

Report No : TST20241200817E Date:Dec.06, 2024 Page 1 of 15

Applicant: Mid Ocean Brands B.V.

Address : 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.

Manufacturer : Mid Ocean Brands B.V.

Address: 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.

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

Sample Name : Wireless charger

Model No. : MO2450

Sample Received Date : Dec.02, 2024

Testing Period : Dec.02, 2024 To Dec.06, 2024

Test requirements and

conclusions

: Please refer to next page(s).

Andy Zheng
Technical Director



Report No : TST20241200817E Date:Dec.06, 2024 Page 2 of 15

Test Requested and Conclusion(s):

No.	Standard and Requirement	Conclusion(s)
4	RoHS Directive 2011/65 / EU	DACC
1	- XRF scanning	PASS
	RoHS Directive 2011/65/EU and its subsequent amendments (EU) 2015/863	
	- Pb/Cd/Hg/CrVI Content	
2	- Polybrominated diphenyl ethers(PBDEs)	PASS
	- Polybrominated biphenyls (PBBs)	
	- Phthalates	



Report No : TST20241200817E Date:Dec.06, 2024 Page 3 of 15

Sample description

Sample No	Sample description	Test photo group
1	White plastic	2 1 3 4
2	White textile	10100 po 80 70
3	Brown Wood	50 40 30 20 10100 90 80 70 60 50 40 30 20 10 mm o
4	White soft plastic	oe os or 002.0e os ot os os ot oe os ot 001.0e os ot os ot oe oe ot oe os ot oe oe oe ot oe oe oe ot oe
5	Silver metal (socket)	so so 40 so 20 10 handhadandandandandandandandandandandandandan
6	Silver metal (USB port)	so 40 30 20 10 100 so 80 70 so 50 40 30 20 10 10 10 10 10 10 10 10 10 10 10 10 10
7	Silver metal (socket)	05 05 01 005 06 08 07 09 08 04 05 05 01 001 09 08 07 09 08 05 05 01 05 05 05 01 05 05 05 05 05 05 05 05 05 05 05 05 05
8	Black magnet	11
9	Yellow sticker	8 10
10	Copper colored metal (wire core)	
11	White textile	

This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd.
Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China
Tel:+86-0769-85088050 Fax:+86-0769-81221086 E-mail:tst@tst-test.com



Report No : TST20241200817E Date:Dec.06, 2024 Page 4 of 15

Sample No	Sample description	Test photo group
12	Brown resistor	1.2
13	Black body (diode)	113
14	Black body	
15	Brown body (diode)	
16	Black body (IC)	14 15 16
17	Black patch resistor	19
18	Silver metal (socket)	20 404J 100V
19	Green PCB	
20	Silver solder	17 18
21	Grey plastic	
22	Green PCB	21 23 25
23	Green PCB	
24	Grey plastic	
25	White plastic	222



Report No : TST20241200817E Date:Dec.06, 2024 Page 5 of 15

Sample No	Sample description	Test photo group
26	White soft plastic(wire sheath)	
27	Yellow soft plastic(wire sheath)	26 31 29
28	Red soft plastic(wire sheath)	27 32
29	Green soft plastic(wire sheath)	
30	White soft plastic(wire sheath)	
31	Black soft plastic(wire sheath)	
32	Copper wire	28 30
33	Magnet	
34	Magnet	
35	White rope	35 20 10 00 00 00 00 00 00 00 00 00 00 00 00



Report No : TST20241200817E Date:Dec.06, 2024 Page 6 of 15

Sample No	Sample description	Test photo group
36	White plastic	36 37 1
37	White plastic	
38	White plastic	
39	White plastic	
40	White plastic	00 00 00 00 00 00 00 00 00 00 00 00 00



Report No : TST20241200817E Date:Dec.06, 2024 Page 7 of 15

1.Test results:

XRF Scanning - RoHS Directive 2011/65 / EU

Methods: IEC 62321-3-1:2013 analysis by X-ray fluorescence spectrometry (XRF).

No.		F	Results of XR	rF.	Chemical confirmation	Conclusion	
	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
1	BL	BL	BL	BL	BL		Pass
2	BL	BL	BL	BL	BL		Pass
3	BL	BL	BL	BL	BL		Pass
4	BL	BL	BL	BL	BL		Pass
5	BL	BL	BL	BL			Pass
6	BL	BL	BL	BL			Pass
7	BL	BL	BL	BL			Pass
8	BL	BL	BL	BL	BL		Pass
9	BL	BL	BL	BL	BL		Pass
10	BL	BL	BL	BL			Pass
11	BL	BL	BL	BL	BL		Pass
12	BL	BL	BL	BL	BL		Pass
13	BL	BL	BL	BL	BL		Pass
14	BL	BL	BL	BL	BL		Pass
15	BL	BL	BL	BL	BL		Pass
16	BL	BL	BL	BL	BL		Pass
17	BL	BL	BL	BL	BL		Pass
18	BL	BL	BL	BL			Pass
19	BL	BL	BL	BL	Х	PBBs:N.D. PBDEs:N.D.	Pass
20	BL	BL	BL	BL			Pass

This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd.

Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China

Tel:+86-0769-85088050

Fax:+86-0769-81221086

E-mail:tst@tst-test.com



Report No : TST20241200817E Date:Dec.06, 2024 Page 8 of 15

No.		R	Results of XR	Chemical confirmation	Conclusion		
140.	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
21	BL	BL	BL	BL	BL		Pass
22	BL	BL	BL	BL	Х	PBBs:N.D. PBDEs:N.D.	Pass
23	BL	BL	BL	BL	X	PBBs:N.D. PBDEs:N.D.	Pass
24	BL	BL	BL	BL	BL		Pass
25	BL	BL	BL	BL	BL		Pass
26	BL	BL	BL	BL	BL		Pass
27	BL	BL	BL	BL	BL		Pass
28	BL	BL	BL	BL	BL		Pass
29	BL	BL	BL	BL	BL		Pass
30	BL	BL	BL	BL	BL		Pass
31	BL	BL	BL	BL	BL		Pass
32	BL	BL	BL	BL			Pass
33	BL	BL	BL	BL			Pass
34	BL	BL	BL	BL	BL		Pass
35	BL	BL	BL	BL	BL		Pass
36	BL	BL	BL	BL	BL		Pass
37	BL	BL	BL	BL	BL		Pass
38	BL	BL	BL	BL	BL		Pass
39	BL	BL	BL	BL	BL		Pass
40	BL	BL	BL	BL	BL		Pass



Report No : TST20241200817E Date:Dec.06, 2024 Page 9 of 15

Remark:

- 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(VI).
- b. The XRF screening test for RoHS elements-The reading may be different to the actual content in the sample be of non-uniformity composition.
- c. Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Pb, Cd, Hg), UV-VIS for Cr(VI) and GC-MS (for PBBs/PBDEs) is recommended to be performed if the concentration exceeds the below warming value according to IEC 62321-3-1:2013.

XRF Screening limits for different matrices:

			Concentration (mg/kg)	
Materials	Cd	Cr	Pb	Hg	Br
Polymeric	BL≤60 <x<140≤ol< td=""><td>BL≤640<x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<></td></x<></td></x<140≤ol<>	BL≤640 <x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<></td></x<>	BL≤670 <x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<>	BL≤660 <x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<>	BL≤290 <x< td=""></x<>
Metallic	BL≤60 <x<140≤ol< td=""><td>BL≤640<x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<></td></x<></td></x<140≤ol<>	BL≤640 <x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<></td></x<>	BL≤670 <x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<>	BL≤660 <x<1340≤ol< td=""><td></td></x<1340≤ol<>	
Composite materials	BL≤40 <x<160≤ol< td=""><td>BL≤440<x< td=""><td>BL≤470<x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<></td></x<></td></x<160≤ol<>	BL≤440 <x< td=""><td>BL≤470<x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<></td></x<>	BL≤470 <x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<>	BL≤460 <x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<>	BL≤240 <x< td=""></x<>



Report No : TST20241200817E Date:Dec.06, 2024 Page 10 of 15

Note: -BL= Below Limit

-OL=Over Limit

-X = inconclusive, the region where need further chemical testing by ICP-OES (for Pb, Cd, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs).

- --- = Not Applicable
- mg/kg=milligrams per kilogram
- N.D.=Not Detected(<MDL)
- MDL= Method Detection Limit
- Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.
- *=According to 2011/65/EU Annex,point *Lead as an alloying element is steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy, containing up to 4% lead by weight can be exempted.



Report No : TST20241200817E Date:Dec.06, 2024 Page 11 of 15

2.Pb, Cd, Cr(VI), Hg, PBBs&PBDEs

Test Method:

A.Disassembly, disjointment and mechanical sample preparation

-Ref. to IEC 62321-2:2021, Disassembly, disjointment and mechanical sample preparation.

B.With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report.

(1)Screening - Lead, mercury, cadmium, total chromium and total bromine

—Ref. to IEC 62321-3-1:2013, Screening for Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry.

(2)Wet chemical test method

Test Item(s)	Test Method	Test Equipment	Unit	MDL	Limit
Pb	IEC62321-5:2013	ICP-OES	mg/kg	10	1000
Cd	IEC62321-5:2013	ICP-OES	mg/kg	10	100
Hg	IEC 62321-4:2013/AMD1:2017	ICP-OES	mg/kg	10	1000
Cr(VI) (Metal)	IEC62321-7-1:2015	UV-Vis	µg/cm²	0.10	0.13
Cr(VI) (Nonmetal)	IEC62321-7-2:2017	UV-Vis	mg/kg	10	1000
PBBs	IEC62321-6:2015	GC-MS	mg/kg	10	1000
PBDEs	IEC62321-6:2015	GC-MS	mg/kg	10	1000

РВ	Bs	PBDEs		
Monobromobiphenyl	Hexabromobiphenyl	Monobromodiphenyl ether	Hexabromodiphenyl ether	
Dibromobiphenyl	Heptabromobiphenyl	Dibromodiphenyl ether	Heptabromodiphenyl ether	
Tribromobiphenyl	Octabromobiphenyl	Tribromodiphenyl ether	Octabromodiphenyl ether	
Tetrabromobiphenyl	Nonabromobiphenyl	Tetrabromodiphenyl ether	Nonabromodiphenyl ether	
Pentabromobiphenyl Decabromobiphenyl		Pentabromodiphenyl ether	Decabromodiphenyl ether	

This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd.

Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China

Tel:+86-0769-85088050

Fax:+86-0769-81221086

E-mail:tst@tst-test.com



Report No : TST20241200817E Date:Dec.06, 2024 Page 12 of 15

3. Phthalates—DBP, BBP, DEHP & DIBP

Test Item(s)	Test Method	Test Equipment	Unit	MDL	Limit
Dibutyl Phthalate(DBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Benzylbutyl Phthalate (BBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Di-(2-ethylhexyl)Phthalate (DEHP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Diisobutyl phthalate(DIBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000

Test result(s):

Part No.		Test Item	(mg/kg)		Conclusion
Pait No.	DBP	BBP	DEHP	DIBP	Conclusion
1+4	N.D.	N.D.	N.D.	N.D.	Pass
2+11+21	N.D.	N.D.	N.D.	N.D.	Pass
3	N.D.	N.D.	N.D.	N.D.	Pass
8	N.D.	N.D.	N.D.	N.D.	Pass
9	N.D.	N.D.	N.D.	N.D.	Pass
12+17	N.D.	N.D.	N.D.	N.D.	Pass
13+14+15	N.D.	N.D.	N.D.	N.D.	Pass
16	N.D.	N.D.	N.D.	N.D.	Pass
19	N.D.	N.D.	N.D.	N.D.	Pass
22	N.D.	N.D.	N.D.	N.D.	Pass
23	N.D.	N.D.	N.D.	N.D.	Pass
24+25	N.D.	N.D.	N.D.	N.D.	Pass
26+27+28	N.D.	N.D.	N.D.	N.D.	Pass
29+30+31	N.D.	N.D.	N.D.	N.D.	Pass
33	N.D.	N.D.	N.D.	N.D.	Pass



Report No : TST20241200817E Date:Dec.06, 2024 Page 13 of 15

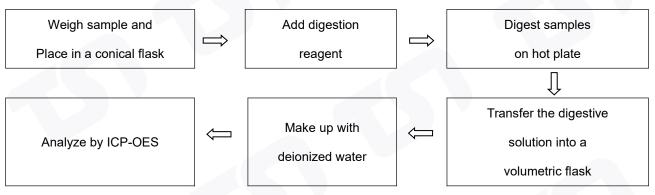
34	N.D.	N.D.	N.D.	N.D.	Pass
35	N.D.	N.D.	N.D.	N.D.	Pass
36+37+38	N.D.	N.D.	N.D.	N.D.	Pass
39+40	N.D.	N.D.	N.D.	N.D.	Pass

Note:

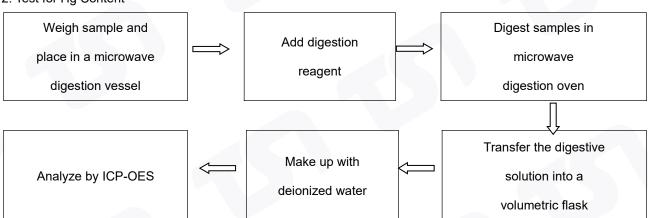
- mg/kg=milligrams per kilogram
- -N.D.=Not Detected(<MDL)

Chemical Test Process:

1.Test for Cd/Pb Content



2. Test for Hg Content



This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd.

Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China

Tel:+86-0769-85088050

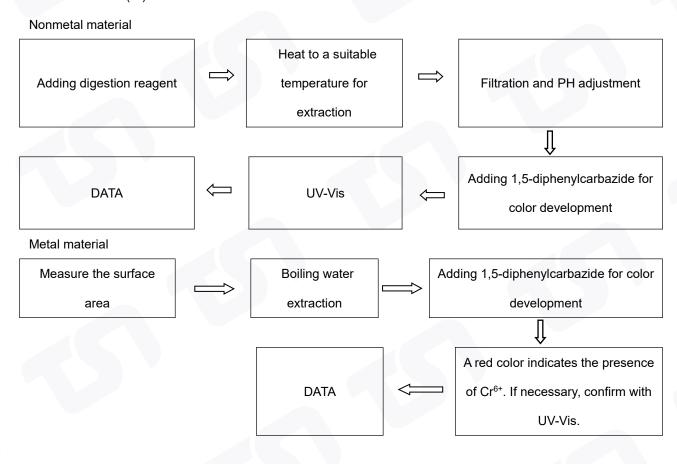
Fax:+86-0769-81221086

E-mail:tst@tst-test.com

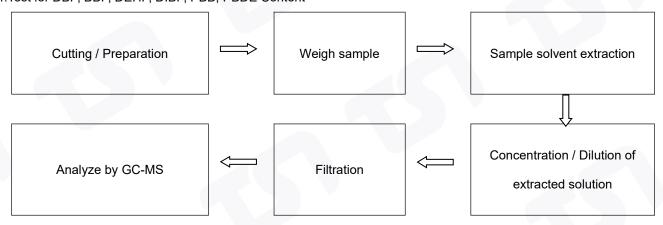


Report No : TST20241200817E Date:Dec.06, 2024 Page 14 of 15

3. Test for Chromium (VI) Content



4. Test for DBP, BBP, DEHP, DIBP, PBB, PBDE Content



This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd.

Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China

Tel:+86-0769-85088050 Fax:+86-0769-81221086

086 E-mail:tst@tst-test.com



Report No : TST20241200817E Date:Dec.06, 2024 Page 15 of 15

Sample pictures:





*** End of Report ***