



TEST REPORT

Report No. : WTF24F07165107C

Applicant.....: Mid Ocean Brands B.V.

Address : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha

Wan, Kowloon, Hong Kong

Manufacturer : 116266

Sample Name: Speaker with bamboo front

Sample Model: MO9806

Test Requested: Refer to next page (s)

Test Method: Refer to next page (s)

Test Conclusion: Refer to next page (s)

Date of Receipt sample 2024-07-12

Testing period 2024-07-12 to 2024-08-01

Date of Issue 2024-08-01

Test Result Refer to next page (s)

Prepared By:

Waltek Testing Group (Foshan) Co., Ltd.

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Signed for and on behalf of Waltek Testing Group (Foshan) Co., Ltd.

Swing Liang

Swing.Liang

WTF24F07165107C



Summary:

Test Requested	Test Conclusion
In accordance with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863, to determine the 10 restricted substances content in the submitted sample.	Pass (Please refer to next pages for details)

Sample Photo(s):







Test Results:

1. Lead, Mercury, Cadmium, Hexavalent Chromium, PBBs and PBDEs

Test method:

- 1) With reference to IEC 62321-2:2021, disassembly, disjunction and mechanical sample preparation
- 2) With reference to IEC 62321-3-1:2013, screening –Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry
- 3) With reference to IEC 62321-4:2013+AMD1:2017 CSV, determination of Mercury by ICP-OES
- 4) With reference to IEC 62321-5:2013, determination of Lead and Cadmium by ICP-OES
- 5) With reference to IEC 62321-7-2: 2017 and IEC 62321-7-1: 2015, determination of Hexavalent Chromium by UV-Vis

6) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS

Part	MULL MULL MULL MULL MIN		Res	sult of 2	KRF	Result of Wet Chemical	
No.	Part Description	Cd	Pb	Hg	Cr	Br	Testing (mg/kg)
1	Black synthetic leather	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND
2	Brown wood shell	BL	BL	BL	BL	BL	NA
3	Silvery plastic part	BL	BL	BL	IN	77	Cr ⁶⁺ : Negative
4	White plastic shell	BL	BL	BL	BL	BL	unt NA un
5	White plastic wire jacket	BL	BL	BL	BL	BL	Marit Marina
650	White plastic jacket (USB plug)	BL	BL	BL	BL	BL	Marie Walter
J7 ^{LT}	White plastic jacket (Type-C plug)	BL	BL	BL	BL	BL	NATE WALL
8	Silvery metal shell (USB plug)	BL	BL	BL	BL	WALI	NA NA
9	Golden metal pin (USB plug)	BL	BL	BL	BL	NLTEK.	NA NA
10	Transparent dry glue (USB plug)	BL	BL	BL	BL	BL	Lifet MA Lifet and
11	White plastic wire covering	BL	BL	BL	BL	BL	et night NA et mile
12	White plastic core (USB plug)	BL	BL	BL	BL	BL	NA NA
13	Yellow plastic wire covering	BL	BL	BL	BL	BL	NA NA
14	Coppery metal wire	BL	BL	BL	BL		NA NA
15	Solder (USB plug)	BL	BL	BL	BL	-01)	NA



Part	at the ties sites writes	LIFER	Res	sult of 2	KRF		Result of Wet Chemical
No.	Part Description	Cd	Pb	Hg	Cr	Br	Testing (mg/kg)
16	Silvery metal shell(Type-C plug)	BL	BL	BL	IN	WILL	Cr ⁶⁺ : Negative
17	Black plastic core (Type-C plug)	BL	BL	BL	BL	BL	NA JOSÉ SO
18	Silvery metal pin(Type-C plug)	BL	BL	BL	IN	15th	Cr ⁶⁺ : Negative
19	Golden metal pin (Type-C plug)	BL	BL	BL	BL		MA NA STATE
20	Solder (Type-C plug)	BL	BL	BL	BL		- nutet nAt mutet
21	Green PCB(Type-C plug)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
22	Silvery metal screw	BL	BL	BL	IN	er-	Cr ⁶⁺ : Negative
23	Black synthetic leather	BL	BL	BL	BL	BL	NA HILL
24	Black plastic sheet	BL	BL	BL	BL	BL	NA NA
25	Grey sponge adhesive tape	BL	BL	BL	BL	BL	NA NA
26	Silvery metal shell	BL	BL	BL	BL	<	NA
27	Solder	BL	BL	BL	BL	-ani	NA
28	White paper sheet	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
29	Black plastic wire covering	BL	BL	BL	BL	BL	MA W
30	Silvery metal wire	BL	BL	BL	BL	TEK U	NA WALL
31	Silvery metal strip	BL	BL	BL	BL	MUL	NA
32	Red plastic wire covering	BL	BL	BL	BL	BL	antiet in NA unite of
33	Transparent soft glue	BL	BL	BL	BL	BL	nitet unite NA nitet uni
34	Black paper gasket	BL	BL	BL	BL	BL	A NA SET INC.
35	Brown fabric net	BL	BL	BL	BL	BL	NA NA



Part	the state states series	NLITER	Res	sult of 2	KRF		Result of Wet Chemical
No.	Part Description	Cd	Pb	Hg	Cr	Br	Testing (mg/kg)
36	Coppery metal wire	BL	BL	BL	BL	WALT	WA WELL
37	Brown paper shell	BL	BL	BL	BL	BL	white we NA write we
38	Silvery magnet sheet	BL	BL	BL	BL	<u> </u>	NA LIFE WALL
39	Coppery varnished wire	BL	BL	BL	BL	BL	A NA THE NATE OF THE PARTY OF T
40	Silvery metal screw	BL	BL	BL	IN		Cr ⁶⁺ : Negative
41	White dry glue	BL	BL	BL	BL	BL	THE NA NITE OF
42	Brown plastic adhesive tape	BL	BL	BL	BL	BL	NA COLOR
43	Black sponge adhesive tape	BL	BL	BL	BL	BL	NA+ LIT
44	Chip IC	BL	BL	BL	BL	BL	NA NA
45	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
46	Chip resistor	BL	BL	BL	BL	BL	NA NA
47	Chip capacitor	BL	BL	BL	BL	BL	NA
48	Solder	BL	BL	BL	BL	MULT.	WA WA
49	Silvery metal sheet	BL	BL	BL	BL	NIIE.	antir mulhamet an
50	Black plastic part (button)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
51	Brown plastic sheet (button)	BL	BL	BL	BL	BL	NA MALL
52	Silvery metal shell (button)	BL	BL	BL	BL	MV-127 E.	white will with a
53	Silvery metal pin (button)	BL	BL	BL	BL	West.	nitt unit NA mitt uni
54	Solder	BL	BL	BL	BL	e*	IF WAIT NA IET WAIT
55	Chip crystal oscillator	BL	BL	BL	BL	BL	NA NA



Part		Result of XRF			XRF		Result of Wet Chemical	
No.	Part Description	Cd	Pb	Hg	Cr	Br	Testing (mg/kg)	
56	Chip IC	BL	BL	BL	BL	BL	NA WEST	
57	Black plastic core (socket)	BL	BL	BL	BL	BL	NA NA	
58	Silvery metal shell (socket)	BL	BL	BL	IN	<u> </u>	Cr ⁶⁺ : Negative	
59	Silvery metal shell (socket)	BL	BL	BL	BL	ب. دس	set milet NA let multer	
60	Chip LED	BL	BL	BL	BL	BL	NA NA	
61	Chip resistor	BL	IN	BL	BL	BL	Pb :78	
62	Chip audio	BL	BL	BL	BL	BL	NA COL	
63	Chip IC	BL	BL	BL	BL	BL	NA -	
64	Chip capacitor	BL	BL	BL	BL	BL	NA NA	
65	Black plastic shell (socket)	BL	BL	BL	BL	BL	NA	
66	Silvery metal sheet (socket)	BL	BL	BL	BL	<	NA NA	

Remark:

(1) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr⁶⁺) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1: 2013 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	BL ≤ (70-3σ) < IN < (130+3σ) ≤ OL	BL \leq (70-3 σ) $<$ IN $<$ (130+3 σ) \leq OL	LOD < IN < (150+3σ) ≤ OL
Pb	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	BL \leq (500-3 σ) $<$ IN $<$ (1500+3 σ) \leq OL
Hg	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	BL \leq (500-3 σ) $<$ IN $<$ (1500+3 σ) \leq OL
Cr	BL ≤ (700-3σ) < IN	BL ≤ (700-3σ) <in< td=""><td>BL ≤ (500-3σ) < IN</td></in<>	BL ≤ (500-3σ) < IN
Br	BL ≤ (300-3σ) < IN	- It let let with	BL ≤ (250-3σ) < IN

BL= Below Limit

OL= Over Limit

LOD = Limit of Detection

-- = Not Regulated

^{(2) &}quot;IN" expresses the inconclusive region, and further chemical testing to confirm whether it complies with the requirement of RoHS Directive.



- (3) The XRF screening test for RoHS elements the reading may be different to the actual content in the sample be of non-uniformity composition.
- (4) mg / kg =milligram per kilogram=ppm, μg/cm²= Micrograms per square centimetre.
- (5) ND = Not Detected or lower than limit of quantitation.
- (6) NA = Not Applicable, as the XRF screening test result was below the limit or as the XRF screening directly determine that test result was over the limit, it was not need to conduct the wet chemical testing.
- (7) LOQ = Limit of quantitation.

Test Items	Pb	Cd	Hg	Cr Cr	.6+	PBB	PBDE
Units	mg/kg	mg/kg	mg/kg	mg/kg	µg/cm ²	mg/kg	mg/kg
LOQ	2	2	2	8	0.1	5	J 5 J

The LOQ for single compound of PBBs and PBDEs is 5 mg/kg, LOQ of Cr⁶⁺ for polymer and composite sample is 8 mg/kg and LOQ of Cr⁶⁺ for metal sample is 0.1 µg/cm².

(8) RoHS Requirement

Restricted Substances	Limits		
Cadmium (Cd)	0.01% (100 mg/kg)		
Lead (Pb)	0.1% (1000 mg/kg)		
Mercury (Hg)	0.1% (1000 mg/kg)		
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)		
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)		
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)		

(9) According to IEC 62321-7-1:2015, determined of Cr⁶⁺ on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.

Boiling water extraction:

Negative = Absence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is less than 0.10 ug/cm².

Positive = Presence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is greater than 0.13 ug/cm².

Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

(10) Abbreviation:

"Pb" denotes Lead, "Cd" denotes Cadmium, "Hg" denotes Mercury, "Cr" denotes Chromium, "Cr (VI)" denotes Hexavalent Chromium, "Br" denotes Bromine, "PBBs" denotes Total Polybrominated Biphenyls, "PBDEs" denotes Total Polybrominated Diphenyl Ethers.

2. Phthalates:

Test method:

With reference to IEC 62321-8:2017, determination of Phthalates content by GC-MS.

Serial	Don't No. MA	1, 1, ,	Result	EK JEK LIE	
No.	Part No.	DBP	BBP	DEHP	DIBP
_ T01	1+2+6 [△]	ND W	ND	ND	ND
T02	3+4+5+12+17 [△]	ND	ND	ND	ND
T03	7+10+11 [△]	ND ND	MD ND	ND	ND
T04	ner un 8 m	- A	A A	TEX -TER	Wife of the M



Serial	at partie of	Result (mg/kg)						
No.	Part No.	DBP	BBP	DEHP	DIBP			
T05	9 1	The other	WELL - WHE	mr -m	0, -			
T06	13+23+25 [△]	199	ND	171	ND®			
T07	14	et et	LITE WITE	10 10 W	2/1			
T08	et (et 15; c).	mill and	n	,(at at			
T09	16	AL	TEN TEN S	The Will Wood	11/2- 1			
T10	18	TET METER WI	211 211					
T11	W 19 W	7	t to	TO THE	10 - W			
T12	20	the court with	"Nur Mur.	1/1, - 1/1,	· -			
T13	21+45 [△]	ND	ND +	ND O	ND			
T14	22	18t 17th	alte - nit	Wer Aller	1, 71,			
T15	24+50+51+57+65 ^Δ	ND	ND	ND -	ND			
T16	26	s 18th	TEN -TEN	oli opli on	1/1/2			
T17	£ 27 5 5	The Physics of	10, 14, 15,		4 2+			
T18	28+29+32 [△]	ND	ND	132	ND			
T19	30-	ER JEE WA	and an	10, - 1,				
T20	, 31 , V	2,	* *	10th 10th	- Life , N			
T21	33+34+35 [△]	ND	ND	ND ND	ND			
T22	36 (1)	21/2 - 22	1	A A	26th -06			
T23	37+41+42 [△]	467	√ ND √	ND	ND			
T24	38	(C) -C	10 70	4.				
T25	39	ND	ND ND	ND	ND			
T26	40	or opin	2 2					
T27		ND	ND	ND	ND			
T28	44+46+47+55+56 ^Δ	ND	IND IN	ND	ND			
T29	48	2/l	ىر ب	11 18th	18th 25			
T30	49	18th 15th	. CLITE JOLITE	anci -ani	11. 74.			
T31	√ 52 ° 52	m m.		4 X	,et -,et			
T32	53		JER - JER	J. 11 11 11 11	11/2			
T33	54	mere while	15 15 1		s zt			
T34	58	,	at -at .	the state of	11/2- 1			
T35	59	(Elt malifer on	in my	10, 10,				
T36	60+61+62+63+64 ^Δ	ND	ND	ND	ND			
T37	66	+ JE+ JI	CIT - INL	111 - 111 -	10, 0,			

Note:

- (1) mg/kg = milligram per kilogram= ppm
- (2) ND = Not Detected or lower than limit of quantitation.
- (3) -- = Not Regulated.
- (4) LOQ = Limit of quantitation.

Test Items	DBP	BBP	DEHP	DIBP
Units	mg/kg	mg/kg	mg/kg	mg/kg
LOQ	50	50	50	50



(5) Abbreviation:

"DBP" denotes Dibutyl phthalate, "BBP" denotes Benzyl butyl phthalate (BBP), "DEHP" denotes Bis(2-ethylhexyl)-phthalate, "DIBP" denotes Diisobutyl phthalate, "PHT" denotes Phthalates.

(6) RoHS requirement

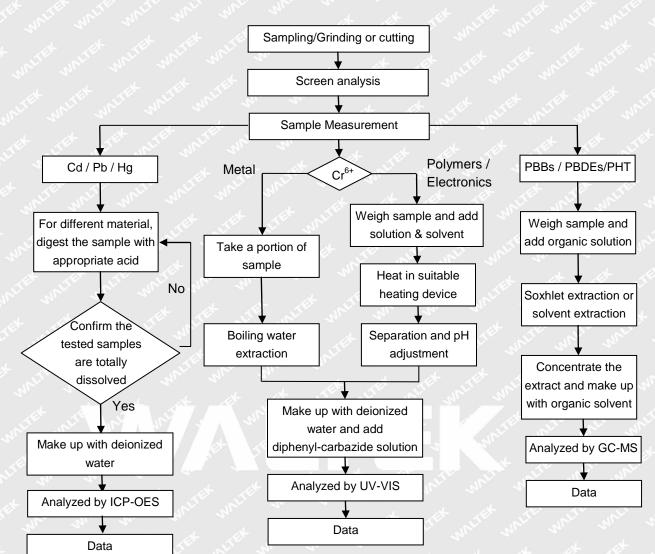
Restricted Substances	Limits
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di(2-ethylhexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Di-iso-butyl phthalate (DIBP)	0.1% (1000 mg/kg)

(7) "△"= As client's requirement, the testing was conducted based on mixed components. Results are calculated by the minimum weight of mixed components.



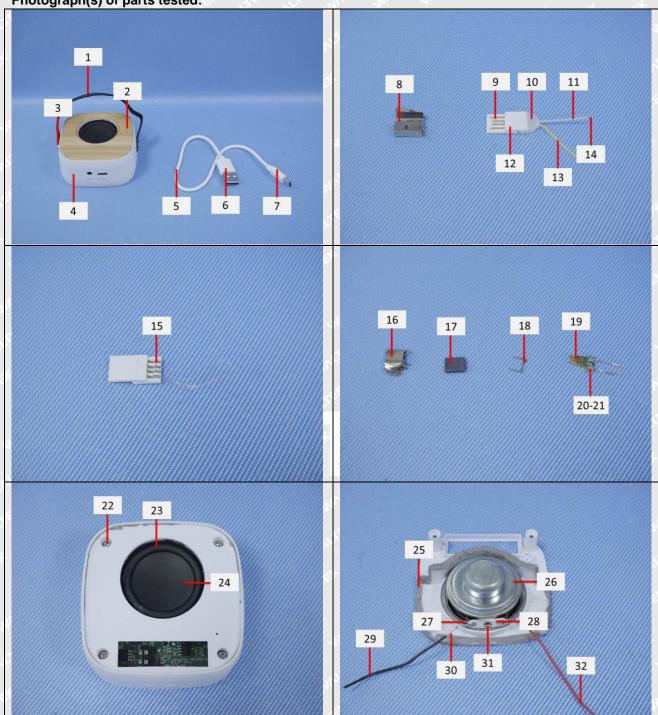


Measurement Flowchart:

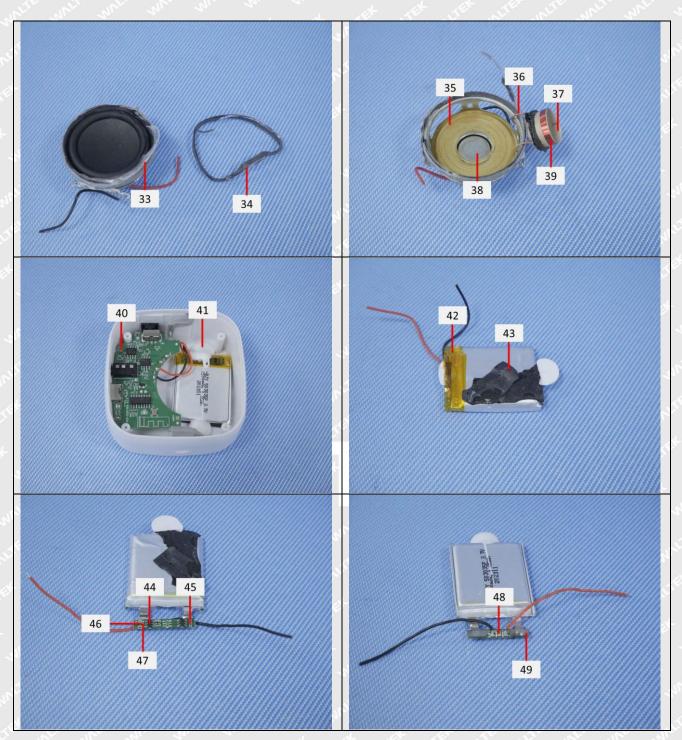




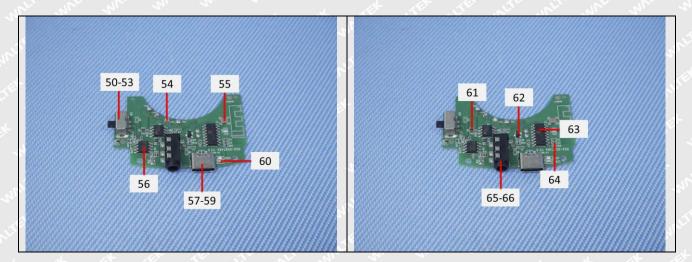
Photograph(s) of parts tested:











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===== End of Report =====