

Test Report

Number: GZHH00531322

Applicant: FLASHBAY ELECTRONICS
BUILDING2, JIXUN INDUSTRIAL PARK, XINJIAO ,
DONG'AO VILLAGE, SHATIAN TOWN, HUIYANG
DISTRICT, HUIZHOU CITY, GUANGDONG PROVINCE,
P.R.CHINA

Date: Apr 02, 2024

Sample Description:

Thirteen (13) pieces of submitted sample said to be :
Item Name : **Travel Cups**
Item No. : **Aroma (AM)**
Country of Origin : China
Date Sample Received : Mar 21, 2024
Testing Period : Mar 21, 2024 ~ Apr 02, 2024

Tested Sample



Tests conducted:

As requested by the applicant, refer to attached page(s) for details.

To be continued



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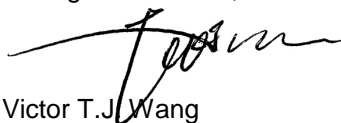
Conclusion:

Regarding the tested parameters and based on the provided material information, the submitted sample complied with the food contacting requirements for German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 & 31 , Regulation (EU) 10/2011 and Regulation (EC) 1935/2004.

Based on the assessment of the submitted sample and the information provided, the following tests had been conducted :

<u>Tested parameters</u>	<u>Result</u>
Sensory test	Pass
Overall migration on plastic	Pass
Specific migration of heavy metal on plastic	Pass
Organotin content	Pass
Specific migration of PAH	Pass
Volatile organic matter of silicone	Pass
Peroxides residues	Pass
Determination of heavy metal release on metal	Pass
Specific migration of primary aromatic amines	Pass
Specific migration of BPA	Pass
Specific migration of phthalate	Pass
Extractable substances of silicone	Pass
PAH content	Pass
Total phthalate	Pass
Total Lead and Cadmium	Pass

Authorized by:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch, Hardlines



Victor T.J. Wang
Assistant General Manager



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Tests Conducted

1 Sensory Evaluation

With reference to §64 LFGB L00.90-6.

Sample was cleaned according to the product's instruction manual or in the absence of such manual with water. Food simulant was filled in the sample under below mentioned time and temperature. Odour and taste was evaluated with 6 panelists using control sample of food simulant.

I. Test condition:

Food simulant
Water

Test temperature
40 °C

Test duration
24 hours

II. Result:

<u>Test Item</u>	<u>Result</u>	<u>Limit</u>
	(5)	
Appearance of simulant	Clear and colourless	Clear and colourless
Odour of simulant	1	< 3.0 (No significant deterioration)
Taste of simulant	1	< 3.0 (No significant deterioration)

Evaluation Scale: 0= no aberration, neutral
1= very slight deterioration, barely perceivable
2= slight deterioration
3= significant deterioration
4= strong deterioration

Tested Components: See component list in the last section of this report.



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Tests Conducted

2 Overall Migration Test

With reference to Commission Regulation (EU) No. 10/2011 and its amendments.

I. Test condition:

Tested component	Food simulant	Time(hour)	Temperature(°C)
(1), (4)	10% (v/v) Ethanol	2	100
	3% (w/v) Acetic acid	2	100
	95%(v/v) Ethanol	4	60
	Iso -octane	2	60

II. Test Results :

Tested component(1):

Food Simulant	Result(mg/dm ²)			Reporting Limit (mg/dm ²)	Limit (mg/dm ²)
	1 st migration	2 nd migration	3 rd migration		
10% (v/v) Ethanol	ND	ND	ND	3	10
3% (w/v) Acetic acid	ND	ND	ND	3	10
95%(v/v) Ethanol	ND	ND	ND	3	10
Iso -octane	ND	ND	ND	3	10

Tested component(4):

Food Simulant	Result(mg/dm ²)			Reporting Limit (mg/dm ²)	Limit (mg/dm ²)
	1 st migration	2 nd migration	3 rd migration		
10% (v/v) Ethanol	ND	ND	ND	3	10
3% (w/v) Acetic acid	ND	ND	ND	3	10
95%(v/v) Ethanol	ND	ND	ND	3	10
Iso -octane	6	ND	ND	3	10

ND = Not detected(less than reporting limit)

Ratio of food contact surface area to volume used to establish the compliance of material or article:

Component (1) = 1 dm² : 337 mL

Component (4) = 1 dm² : 35000 mL

Verification of compliance with the limit was based on the result obtained from 3rd migration and results of 3rd migration < 2nd migration < 1st migration.

Tested component(s) : See component list in last section of this report.



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Tests Conducted

3 Specific Migration of Heavy Metal Content

With reference to Commission Regulation (EU) No. 10/2011 and its amendments

I. Test condition:

Food simulant : 3% (w/v) Acetic acid
Temperature : 40 °C

Time : 24 hours

II. Test result :

Tested component(1), (4) :

Element	Result (mg/kg)			Reporting limit (mg/kg)	Limit (mg/kg)
	1 st migration	2 nd migration	3 rd migration		
Aluminum(Al)	ND	ND	ND	0.1	1
Antimony(Sb)	ND	ND	ND	0.01	0.04
Arsenic(As)	ND	ND	ND	0.01	ND
Barium(Ba)	ND	ND	ND	0.1	1
Cadmium(Cd)	ND	ND	ND	0.002	ND
Chromium(Cr)	ND	ND	ND	0.01	ND
Cobalt(Co)	ND	ND	ND	0.03	0.05
Copper(Cu)	ND	ND	ND	1	5
Iron(Fe)	ND	ND	ND	5	48
Lead(Pb)	ND	ND	ND	0.01	ND
Lithium(Li)	ND	ND	ND	0.1	0.6
Manganese(Mn)	ND	ND	ND	0.1	0.6
Mercury(Hg)	ND	ND	ND	0.01	ND
Nickel(Ni)	ND	ND	ND	0.01	0.02
Zinc(Zn)	ND	ND	ND	1	5
Europium(Eu)	ND	ND	ND	0.01	0.05
Gadolinium(Gd)	ND	ND	ND	0.01	0.05
Lanthanum(La)	ND	ND	ND	0.01	0.05
Terbium(Tb)	ND	ND	ND	0.01	0.05
Sum of (Eu, Gd, La, Tb)	ND	ND	ND	0.04	0.05

ND = Not detected(less than reporting limit)

Tested component(s) : See component list in last section of this report.



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Tests Conducted

4 Polycyclic Aromatic Hydrocarbons (PAHs) Content

By solvent extraction and determined by Gas Chromatographic - Mass Spectrometric Detector (GC-MSD).

Test Results:

Test item	Cas No.	Result (ppm)			Reporting limit (ppm)
		Tested component			
		(1)	(2)	(4)	
Naphthalene	91-20-3	ND	ND	ND	0.2
Acenaphthylene	208-96-8	ND	ND	ND	0.2
Acenaphthene	83-32-9	ND	ND	ND	0.2
Fluorene	86-73-7	ND	ND	ND	0.2
Phenanthrene	85-01-8	ND	ND	ND	0.2
Anthracene	120-12-7	ND	ND	ND	0.2
Fluoranthene	206-44-0	ND	ND	ND	0.2
Pyrene	129-00-0	0.4	ND	0.6	0.2
Chrysene	218-01-9	ND	ND	ND	0.2
Benzo[a]anthracene	56-55-3	ND	ND	ND	0.2
Benzo[b]fluoranthene	205-99-2	ND	ND	ND	0.2
Benzo[j]fluoranthene	205-82-3	ND	ND	ND	0.2
Benzo[k]fluoranthene	207-08-9	ND	ND	ND	0.2
Benzo[a]pyrene	50-32-8	ND	ND	ND	0.2
Benzo[e]pyrene	192-97-2	ND	ND	ND	0.2
Dibenzo[a,h]anthracene	53-70-3	ND	ND	ND	0.2
Indeno[1,2,3-c,d]pyrene	193-39-5	ND	ND	ND	0.2
Benzo[g,h,i]perylene	191-24-2	ND	ND	ND	0.2
Sum of PAHs	--	0.4	ND	0.6	--

ppm = parts per million = mg/kg
 ND = Not detected (less than reporting limit)

Tested Component(s): See component list in the last section of this report



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Tests Conducted

5 Total Lead and Cadmium Content

By microwave digestion and followed by Inductively Coupled Plasma (ICP) Spectrophotometric analysis.

<u>Element</u>	<u>Result (ppm)</u>		<u>Reporting Limit (ppm)</u>	<u>Limit (ppm)</u>
	<u>Tested Component</u>			
	<u>(2)</u>			
Lead (Pb)	ND		10	100
Cadmium (Cd)	ND		10	100

ppm = parts per million = mg/kg

ND = Not detected (less than reporting limit)

Tested components: See component list in the last section of this report

6 Specific Migration of Primary Aromatic Amines

With reference to Commission Regulation (EU) No. 10/2011 and its amendments and JRC Technical Guidelines EUR 24815 EN 2011.

I. Test condition:

<u>Tested component</u>	<u>Food simulant</u>	<u>Time(hour)</u>	<u>Temperature (°C)</u>
(1), (4)	3% (w/v) Acetic acid	24	40



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Tests Conducted

II. Test Result:

Tested component (1), (4):

Test Item	CAS No.	Result (mg/kg)			Reporting Limit (mg/kg)	Limit (mg/kg)	
		1 st migration	2 nd migration	3 rd migration			
1	4-Aminodiphenyl	92-67-1	ND	ND	ND	0.002	ND
2	Benzidine	92-87-5	ND	ND	ND	0.002	ND
3	4-Chloro-o-Toluidine	95-69-2	ND	ND	ND	0.002	ND
4	2-Naphthylamine	91-59-8	ND	ND	ND	0.002	ND
5	o-Aminoazotoluene	97-56-3	ND	ND	ND	0.002	ND
6	2-Amino-4-Nitrotoluene	99-55-8	ND	ND	ND	0.002	ND
7	p-Chloroaniline	106-47-8	ND	ND	ND	0.002	ND
8	2,4-Diaminoanisole	615-05-4	ND	ND	ND	0.002	ND
9	4,4'-Diaminodiphenylmethane	101-77-9	ND	ND	ND	0.002	ND
10	3,3'-Dichlorobenzidine	91-94-1	ND	ND	ND	0.002	ND
11	3,3'-Dimethoxybenzidine	119-90-4	ND	ND	ND	0.002	ND
12	3,3'-Dimethylbenzidine	119-93-7	ND	ND	ND	0.002	ND
13	3,3'-Dimethyl-4,4'diaminodiphenylmethane	838-88-0	ND	ND	ND	0.002	ND
14	p-Cresidine	120-71-8	ND	ND	ND	0.002	ND
15	4,4'-Methylene-Bis(2-Chloroaniline)	101-14-4	ND	ND	ND	0.002	ND
16	4,4'-Oxydianiline	101-80-4	ND	ND	ND	0.002	ND
17	4,4'-Thiodianiline	139-65-1	ND	ND	ND	0.002	ND
18	o-Toluidine	95-53-4	ND	ND	ND	0.002	ND
19	2,4-Toluylenediamine	95-80-7	ND	ND	ND	0.002	ND
20	2,4,5-Trimethylaniline	137-17-7	ND	ND	ND	0.002	ND
21	o-Anisidine	90-04-0	ND	ND	ND	0.002	ND
22	4-Aminoazobenzene	60-09-3	ND	ND	ND	0.002	ND
23	m-Phenylenediamine	108-45-2	ND	ND	ND	0.002	ND
24	Benzoguanamin	91-76-9	ND	ND	ND	0.05	5
25	4,4'-Methylenebis(3-chloro-2,6-diethylaniline)	106246-33-7	ND	ND	ND	0.01	0.05
26	Total of other primary aromatic amine	-	ND	ND	ND	0.01	0.01

ND = Not detected(less than reporting limit)

Other primary aromatic amines are p-Phenylenediamine, Aniline, 2,4-Xylidine, 2,6-Xylidine, 3-Methoxyaniline, 2,6-Toluene-diamine, 1,5-Diaminonaphthalene, 4-Ethoxyaniline, 3-Amino-4-methoxybenzanilide, 3-Amino-4-methylbenzamide, 2-Amino-5-methylbenzoic acid

Tested component(s) : See component list in last section of the report.



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7 Release Testing on Metals and Alloys Used in Food Contact Materials and Articles

With reference to EU Technical Guide “Council of Europe Resolution CM/Res(2013)9 on metals and alloys Used in Food Contact Materials and Articles”. Migration test was carried out and heavy metal content was determined by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and Inductively Coupled Plasma Mass Spectrometer (ICP-MS).

I. Test Condition:
 Temperature: 40 °C Time: 24 hours

II. Test Result:
 Food simulant: Citric acid (5 g/L)

Tested component (3) :							
Elements	Result 1 st test (mg/kg)	Result 2 nd test (mg/kg)	Result 1 st test+Result 2 nd test (mg/kg)	Result 3 rd test (mg/kg)	Reporting Limit (mg/kg)	7*Limit (mg/kg)	Limit (mg/kg)
Silver (Ag)	ND	ND	ND	ND	0.05	0.56	0.08
Aluminium (Al)	ND	ND	ND	ND	1	35	5
Chromium (Cr)	0.02	ND	0.02	ND	0.02	1.75	0.250
Cobalt (Co)	ND	ND	ND	ND	0.01	0.14	0.02
Copper (Cu)	ND	ND	ND	ND	0.5	28	4
Iron (Fe)	ND	ND	ND	ND	1	280	40
Manganese (Mn)	ND	ND	ND	ND	0.1	12.6	1.8
Molybdenum(Mo)	ND	ND	ND	ND	0.02	0.84	0.12
Nickel (Ni)	ND	ND	ND	ND	0.1	0.98	0.14
Tin (Sn)	ND	ND	ND	ND	10	700	100
Vanadium (V)	ND	ND	ND	ND	0.005	0.07	0.01
Zinc (Zn)	ND	ND	ND	ND	1	35	5
Antimony (Sb)	ND	ND	ND	ND	0.01	0.28	0.04
Arsenic (As)	ND	ND	ND	ND	0.001	0.014	0.002
Barium (Ba)	ND	ND	ND	ND	0.1	8.4	1.2
Beryllium (Be)	ND	ND	ND	ND	0.01	0.07	0.01
Cadmium (Cd)	ND	ND	ND	ND	0.001	0.035	0.005
Lead (Pb)	ND	ND	ND	ND	0.005	0.070	0.010
Lithium (Li)	ND	ND	ND	ND	0.010	0.336	0.048
Mercury (Hg)	ND	ND	ND	ND	0.003	0.021	0.003
Thallium (Tl)	ND	ND	ND	ND	0.0001	0.0007	0.0001
Magnesium(Mg)	ND	ND	ND	ND	1	-	-
Titanium(Ti)	ND	ND	ND	ND	1	-	-



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ND = Not detected(less than reporting limit)

Remark : The submitted sample is a repeated use article. The migration test was carried out three times on the same article. The sum of the results of the first and second tests should not exceed seven times the limit (Result 1st test + Result 2nd test < 7 * limit) and the Result 3rd test shouldn't exceed the limit.

Ratio of food contact surface area to volume of component (3) used to establish the compliance of material or article = 1 dm² : 137 mL.

Tested component(s) : See component list in the last section of this report.

8 Phthalate Content

With reference to ISO 8124-6:2018, and phthalate content was determined by Gas Chromatographic-Mass Spectrometric (GC-MS).

Phthalate	CAS No.	Result (%)	Reporting Limit (%)	Limit (%)
		Tested component		
		(4)		
Dibutyl phthalate (DBP)	84-74-2	ND	0.005	0.05
Di-(2-ethyl hexyl) phthalate (DEHP)	117-81-7	ND	0.005	0.1
Benzyl butyl phthalate (BBP)	85-68-7	ND	0.005	0.1
Di-isononyl phthalate (DINP)	28553-12-0	ND	0.005	0.1
Di-isodecyl phthalate (DIDP)	26761-40-0	ND	0.005	0.1

ND = Not detected (less than reporting limit)

Tested component(s) : See component list in last section of the report



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Tests Conducted

9 Specific Migration of Phthalate Content Test

As per Commission Regulation (EU) No.10/2011 and its amendments.

I. Test condition:

Tested component	Food simulant	Time(hour)	Temperature(°C)
(4)	95%(v/v) Ethanol	24	40

II. Test result :

Food simulant : 95% Ethanol:

Tested component (4)						
Phthalate	Cas No.	Result(mg/kg)			Reporting Limit (mg/kg)	Limit (mg/kg)
		1 st migration	2 nd migration	3 rd migration		
Butyl benzy phthalate (BBP)	85-68-7	ND	ND	ND	1	6
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	0.5	0.6
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	0.1	0.12
Di-(iso-nonyl) Phthalate (DINP)	28553-12-0	ND	ND	ND	1	1.8
Di-(iso-decyl) phthalate (DIDP)	/26761-40-0	ND	ND	ND	1	1.8
Diallyl phthalate (DAP)	131-17-9	ND	ND	ND	0.01	ND
Diisobutyl phthalate (DIBP)	84-69-5	ND	ND	ND	0.01	--
Sum of phthalate ^	--	ND	ND	ND	0.1	0.6

ND = Not detected(less than reporting limit)

^= Sum of phthalic acid dibutyl ester (DBP), diisobutyl phthalate (DIBP), phthalic acid, benzyl butyl ester (BBP) and phthalic acid, bis(2-ethylhexyl) ester (DEHP) expressed as DEHP equivalents using the following equation: $DBP*5 + DIBP*4 + BBP*0,1 + DEHP*1$

Verification of compliance with the limit was based on the result obtained from 3rd migration and results of 3rd migration < 2nd migration < 1st migration.

Verification of compliance with the limit was based on the result obtained from 1st migration when limit is ND and results of 3rd migration < 2nd migration < 1st migration.

Tested component(s) : See tested component list in last section of this report



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Tests Conducted

10 Migration of Polycyclic Aromatic Hydrocarbons (PAHs)

With reference to Commission Regulation (EU) No. 10/2011 and its amendments and followed by Gas Chromatographic - Mass Spectrometric Detector (GC-MSD) analysis.

Test conditions:

<u>Food Simulant</u>	<u>Temperature(°C)</u>	<u>Time (hours)</u>
95% (v/v) ethanol	40	24

Test Results:

Tested component(1), (2), (4):

<u>Compound</u>	<u>Result (mg/kg)</u>			<u>Report limit (mg/kg)</u>	<u>Requirement (mg/kg)</u>
	<u>1st migration</u>	<u>2nd migration</u>	<u>3^d migration</u>		
Naphthalene	ND	ND	ND	0.01	---
Acenaphthylene	ND	ND	ND	0.01	---
Acenaphthene	ND	ND	ND	0.01	---
Fluorene	ND	ND	ND	0.01	---
Phenanthrene	ND	ND	ND	0.01	---
Anthracene	ND	ND	ND	0.01	---
Fluoranthene	ND	ND	ND	0.01	---
Pyrene	ND	ND	ND	0.01	---
Chrysene	ND	ND	ND	0.01	---
Benzo[a]anthracene	ND	ND	ND	0.01	---
Benzo[b]fluoranthene	ND	ND	ND	0.01	---
Benzo[j]fluoranthene	ND	ND	ND	0.01	---
Benzo[k]fluoranthene	ND	ND	ND	0.01	---
Benzo[a]pyrene	ND	ND	ND	0.01	ND
Benzo[e]pyrene	ND	ND	ND	0.01	---
Dibenzo[a,h]anthracene	ND	ND	ND	0.01	---
Indeno[1,2,3-cd]pyrene	ND	ND	ND	0.01	---
Benzo[g,h,i]perylene	ND	ND	ND	0.01	---
Sum of PAHs	ND	ND	ND	0.01	ND

ND = Not detected(less than reporting limit)

Tested Component(s): See component list in the last section of this report



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Tests Conducted

11 Extractable substances of silicone rubber

As per LFGB plastic recommendation XV.

Tested component(5):

<u>Food simulant</u>	<u>Result (%)</u>	<u>Limit (%)</u>
Distilled water	< 0.10	0.5
3% (w/v) acetic acid	0.12	0.5
10% (v/v) ethanol	< 0.10	0.5

Tested Component(s): See component list in the last section of this report

12 Volatile Organic Matter of Silicone Rubber

As per BfR method determination of volatile compound in silicone consumer products, by gravimetric analysis.

I. Precondition of sample (before test):
Temperature: 100°C Time : 1 hours

Test condition of sample :
Temperature: 200°C Time : 4 hours

II. Result :

<u>Tested component of submitted sample</u>	<u>Result (%)</u>	<u>Reporting limit (%)</u>	<u>Limit (%)</u>
(2)	0.354	0.1	0.5

Tested Component : See component list in last section of this report.

ND = Not detected (less than reporting limit)



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Tests Conducted

13 Organotin Compounds Content

With reference to ISO/TS 16179:2012, organotin content was determined by Gas Chromatography Mass Spectrometric (GC/MS) analysis.

Compound	Result (mg/kg)	Reporting limit
	(2)	(mg/kg)
Dimethyl Tin (DMT)	ND	0.025
Monobutyl Tin (MBT)	ND	0.025
Monooctyl Tin (MOT)	ND	0.025
Dibutyl Tin (DBT)	ND	0.025
Diocetyl Tin (DOT)	ND	0.025
Tributyl Tin (TBT)	ND	0.025
Tetrabutyl Tin (TeBT)	ND	0.025
Tri-octyl Tin (TriOT)	ND	0.025
Monomethyl Tin (MeT)	ND	0.025
Triphenyltin (TPT)	ND	0.025
Tricyclohexyltin (TCHT)	ND	0.025
Didodecyltin	ND	0.025

ND = Not detected (less than reporting limit)

Tested Component(s): See component list in the last section of this report

14 Peroxide Residues of Silicone Rubber

As per LFGB Plastic Recommendation BII XV.

Tested Component
(2)

Result
No positive reaction

Result : No positive reaction

Limit : No positive reaction to peroxides

Tested Component(s): See component list in the last section of this report



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Tests Conducted

15 Specific Migration of Bisphenol A Test for Plastic Food Contacting Materials/Articles

With reference to Commission Regulation (EU) No. 10/2011 and DD CEN/TS 13130-13:2005.

I. Test condition:

Tested component	Food simulant	Time(hour)	Temperature(°C)
(4)	3% (w/v) Acetic acid	24	40

II. Test result:

Tested Component (4)					
Food simulant	Result(mg/kg)			Report Limit (mg/kg)	Limit (mg/kg)
	1 st migration	2 nd migration	3 rd migration		
3% (w/v) Acetic acid	ND	ND	ND	0.01	0.05

ND = Not detected(less than reporting limit)

Tested component(s) : See component list in last section of the report

Component list:

- (1) Black PP plastic (lid).
- (2) Semi-transparent white silicone (seal ring).
- (3) Silver color 304 stainless steel (inner body).
- (4) Black unvulcanized TPR plastic (sealing stopper of lid).
- (5) Bottle.



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Tests Conducted

Reference photo



Remark: The products in the reference photo are not tested in this report. It's declared by the applicant that they are the same series of products with the particular tested sample, just included in the report for reference.

End of report

The statements of conformity reported have considered the decision rule agreed, namely that Intertek have taken account of measurement uncertainty as calculated by Intertek, and applied according to ILAC-G8/09:2019 (Non-binary acceptance based on guard band $w = U$) except designation from the customer, regulation or test specification. This decision rule only applies to the numeric test results.

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