

中国认可 国际互认 检测 TESTING **CNAS L6478**



TEST REPORT

W/TE17E1093792C

Referen	ce No.			
Applica	nt			
Address	ş	, 10 ⁻⁷ -7-7		
Manufad	cturer		ر الرکنی	
Sample	Name		·····	
Model N	l o.	<u></u>		
Test Re	queste	d		
Test Me	thod			

Applicant	Mid Ocean Brands B.V.
Address	Unit 201 2/F., Laford Centre, 838 Lai Chi Kok Road, Cheung Sha Wan, Kowloon, Hong Kong.
Manufacturer :	109979
Sample Name :	3 in 1 Spinner charging cable
Model No	MO9313
Test Requested :	In accordance with the RoHS Directive 2011/65/EU
Test Method	 With Reference to IEC 62321-2:2013, disassembly, disjointment 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
	 With reference to IEC62321-4:2013, determination of Mercury by ICP-OES
	 With reference to IEC62321-5:2013, determination of Lead and Cadmium by ICP-OES
	5) With reference to IEC 62321: 2008 and IEC 62321-7-1:2015, determination of Hexavalent Chromium by UV-Vis
	 With reference to IEC62321-6:2015, determination of PBBs and PBDEs by GC-MS
Test Conclusion	Based on the performed tests on the submitted samples, the results comply with the RoHS Directive 2011/65/EU
Date of Receipt sample :	2017-10-30
Date of Test	2017-10-30 to 2017-11-03
Date of Issue	2017-11-06

Please refer to next page (s)

Remarks:

Date of Test Date of Issue Test Result

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Compiled by:

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Rena.Chen / Project Engineer

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pproved by: 2 hang REPORTO Zhang / Lab Manager

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Part **Result of Wet Chemical** Conclusion Part Description Result of XRF on RoHS No. Testing (mg/kg) Cd BL Pb BL White plastic cover BL NA Comply 1 Hg Cr ΒL BL Br Cd BL Pb BL PBBs :ND Black plastic shell ΒL 2 Hg Comply PBDEs:51 BL Cr IN Br Cd ΒL BL Pb BL 3 Silvery metal sleeve of bearing NA Comply Hg ΒL Cr BL Br Cd BL ΒL Pb Brown plastic ring of bearing BL NA 4 Hg Comply ΒL Cr ΒL Br Cd BL Pb BL BL 5 Silvery metal bead of bearing Hg NA Comply Cr BL Br ΒL ΒL Cd ΒL Pb BL 6 Black plastic wire covering Hg NA Comply BL Cr BL Br Cd BL BL Pb 7 BL Solder NA Comply Hg ΒL Cr ΒL Br Cd BL ΒL Pb BL 8 NA Comply Blue metal wire Hg ΒL Cr BL

Br

Test Results:



Part Part Description No.		Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
at alt all all all all a		Cd	BL	i i i it	
	when when when you we	Pb	BL 🔨	et stret while white	white we
9	White fibre thread	Hg	BL	NA	Comply
	the water water water water	Cr	BL	set set set	NUTER MALT
		Br	BL	WELL WALL WALL V	1 20.
2	Tet stree out work work	Cd	BL	A A At	Et JIE
		Pb	BL	NUT WALT WALT WAL	Me
10	Green metal wire	Hg	N BL	NA	Comply
	white white where where	Cr	BL	re stree when when	WALL V
	a at at at 3	Br	N BLW	me in in	4
S.C.	all water water war wi	Cd	BL /	t set set set	NUTE IN
		Pb	BL	With Mut Mut	w. w.
11	Black plastic cord anchorage	Hg	BL	NA A	Comply
	when the state	Cr	BL	inter inter white white	r. whi
	t at set a street	Br 🐠	BL		at at
NNL	when when she so	Cd	BL	THE STREE NUTE ONLY	Comply
	at at a set	Pb	BL	- m. m. m.	
12	Red metal wire	Hg	BL	NA NA	
	at not stat strat by	Cr	BL	white white white	
		Br	BL	a at at	let 5
h.	and the second	Cd	BL	NUTE INTE MALL V	Comply
	at left tel the	Pb	BL	20. 20. 2.	
13	Coppery metal wire	Hg	BL	NA SA	
		Cr N	BL 3	IL Mr. M. D.	
		Br	BL	t at the of	A STREET
'n		Cd	BL	r. Mr. M.	10, 1
	All States	Pb	BL		all the second
14	Silvery metal shell of USB plug	Hg	BL	NA	Comply
	at at all set of	Cr	BL	an an	*
	The wait wat wat we	Br	← BL ↔	THE JER STREET	LIE NALL
	and the set set	Cd	BL	Mr. Mr. Mr. V.	
	a numer mile south water	Pb	BL	at the tat of	et liet
15 White plastic sheet of	White plastic sheet of USB plug	Hg	BL	NA NA	Comply
	THE LITER NUTER MITE .	Cr	BL		- 14
	when when when the	🖉 Br 🦽	BL	IE INTER INTERNATION	Mr. W
4	at let set set a	Cd	BL	20 20 20	×
	NET WALL WALL WALL W	Pb	, BL ,	- TEK JEK JEK	INLIE NOT
16	Black plastic jacket of USB plug	Hg	BL	NA	Comply
	ALTER MALTE MALT MAL	Cr	BL	at at at	JEK JE
	Mr. M. Y.	Br	BL	Marth Marth Marth M	- Mu



Part Part Description No.		Result	of XRF	Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
let let set alle with a		Cd	BL S	i st st	t
	Were aller aller and a	Pb	BL	atter outer white	WALL WA
17	Silvery metal pin of plug	Hg	BL	NA	Comply
	LITE WALT WALL WALL WALL	Cr	BL	Let set set	NUTE MUT
		Br	BL	WILL WALL WALL W	
- S	et sure our would would	Cd Cd	BL	t at at	IEK WALTER
	- Mr - Mr	Pb	BL	NUT WALT WALT WAL	
18	Solder of plug	Hg	SU BL	NA	Comply
	white whe with sur	Cr 👌	BL	I STER NIE WITH	with m
	at at let 5	Br	M BLM	with the state	
S.C.	and white wat wat we	Cd	, BL ,	t let set set	NITE NI
		Pb	BL	are more me	n n
19	Black plastic jacket of plug	Hg	BL	NA A	Comply
	when the state	Cr	BL	white white white we	
	t at all a sure	Br v	BL		at at
Inth	when when any an	Cd	BL	Tet aller with any	Comply
	at at a set	Pb	BL V	- m. m. m.	
20	Silvery metal shell of plug	Hg	BL	Cr ⁶⁺ :Negative	
	she she st	Cr	N IN N	white white white	
	TEX LIER NUTER NO	Br	BL	L A A	At 5
1	- 241 - 241	Cd	BL	NUTE INTE MALL V	w. m.
	at at the star	Pb	BL		it it
21	Dark grey plastic sheet of plug	Hg	E BL	NA SAN	Comply
		Cr v	BL S	L. Mr. M. M.	
		Br	BL	t at the set	* JIET
11	3° Y Y A	Cd	BL	in the me	19. 19
		Pb	BL	the second second	Att.
22	Silvery metal pin of plug	Hg	BL	NA	Comply
	at let set out on	Cr 🔊	BL	20 20 4	1 1
	the write write write the	Br	, − BL,+	THE JEEK STREET	ILTE NALL
		Cd N	BL	Mr. M. M. L.	
	A NUTER MUTER MALL MALL	Pb	BL	the set of	EX LIER
23	Solder of plug	KHg S	BL	NAN NAN	Comply
	THE LIFE NUTE NUTE N	Cr	BL		- lit
	wat was we we	🖈 Br 🦽	BL	E NITE NITE NALLY	with w
4	at at all all a	Cd	BL	In the	×
	MIT WITH WITH WALL VA	Pb	BL 🖉	- TEK JEK JEE	Comply
24	Black plastic jacket of type-c plug	Hg	BL	NA	
	The strenger of the second	Cr	BL	at at at	
	In In I	Br	BL	in the section were set	



Part No.	Part Description	Result	of XRF	Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
set set set after with a		Cd	BL	a at at	et .
	mer mer mer in a	Pb	BL	at alter alter white	when wh
25	Silvery metal shell of type-c plug	Hg	BL	Cr ⁶⁺ :Negative	Comply
	tite white white whe with	Cr	, IN ,	JER JER JER	NUTE WILL
	N A A A	Br	BL	WIT. WIT WIT I	
	et with white white white	Cd	BL	at at at .	et liter
	M. M. t	Pb	BL	NI MALI WAL WAL	-2m-
26	Silvery metal sheet of type-c plug	Hg	S BL	Cr ⁶⁺ :Negative	Comply
	mer me me	Cr	<u></u> IN	re- atter with white	with a
	at at all all a	Br	M BLM	m. m. r.	
JE.	mile while when when we	Cd	BL	t the the the	mile mi
	Off white plactic sheet of time a	Pb	BL	Mr. Mr. Mr.	20. 20
27	Off-white plastic sheet of type-c plug	Hg	BL	NA A	Comply
	piug	Cr	BL	inter white when we	
	t get get up outer	Br 🔊	BL		
. NRL	when when all and	Cd	BL	THE STEE MITE WIT	with
	Derlément plastic chart of the	Pb	BL	NA	4
28	Dark grey plastic sheet of type-c	Hg	BL		Comply
	plug	Cr	BL		
	TEX STEEL NUTER SWA	Br	BL	L A At	Jet J
4	- 14, 14, 14, 14	Cd	BL	NUTE INTE MAL V	IL M
		Pb	BL	NA	at at
29	Silvery-golden metal pin of type-c	Hg	BL		Comply
	plug	Cr N	JUBL J	1 m. m. m.	
	a star where we are a	Br	BL	t at the set	NUTER
N.		Cd	BL A	a and an	24 1
		Pb	BL		Alt .
30	Silvery metal sheet of type-c plug	Hg	BL	Cr ⁶⁺ :Negative	Comply
	at all ret offer on	Cr s	IN		A A
	the write write write the	Br	, − BL,	THE STEE STEELS	NITE MALL
		Cd N	BL	M. M. W. A.	1
	A NUTE INTE MALL MAL	Pb	IN	the state of	et lifer
31	Chip resistor of type-c plug	Hg S	BL	Pb :379	Comply
	THE THE NUMBER OF	Cr	BL	A A A	- Jet
	me me m so	at Br at	BL	E INTE INTE MALL	with w
	at at the set of a	Cd	BL		1
	NIT WITH WITH WALL W	Pb	BL 🖉	TEX JIEK LIEK	INLIE NOLI
32	Chip capacitor of type-c plug	Hg	BL	NA NA	Comply
	Tek nure nure white white	Cr	BL	at at at	
	11 12 1	Br	BL	in the solite solution out	



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
t	ret ret ster ster with	Cd	BL		Comply
nui a		Pb	BL		
33	Blue PCB of type-c plug	Hg	BL	PBBs :ND PBDEs :ND	
I ET AL		Cr	BL	FDDES IND	NUTE MALTE
2	is a to the	Br	IN	It. Mr. Mit 1	
	at white white white white	Cd	BL	at at all i	IT JIE
m		Pb	BL	it was wat was	2/12 .
34	Solder of type-c plug	Hg	BL	NA	Comply
NAL		Cr 🔬	BL	- NITER MITE WIT	
	the set set set	Br	BLM	111 m	
LTEN N	Marth Water Mar W	Cd	BL 🔶	NA	INLIE MAL
		Pb	BL		Comply
35	Blue plastic shell	Hg	BL		
-m		Cr	BL		
	t set set as an	Br w	BL	a st	
white		Cd	BL	et aller alle and	with
		Pb	BL	The Dr. A.	*
36	White plastic shell	Hg	BL	NA NA	Comply
		Cr	BL S	white when white	24. 11.
,et	TER STEEL MUTER .	Br	BL	it it it	THE IT
11	- M M	Cd	BL	NA	Comply
- at at		Pb	BL		
37	Green plastic shell	Hg	E BL		
The week white with with		Cr N	JUBL JU	M. M. 2.	
	Br	BL		NITE	



Remark:

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 ≤ (70-3σ) < IN < (130+3σ) ≤ OL	$LOD < IN < (150+3\sigma) \le OL$		
Pb	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL		
Hg	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ 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	et white white white on	BL ≤ (250-3σ) < IN		

BL= Below Limit OL= Over Limit LOD = Limit of Detection -- = Not Regulated

- (2) "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) ppm = mg / kg, based on the dry weight of tested sample.
- (5) ND = Not Detected, less than the value of Method Detection Limit.
- (6) NA = Not Applicable, as the XRF screening test result was below the limit, it was not need to conduct the wet chemical testing.

Test Items	Pb	Cd	Hg	Cr ⁶⁺		PBB	PBDE
Units	mg/kg	mg/kg	mg/kg	mg/kg	µg/cm ²	_mg/kg 📣	mg/kg
MDL	2	2	2	2	0.1	5	1 5 st

(7) MDL= Method Detection Limit in wet chemical test

The MDL for single compound of PBBs and PBDEs is 5mg/kg, MDL of Cr^{6+} for polymer and composite sample is 2mg/kg and MDL of Cr^{6+} for metal sample is $0.1\mu g/cm^2$.

(8) 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:

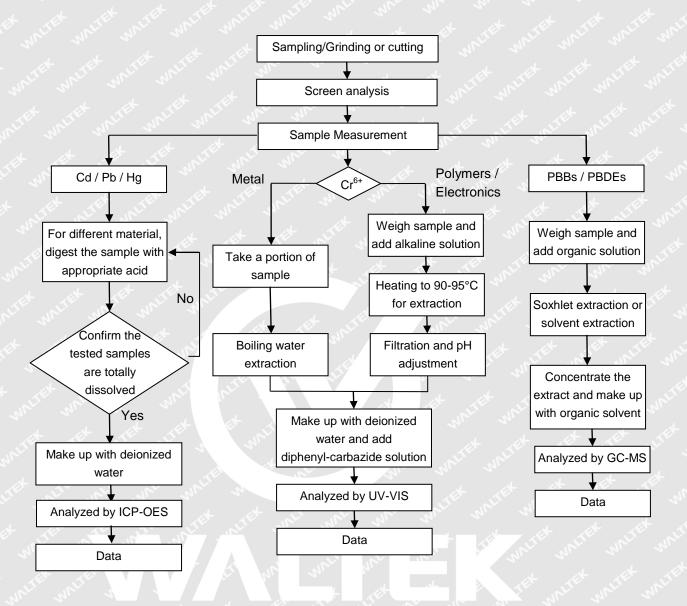
Negative = Absence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is less than 0.10 ug/cm².

Positive = Presence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is greater than 0.13ug/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.



Measurement Flowchart:





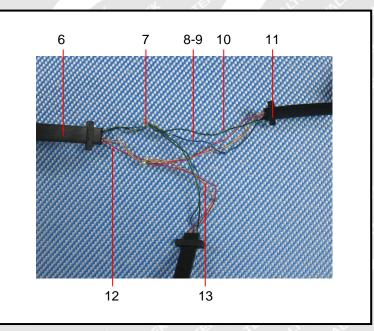
Sample Photo:



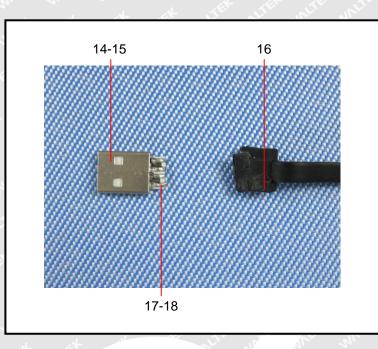


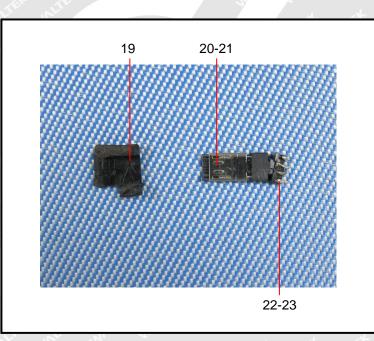
Photograph of parts tested:



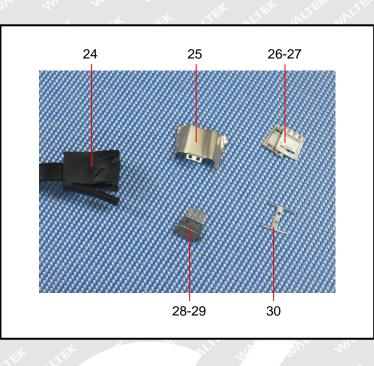


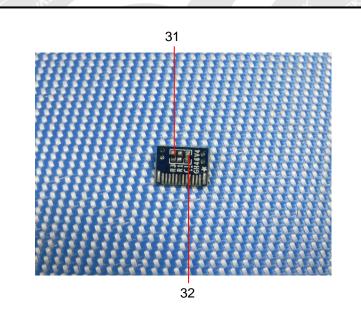




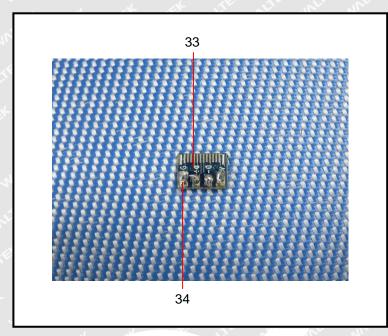


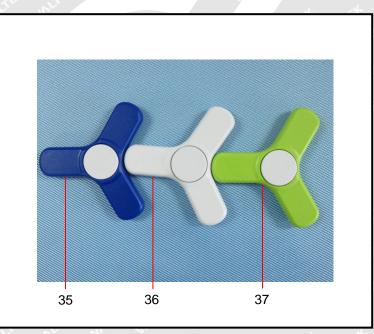












===== End of Report ======