寶 號 CUSTOMER

IBS TECHNOLOGY HK INTL LTD.

承 認 書

SPECIFICATION FOR APPROVAL

品 名 DESCRIPTION	螺帽	型 號 MODEL NO	F45M20-(080930D4BM
客戶料號 CUSTOMER PAR			重 IGHT	0.1131 g
日 期 DATE	2019/10/16			

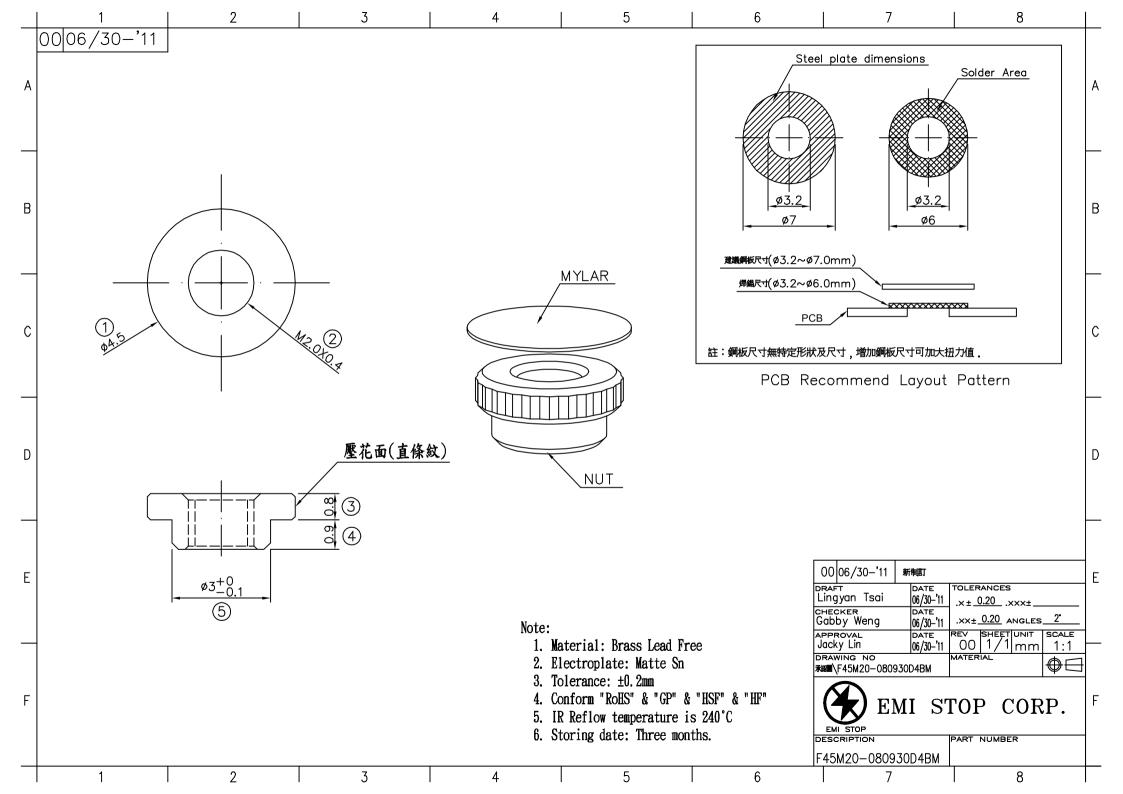
APPROVE CENTER								
APPROVE	APPROVE	APPROVE						
林奇鋒	王娟	高昱智						



榮 益 電 子 (昆山) 有 限 公 司 榮益使EMI變容易 EMI STOP STOP EMI 江苏省昆山市开发区太湖南路9号

TEL: 86(512)5763-5511 FAX: 86(512)5763-5522

E-mail:service@emistop.com





榮益電子(昆山)有限公司 EMI STOP CORP.

榮益使 EMI變容易 EMI STOP STOP EMI

TEL: 86(512) 5763-5511 FAX: 86(512) 5763-5522 E-mail:service@emistop.com

FAI Report

品名: 螺帽

項次	尺寸	單位		公差值				量測值					NSION PTABLE	備註
/(/ -	, - ,	, ,			_ ,		1	2	3	4	5	YES	NO	
1	4.50	mm	+	0.20	_	0.20	4.49	4.49	4.48	4.49	4.49	V		
2	M2.0	mm	+		_		GO	GO	GO	GO	GO	V		
3	0.80	mm	+	0.20	_	0.20	0.80	0.79	0.80	0.80	0.80	V		
4	0.90	mm	+	0.20	_	0.20	0.90	0.90	0.89	0.90	0.90	V		
5	3.00	mm	+	0.00	_	0.10	2.96	2.97	2.96	2.97	2.97	V		
6		mm	+		_									
7		mm	+		_									

測量員: 詹小芳 審核: 高昱智	
------------------	--

FR24-5



CPK Report

榮益料號		F45M20-08	0930D4BM	Date	2019/10/16 15:22		
客戶料號				Inches/mm	mm		
Description		螺	帽		Inspector	詹小芳	
檢測儀器		2.5	5D		Reviewer	高昱智	
Dim. Designator	1	2	3				
Nominal	4.50	0.80	0.90				
+ Tolerance	0.20	0.20	0.20				
- Tolerance	-0.20	-0.20	-0.20				
Upper Limit Lower Limit	4.70	1.00 0.60	1.10 0.70				
	4.30						
1	4.49	0.80	0.90				
2	4.49	0.79	0.90				
3	4.48	0.80	0.89				
4	4.49	0.80	0.90				
5	4.41	0.79	0.90				
6	4.47	0.73	0.88				
7	4.49	0.75	0.90				
8	4.48	0.71	0.81				
9	4.41	0.80	0.83				
10	4.45	0.75	0.86				
11	4.49	0.80	0.80				
12	4.43	0.72	0.85				
13	4.40	0.73	0.89				
MAX.	4.4900	0.8000	0.9000				
MIN.	4.4000	0.7100	0.8000				
AVERAGE	4.4600	0.7669	0.8700				
STDEV	0.0354	0.0357	0.0365				
Ca	0.2000	0.1654	0.1500				
СР	1.8856	1.8684	1.8257				
Cpk	1.5085	1.5594	1.5519				

FR33-7

boway 博威合金

宁波博威合金材料股份有限公司 NINGBO POWERWAY ALLOY MATERIAL CO.,LTD. 产品检测报告单CERTIFICATE OF TEST

客户(CUSTOMER): 昆山门市部

产品名称Description	规格Size	(mm)	状态Te	状态Temper 数量		量Quantity(Kgs)	执行标准	Specification	批号Lot No.	
Lead-free Brass HBi59-1.5	Ф4. {	5	Y2			1093. 2 Q/NPWZ 004		IPWZ 004	20160	90511
元素Element	Cu (%)	Bi (%)		Pb (%)		Cd(%)	Sb+B+Ni+Sn (%)	杂质元素Other element (%)	Zn (%)	备注
标准要求Test Spec.	58~62	0.3-	~2.2	< 0	. 1	< 0.0050				
检测结果Test Result	59.14	2.0	00	0.00	41	0.0002	<1.2	Other all < 0.2	Rem	
检测项目Test Item	抗拉强度	Tensil	ensile Strength (Mpa)		oa)	断后伸长率 Elongation		硬 度Hardnes	ss (HV)	
检测结果Test Result	504			11						
检测项目Test Item		尺寸公差	Size (mm	n)		其它Other				
检测结果Test Result		C)K			OK				

申明;我单位提供的产品,经过放射性水平监测,辐射剂量水平处于本底范围内,无放射性污染

检验员(checker):

质量主管(manager):

产品合格专用章(badge)

签发日期(date): 2016-9-5

立品合格专用章



Test Report No. SHAEC1917584303 Date: 12 Aug 2019 Page 1 of 5

NINGBO POWERWAY ALLOY MATERIAL CO.,LTD
TAIPING BRIDGE,YUNLONG TOWN,YINZHOU DISTRICT,NINGBO CITY,CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as: Lead free brass

SGS Job No.: SP19-027382 - SH

Model No.: HBi59-1.5

Client Ref. Information: HBi60-1.3/C6801/C49250/HBi59-1

Main Substance : Cu,Zn,Bi

Date of Sample Received : 08 Aug 2019

Testing Period : 08 Aug 2019 - 12 Aug 2019

Test Requested: Selected test(s) as requested by client.

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

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

Conclusion: Based on the performed tests on submitted sample(s), the results of Lead,

Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS

Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



Approved Signatory





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Test Report No. SHAEC1917584303 Date: 12 Aug 2019 Page 2 of 5

Test Results:

Test Part Description:

Specimen No. SGS Sample ID Description
SN1 SHA19-175843.002 Copper metal

Remarks:

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC62321-5:2013 and IEC62321-7-1:2015, analyzed by ICP-OES and UV-Vis.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	25
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm²	0.10	ND

Notes:

- (1)The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863. IEC 62321 series is equivalent to EN 62321 series https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG ID:1258637,25
- (2)▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². The sample coating is considered to contain CrVI
 - b. The sample is negative for CrVI if CrVI is ND (concentration less than $0.10~\mu g/cm^2$). The coating is considered a non-CrVI based coating
 - unavoidable coating variations may influence the determination Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive -



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t E&E (86-21) 61402553 f E&E (86-21)64953679 t HL (86-21) 61402594 f HL (86-21)61156899



No. SHAEC1917584303

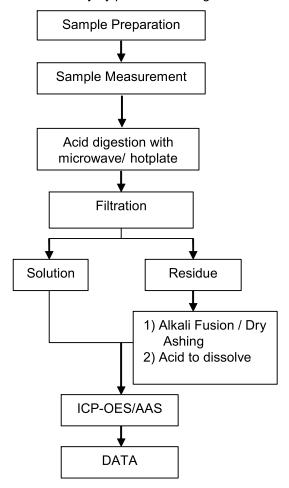
Date: 12 Aug 2019

Page 3 of 5

ATTACHMENTS

Elements (IEC62321) Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart.





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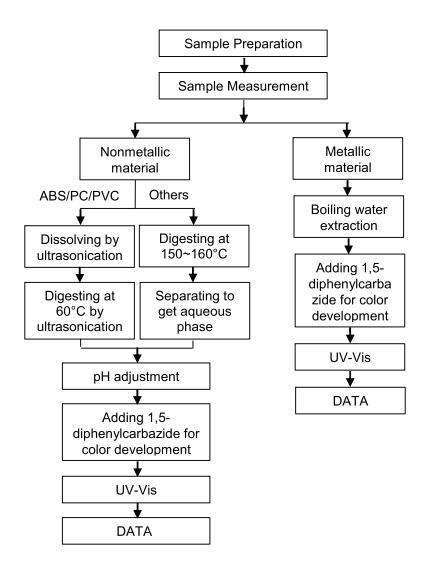
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ATTACHMENTS

Hexavalent Chromium (Cr(VI)) Testing Flow Chart





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No. SHAEC1917584303

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Date: 12 Aug 2019

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***



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Page 1 of 7

Report No. A2180238379101005

Applicant SUZHOU HUATING PLATED ORNAMENTS CO., LTD

Address DAZHUANG FACTORY AREA ,HUANGQIAO TOWN ,XIANGCHENG DISTRICT ,SUZHOU

CITY

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

Sample Name Mat-Sn plating
Color silver gray
Sample Received Date Dec. 4, 2018

Testing Period Dec. 4, 2018 to Dec. 7, 2018

Test Requested As specified by client, to test Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent

Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Beryllium(Be), Antimony(Sb) Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctane Sulfonates

(PFOS), Perfluorooctanoic Acid (PFOA) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).





Reviewed by

Date

Wulliandi

Dec. 7, 2018

No. R375301230

No.3286Chengyang Road, Xiangcheng District, Suzhou, Jiangsu



Report No. A2180238379101005

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Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	Refer to IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	Refer to IEC 62321-5:2013	ICP-OES
Mercury(Hg)	Refer to IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-1:2015	UV-Vis
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Beryllium(Be)	Refer to US EPA 3050B:1996 & US EPA 6010D:2014	ICP-OES
Antimony(Sb)	Refer to US EPA 3050B:1996 & US EPA 6010D:2014	ICP-OES
Fluorine (F)	Refer to EN 14582:2016*	IC
Chlorine (Cl)	Refer to EN 14582:2016*	IC
Bromine (Br)	Refer to EN 14582:2016*	IC
Iodine (I)	Refer to EN 14582:2016*	IC
Perfluorooctane Sulfonates (PFOS)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Perfluorooctanoic Acid (PFOA)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

Hotline:400-6788-333 www.cti-cert.com E-mail:info@cti-cert.com Complaint call:0755-33681700 Complaint E-mail:complaint@cti-cert.com



Report No. A2180238379101005 **Test Result(s)**

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Tested Item(s)	Result	MDL		
Lead(Pb)	31 mg/kg	2 mg/kg		
Cadmium(Cd)	N.D.	2 mg/kg		
Mercury(Hg)	N.D.	2 mg/kg		
Hexavalent Chromium(Cr(VI))	N.D. ▼	0.10 μg/cm ² (LOQ)		
Tested Item(s)	Result	MDL		
Polybrominated Biphenyls(PBBs)				
Monobromobiphenyl	N.D.	5 mg/kg		
Dibromobiphenyl	N.D.	5 mg/kg		
Tribromobiphenyl	N.D.	5 mg/kg		
Tetrabromobiphenyl	N.D.	5 mg/kg		
Pentabromobiphenyl	N.D.	5 mg/kg		
Hexabromobiphenyl	N.D.	5 mg/kg		
Heptabromobiphenyl	N.D.	5 mg/kg		
Octabromobiphenyl	N.D.	5 mg/kg		
Nonabromobiphenyl	N.D.	5 mg/kg		
Decabromobiphenyl	N.D.	5 mg/kg		
Tested Item(s)	Result	MDL		
Polybrominated Diphenyl Ethers (PBDI	Es)			
Monobromodiphenyl ether	N.D.	5 mg/kg		
Dibromodiphenyl ether	N.D.	5 mg/kg		
Tribromodiphenyl ether	N.D.	5 mg/kg		
Tetrabromodiphenyl ether	N.D.	5 mg/kg		
Pentabromodiphenyl ether	N.D.	5 mg/kg		
Hexabromodiphenyl ether	N.D.	5 mg/kg		
Heptabromodiphenyl ether	N.D.	5 mg/kg		
Octabromodiphenyl ether	N.D.	5 mg/kg		
Nonabromodiphenyl ether	N.D.	5 mg/kg		
Decabromodiphenyl ether	N.D.	5 mg/kg		



Report No. A2180238379101005

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Test Result(s)

Tested Item(s)	Result	MDL
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg
Tested Item(s)	Result	MDL
Beryllium(Be)	N.D.	10 mg/kg
Antimony(Sb)	N.D.	10 mg/kg
Tested Item(s)	Result	MDL
Fluorine(F)	N.D.*1	10 mg/kg
Chlorine(Cl)	N.D.*1	10 mg/kg
Bromine(Br)	N.D.* ¹	10 mg/kg
Iodine(I)	N.D.* ¹	10 mg/kg
Tested Item(s)	Result	MDL
Perfluorooctane Sulfonates(PFOS)	N.D.	0.5 μg/m ²
Tested Item(s)	Result	MDL
Perfluorooctanoic Acid(PFOA)	N.D.	0.5 μg/m ²

Tested Sample/Part Description

Silver-grey plating

Remark:

The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Beryllium, Antimony.

- -MDL = Method Detection Limit
- -N.D. = Not Detected (<MDL or LOQ)
- -mg/kg = ppm = parts per million
- -LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm²
- -The sample is negative for Cr(VI) The Cr(VI) concentration is below 0.10 $\mu g/cm^2$. The coating is considered a non-Cr(VI) based coating.
- -*=The specified area sample is extracted by an ultrasonic bath in ultra-pure water, and then the extracted liquid is analyzed by IC.
- -* 1 =The value is converted from the test result with the density and thickness provided by client (Density =7.3 g/cm 3 , thickness=3 μ m).



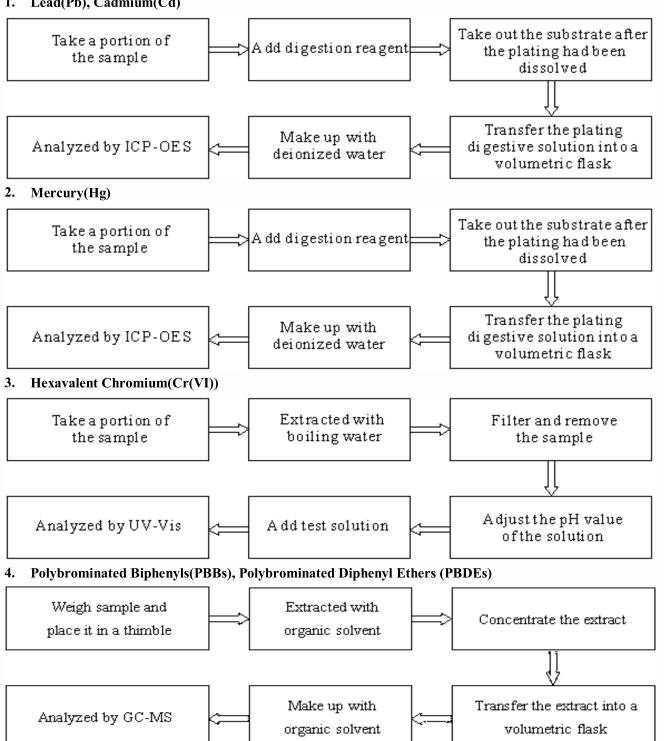
Report No. A2180238379101005

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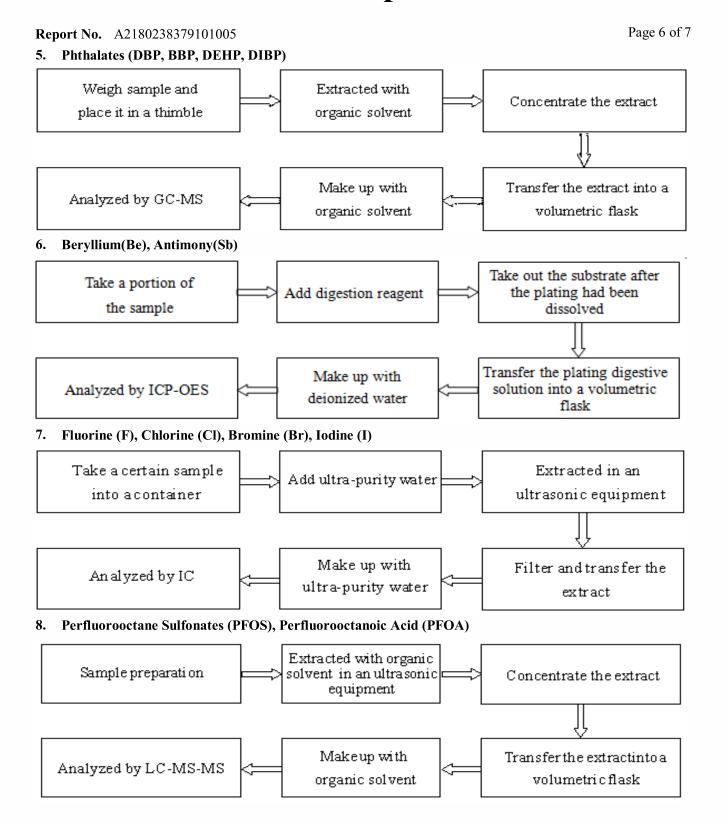
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Test Process







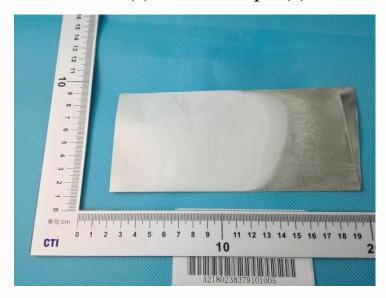






Report No. A2180238379101005

Photo(s) of the sample(s)



*** End of report ***

Statement:

- 1. This report is considered invalidated without approval signature, special seal and the seal on the perforation;
- 2. The sample(s) and sample information was/were provided by the client who should be responsible for the autenticity which CTI hasn't verified;
- 3. The result(s) shown in this report refer(s) only to the sample(s) tested;
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/