CAS No.: 14362-44-8)			50	n.d.	---	---	-

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TAIWAN, R. O. C.



Test Item(s)	Unit	Method	MDL	Result			Limit		
				No.1	No.2	No.3			
Sum of PBBs	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.	---	---	1000		
Monobromobiphenyl			5	n.d.	---	---	-		
Dibromobiphenyl			5	n.d.	---	---	-		
Tribromobiphenyl			5	n.d.	---	---	-		
Tetrabromobiphenyl			5	n.d.	---	---	-		
Pentabromobiphenyl			5	n.d.	---	---	-		
Hexabromobiphenyl			5	n.d.	---	---	-		
Heptabromobiphenyl			5	n.d.	---	---	-		
Octabromobiphenyl			5	n.d.	---	---	-		
Nonabromobiphenyl			5	n.d.	---	---	-		
Decabromobiphenyl			5	n.d.	---	---	-		
Sum of PBDEs					-	n.d.	---	---	1000
Monobromodiphenyl ether					5	n.d.	---	---	-
Dibromodiphenyl ether					5	n.d.	---	---	-
Tribromodiphenyl ether					5	n.d.	---	---	-
Tetrabromodiphenyl ether					5	n.d.	---	---	-
Pentabromodiphenyl ether					5	n.d.	---	---	-
Hexabromodiphenyl ether					5	n.d.	---	---	-
Heptabromodiphenyl ether					5	n.d.	---	---	-
Octabromodiphenyl ether					5	n.d.	---	---	-
Nonabromodiphenyl ether					5	n.d.	---	---	-
Decabromodiphenyl ether					5	n.d.	---	---	-

Note :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. " - " = Not Regulated
 5. ** = Qualitative analysis (No Unit)
 6. # = a. Positive means the presence of CrVI on the tested areas
b. Negative means the absence of CrVI on the tested areas
- The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² tested areas.
7. "---" = Not Conducted

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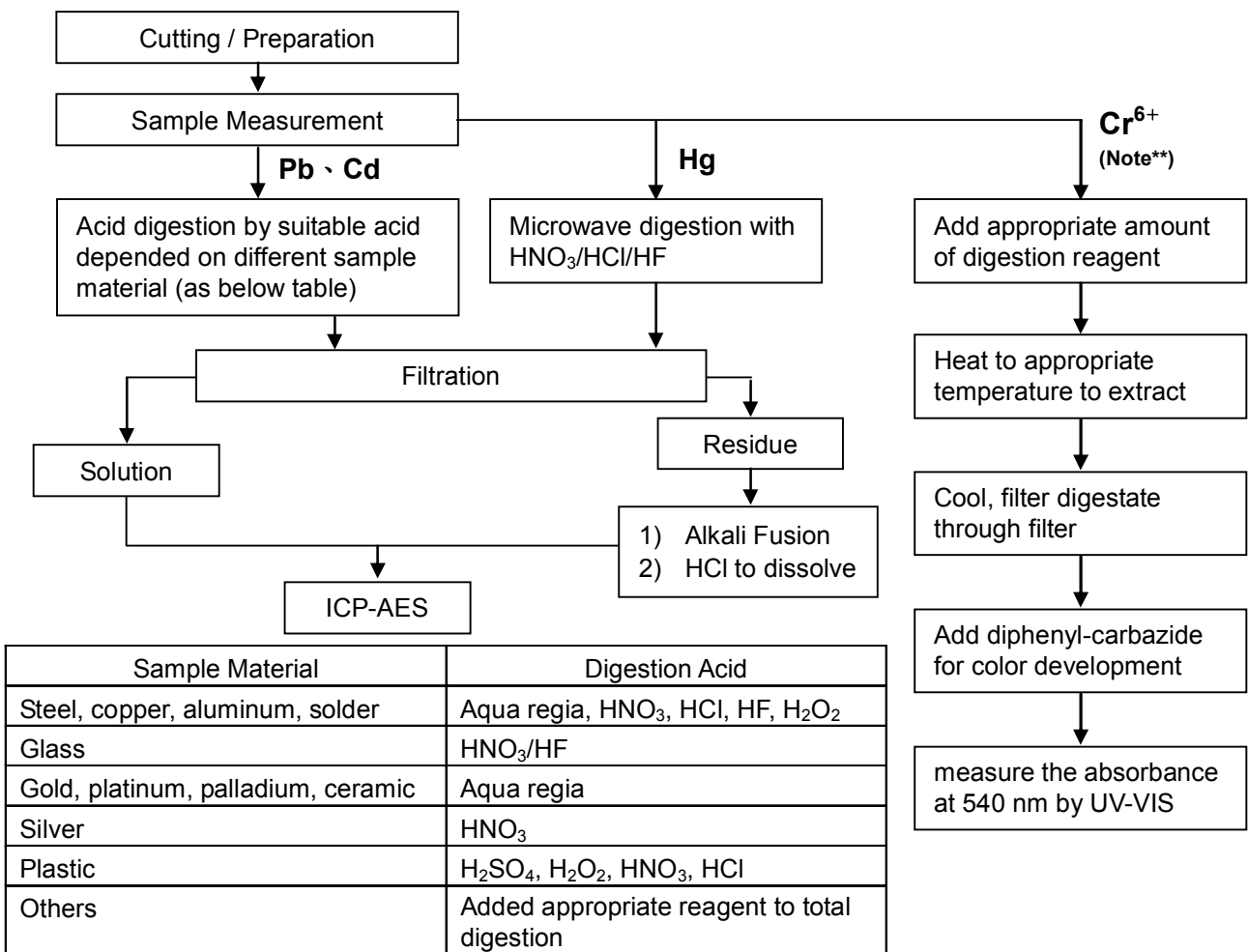
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TAIWAN, R. O. C.



No.1 and No.3

- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
(Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



Note :** (1) For non-metallic material, add alkaline digestion reagent and heat to 90~95°C.
(2) For metallic material, add pure water and heat to boiling.

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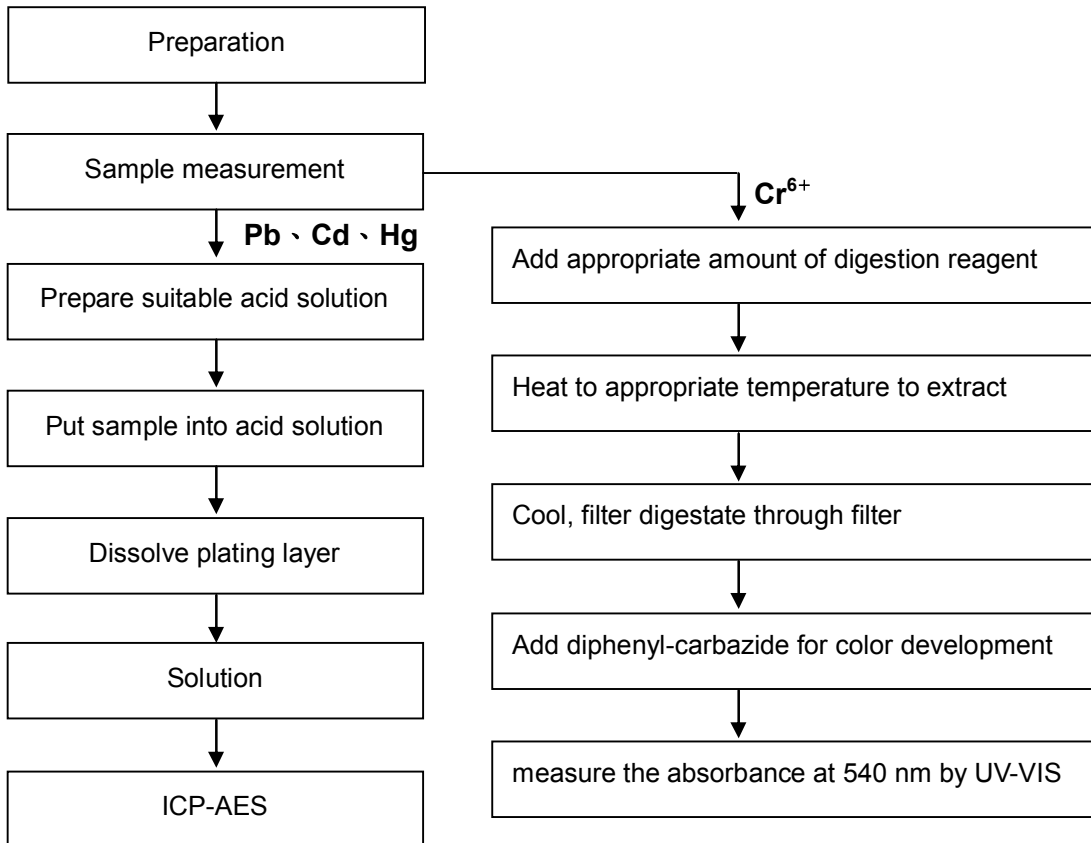
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TAIWAN, R. O. C.



No.2

- 1) The plating layer of samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang

Flow Chart of Stripping method for metal analysis



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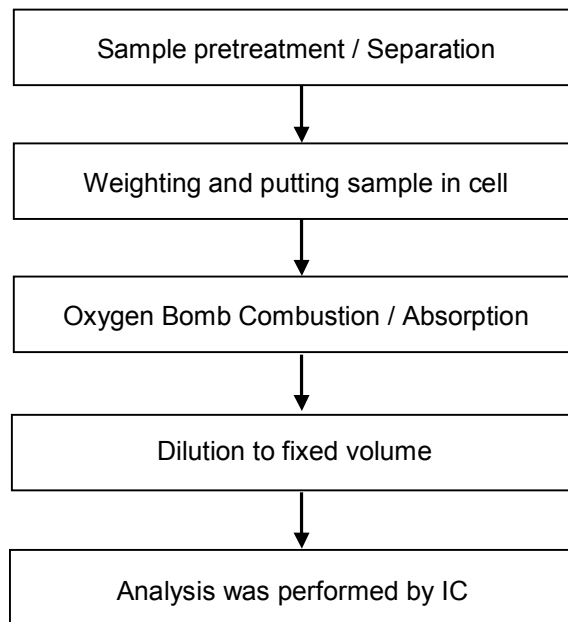
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Analytical flow chart of halogen content

- 1) Name of the person who made measurement: Rita Chen
- 2) Name of the person in charge of measurement: Troy Chang



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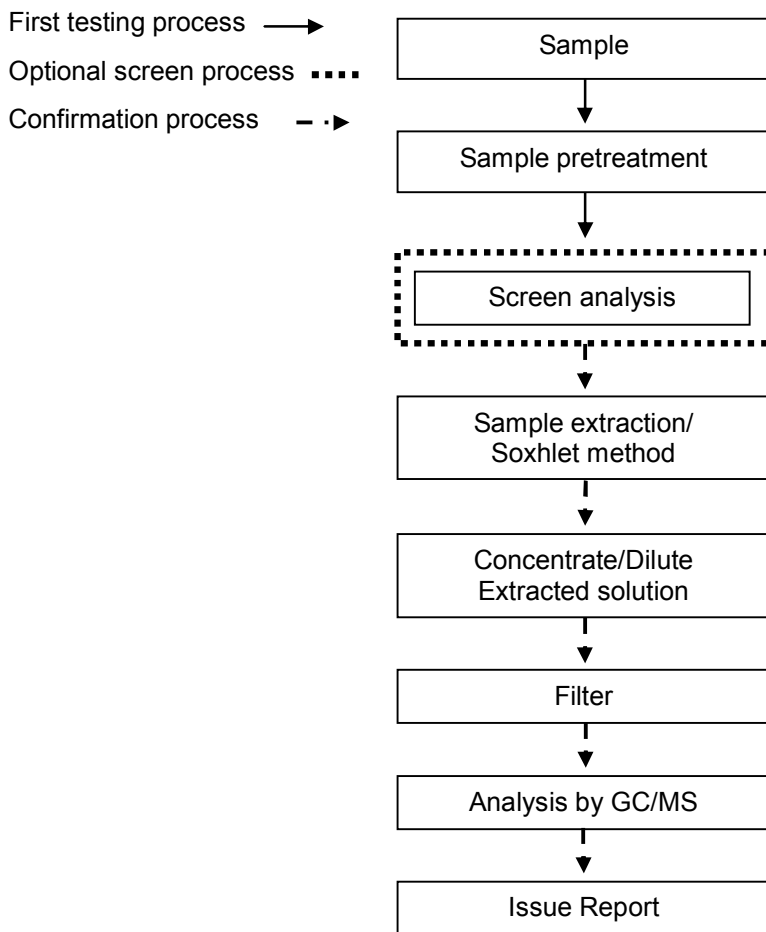
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PBB/PBDE analytical FLOW CHART

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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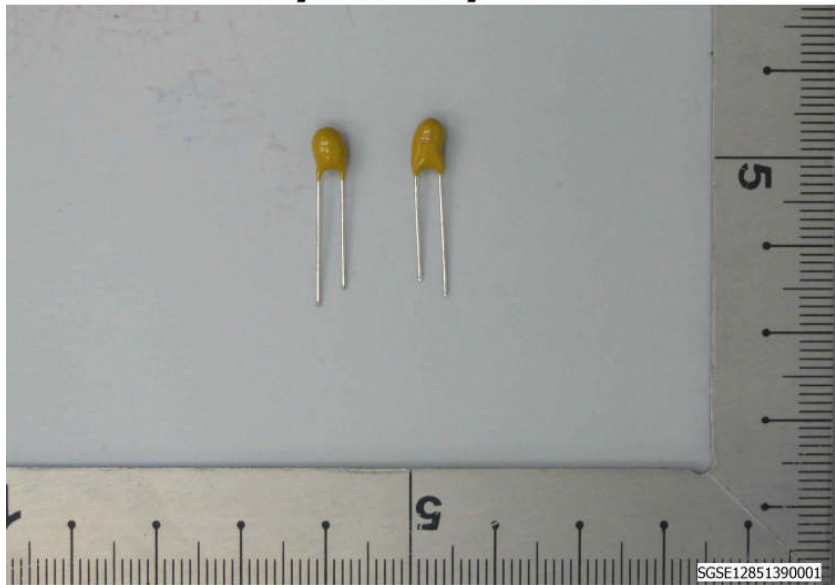
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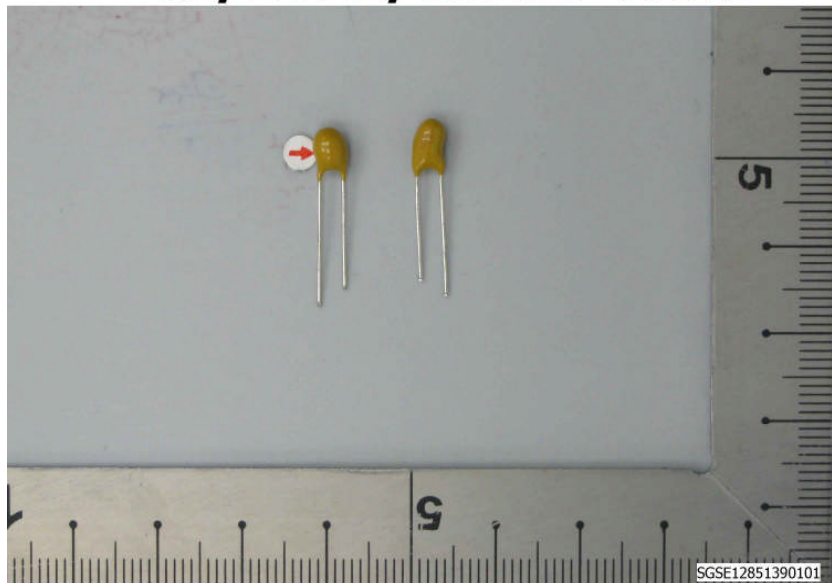


* The tested sample / part is marked by an arrow if it's shown on the photo. *

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CE/2012/85139 NO.1



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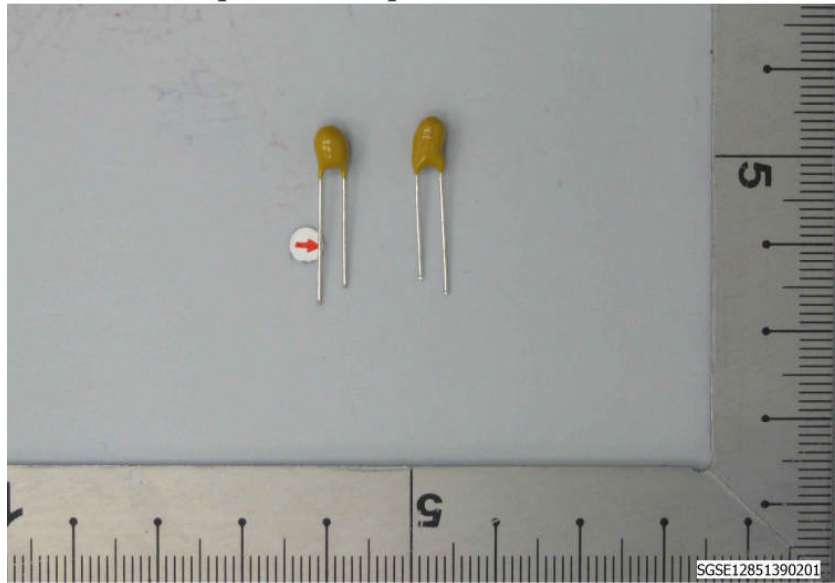
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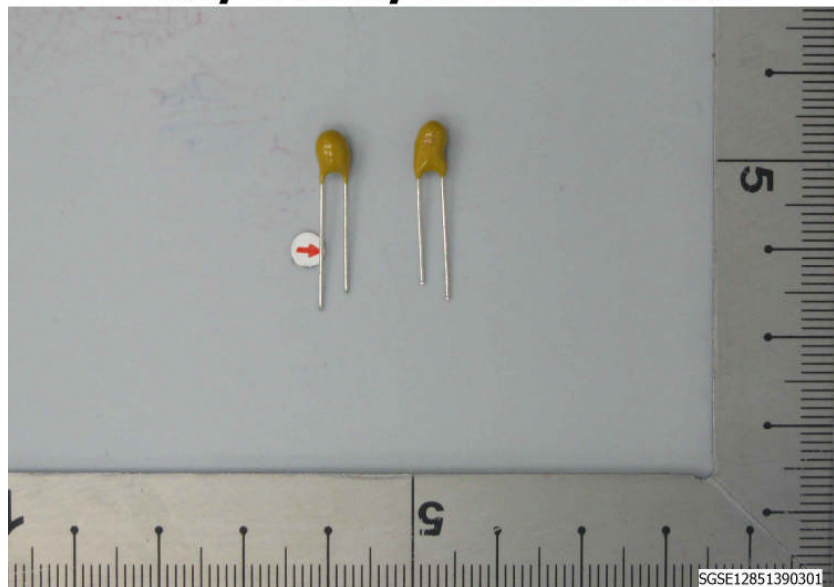
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CE/2012/85139 NO.2



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**** End of Report ****

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