



TEST REPORT

Reference No	:	WTF19F05030290C
Applicant	.77	Mid Ocean Brands B.V

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

Hong Kong

 Manufacturer
 : 111033

 Sample Name
 : A4 Portfolio

 Model No.
 : KC8063

Test Requested.....: In accordance with the RoHS Directive 2011/65/EU and its

amendment (EU) No.2015/863.

mechanical sample preparation

 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 toIEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS

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

Test Conclusion: Pass (Based on the performed tests on the submitted samples, the

results comply with the RoHS Directive 2011/65/EUand its amendment

(EU) No.2015/863)

Date of Receipt sample... : 2019-05-20

Date of Test : 2019-05-20 to 2019-05-23

Date of Issue : 2019-05-23

Test Result: Please refer to next page (s)

Remarks:

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 compilerandapprover.

Prepared By:

Waltek Services (Foshan) Co., Ltd.

Address: No.13-19,2/F., 2nd Building, Sunlink International Machinery City, Chencun, Shunde District, Foshan, Guangdong, China

Tel:+86-757-23811398 Fax:+86-757-23811381 թերքըակ:info@waltek.com.cn

Compiled by:

Humour . Wer

Humour.Wu/Project Engineer

Dino 2 hang/ Lab Manager



Test Results:

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

Part No.	Part Description	Result	of XRF	Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
n	211 211	Cd Cd	BL	IT WALL WALL WALL	In.
	TEX LIEX SLIER WITE OF	Pb	BL	The state of the s	LEX.
1	Black plastic shell	Hg	BL	NA NA	Comply
	LEK TEK ITEK ALTER MIT	Cr	BL	- 10 2 ×	11 1
	in mer me m	Br	BL	LIEK OLIEK WALTER	VII. MUT.
	et let let liet wife	Cd	BL	7, 7, 7	* 12
	were any	Pb	BL	LEK STEK WIEL IN	NALT
2	Light green rubber button with	Hg	SIN BL S	NA	Comply
	white printing	Cr	BL	EL TEX TEX STE	" NLIE" 10
		Br	JUL BLUN	The Mr. M.	20
TEL	Rite with with the	Cd	BL	t let telt telt	alle in
	and the state of	Pb	BL	aur, aur aur.	21, 22,
3	Dark grey rubber button with white printing	Hg	BL	NA NA	Comply
	printing	Cr	BL	an the water war we	
	it liet when why while a	Br	BL		
M	24 24 25	Cd	BL	II WALL WALL MAN	M
	TEX ITEX NUT OUTE	Pb	BL	NA NA	Comply
4	4 Black rubber gasket	Hg	BL		
		Cr	BL		
	The Man of My	Br BL	LIER WILL WILL ST	Vr. NVr	
	A A A A A A A A A A A A A A A A A A A	Cd	BL	2	Comply
	it with mir me is	Pb	BL	THE STEEL STEEL OF	
5	Green PCB	Hg	SUBL S	PBBs : ND PBDEs : ND	
		Cr	BL		
	LAY A V A Y A Y	Br	IN IN	in Mr. Mill	7,
JEK	alife (Cd	BL	C TEX LIFE	ALTER IN
		Pb	BL	an sin sun	211. 25.
6	Chip IC	Hg	BL	PBBs : ND PBDEs : ND	Comply
	The The Table	Cr	BL	FDDL3.ND	211
4	ex lies while while	M Br	IN	L X At	EX TEX
M	An an an	Cd	BL	LIE WILL WALL WAL	M
	TEX TEX LITER OLITER ON	Pb	n IN		- LEX
7	Solder	⊬ Hg ⊬	BL	Pb :371	Comply
	- OF 1ST TEXT WELL IN	Cr	BL		
ie.	ury aury aury au	Br	BL O		unit whi
1	at the fift and	Cd	BL	24. 24 2.	1 0
	it will mill wife on	Pb	BL	TEX LIET SLIET OF	IER WITE
8	Red plastic wire covering	Hg	BL	NA NA	Comply
	WITE WALL WALL WALL	Cr	BL	at the other of	CLIER
		Br	BL	TI MUL MUL MIL	10,



Part No.	Part Description	Result	of XRF	Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
16	LIE WITE WITE WALL	Cd	BL	t at alt is	JE LIEN
MUL	Mr. M. J.	Pb (BL	" NUTTE MUTT, MUT	Mr. 1
9	Coppery metal wire	Hg	BL	NA NA	Comply
	me my m	Crot	BL	Write Wall Wall	any in
et	TEX ITEX SITEX WITER WAY	Br	BL	- The state of the	LEX IN
1/1	in the transfer	Cd	BL	LITER WITE WALTE	V. M.
L .	et tet tet liter wife	Pb	BL	2. W. A.	et set
10	Silvery metal sheet	Hg	BL	NA NA	Comply
	LIEF WRITER WRITER WRITER	Cr	SI BL	40, 40	L of
MITE		Br	BL	E LIEX SLIER MIR	White a
	It IS THE THE THE	Cd	M BL	W W	.+
TE	Wile Muli Muli Mule M	Pb	BL O	NA NA	antie, ant
11	Chip capacitor	Hg	BL		Comply
	TELL WILLE WHILE WHILE	Cr	BL		LIER WALTE
40,		Br	BL	me me me	
176	ALTE MALL WALL WALL	Cd	BL	NA WALLEY WALLEY WALLEY	Comply
Mr.	211	Pb	∠BL (n		
12	12 White sponge adhesive sheet	Hg	BL		
		Cr	BL		
iet .	TEX LIER NITER DINY	Br	BL		
, "	in my my	Cd	BL	nlier while while w	Comply
,	ex tex trex other	Pb	BL	3, x	
13	White plastic wire covering	Hg	BL	NA NA	
	TEX TEX STEEL STEEL	Cr	BL		
المالية	ar July July	Br	BL	TE ALTER MIT	ال المالي
ا ل		Cd	BL		*
Lier		Pb	BL	TEX MITER	WALTER WA
14	White plastic gasket	Hg	BL	W NA	Comply
	TIER MUTTE MUTT MUTT MUTT	Cr	BL	TEX TEX TEX	LIER WIFE
111,		Br	BL	with the shift	20.
	RETER INLIE WALL WALL	Cd	BL	et set set s	EX SLIER
111.	The state of	Pb	BL	in Mur, Aur, Aur,	411
15	Brown-black plastic film	Hg	BL	NA _	Comply
n.	me in in	Cr Cr	BL	E WILL MULL MULL	Mer Mu
c+	LEX TEX LIER WIFE AND	Br	BL	1 4 4	
- 4	Le Mr M M	Cd	BL BL	WITE WALL MALL	nor more
*	Transparent glass sheet with	Pb	BL		at at
16	silvery plating	Hg	BL	NA NA	Comply
	- Tex Steel Marie	Cr Cr	BL	11 21 2	* #
IN LITT	They was my	Br	BL	TEX TEX STEEL OUT	MLI V



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
LIE	WILL WILL MAN A	Cd	BL	at let let it	X NITER
in.		Pb Te	BL	MULL MULL MAN	
17	Transparent FPC	Hg	BL	NA NA	Comply
	m m	+ Cr	BL	White whit whi	
E.t	TEX LIEX RUTER INTERIOR	(Br	BL	t at at	TEX J
71		Cd	BL	ALTE MALL WALL OF	Vr. My
. ,	ex tex tex outer oute	Pb W	BL	The state of	
18	18 Black transparent plastic sheet	Hg	BL	NA NA	Comply
N		Cr	BL	te tret attet unte	
INLIL	mer me me m	Br	BL		
	CH LEK TEK STER O	Cd	M BL	THE WALTER WALTER	Comply
TEX	Write Mury Authorized Au	Pb	BL		
19	Transparent glass sheet	Hg	BL		
, c'	TEN WITE WALL WALL	Cr	BL		
20,	THE STATE OF THE S	Br	BL		
	ALTER MALIE WALL WALL	Cd	BL	It TEX TEX I	TER WALTER
In.		Pb	BL	it with the the	
20	Silvery-white plastic film	Hg	BL	L NA	Comply
	m m	Cr	BL	White Mail water	Mr. M
ex	TEK TEK TIER WATER	Br	BL	L A A	LEX S
12	1 My 24 3	Cd	BL	WILL MULL MULL A	Vr. Mur
	City on a para and a para white to be to	Pb	BL	1 × 2+	
21	Silvery metal screw with black plating	Hg	BL	NA NA	Comply
	plating	Cr	MBL M	10 10	
MITE	ar Tur	Br	BL	TE STEEL SLIFE	



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 ≤ (70-3σ) < IN < (130+3σ) ≤ OL	LOD < IN < (150+3σ) ≤ 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	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	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	- of get get of	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) mg / kg =milligram per kilogram=ppm, 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.
- (7) MDL= Method Detection Limit in wet chemical test.

Test Items	Pb	Cd	Hg	Cı	rb+	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	5

The MDL for single compound of PBBs and PBDEs is 5mg/kg, MDL of Cr⁶⁺ for polymer and composite sample is 2mg/kg and MDL of Cr⁶⁺ for metal sample is 0.1µg/cm².

(8) According to IEC 62321-7-1:2015, determined of Cr⁶⁺ on metal sample byboiling 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 $0.10ug/cm^2$.

Positive = Presence of Cr⁶⁺ 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.



2. Phthalates(DEHP,BBP,DBP,DIBP)

Test items	Result (mg/kg	Limit (mg/kg)	
LIER WILL WILL MALL WA	No.1	No.2	(mg/kg)
Bis(2-ethylhexyl)-phthalate(DEHP)	<50	1 < 50 M	1000
Dibutyl phthalate (DBP)	89	<50	1000
Benzylbutyl phthalate (BBP)	<50	<50	1000
Diisobutyl phthalate (DIBP)	<50	<50	1000

Test items	Resi (mg/	Limit	
	No.3	No.4	(mg/kg)
Bis(2-ethylhexyl)-phthalate(DEHP)	<50	<50	1000
Dibutyl phthalate (DBP)	<50	(50 v) <50	1000
Benzylbutyl phthalate (BBP)	<50	<50	1000
Diisobutyl phthalate (DIBP)	<50	<50	1000

Test items	Result (mg/kg)	Limit	
write with my my	No.5+No.6+ No.11 [△]	No.8	(mg/kg)
Bis(2-ethylhexyl)-phthalate(DEHP)	<50	<50	1000
Dibutyl phthalate (DBP)	<50	<50	1000
Benzylbutyl phthalate (BBP)	<50	<50	1000
Diisobutyl phthalate (DIBP)	<50	<50	1000

Test items	Result (mg/kg	Limit	
	No.12	No.13	(mg/kg)
Bis(2-ethylhexyl)-phthalate(DEHP)	65	<50	1000
Dibutyl phthalate (DBP)	64	<50	1000
Benzylbutyl phthalate (BBP)	<50	<50	1000
Diisobutyl phthalate (DIBP)	<50	<50	1000



Test items	Result (mg/kg	Limit	
the state of the	No.14	No.15	(mg/kg)
Bis(2-ethylhexyl)-phthalate(DEHP)	<50	104	1000
Dibutyl phthalate (DBP)	93	313	1000
Benzylbutyl phthalate (BBP)	<50	<50	1000
Diisobutyl phthalate (DIBP)	75	243	1000

Test items	Result (mg/kg	Limit	
" Write Mur. Aut. Aut. A	No.16+No.17+No.19 [△]	No.18	(mg/kg)
Bis(2-ethylhexyl)-phthalate(DEHP)	<50	<50	1000
Dibutyl phthalate (DBP)	<50	68	1000
Benzylbutyl phthalate (BBP)	<50	<50	1000
Diisobutyl phthalate (DIBP)	<50	<50	1000

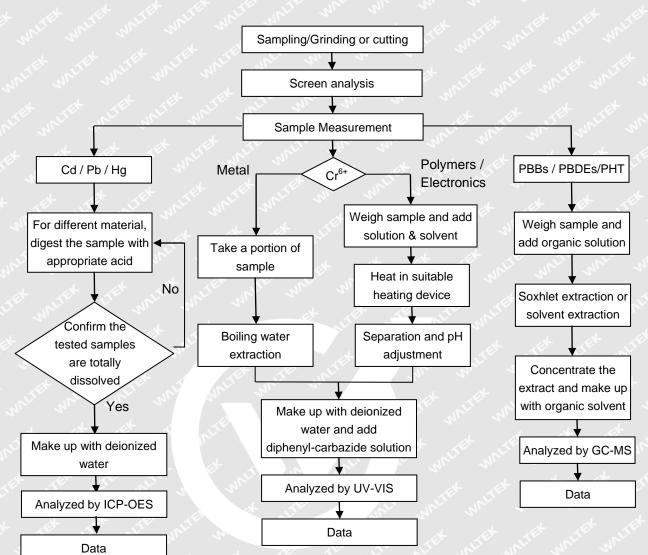
Test items	Result (mg/kg) No.20	Limit (mg/kg)
Dibutyl phthalate (DBP)	<50	1000
Benzylbutyl phthalate (BBP)	<50	1000
Diisobutyl phthalate (DIBP)	<50	1000

Note:

- (1) "<"= less than
- (2) mg/kg = milligram per kilogram= ppm
- (3) " \triangle " = As client's requirement, the testing was conducted based on mixed components, results are calculated by the minimum weight of mixed components.

W

Measurement Flowchart:



Sample Photo:

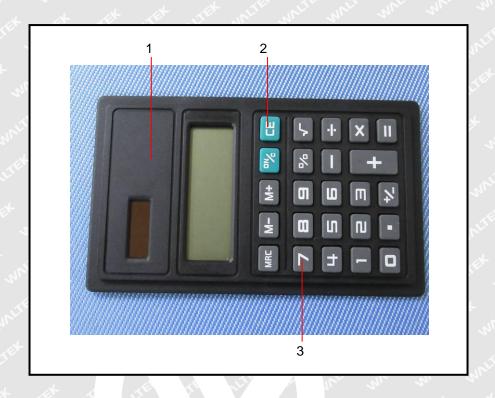


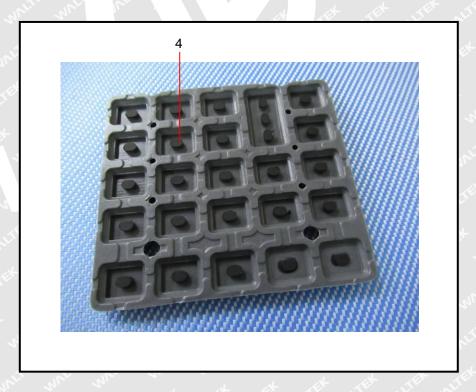


The later than the la

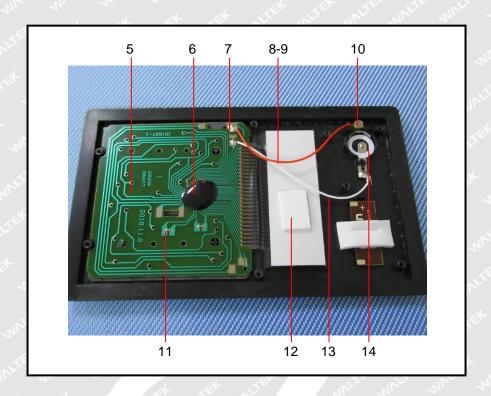
W

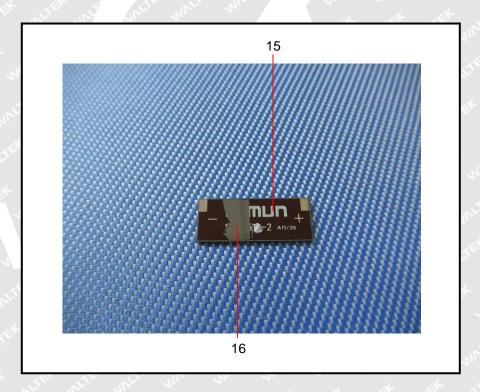
Photograph of parts tested:



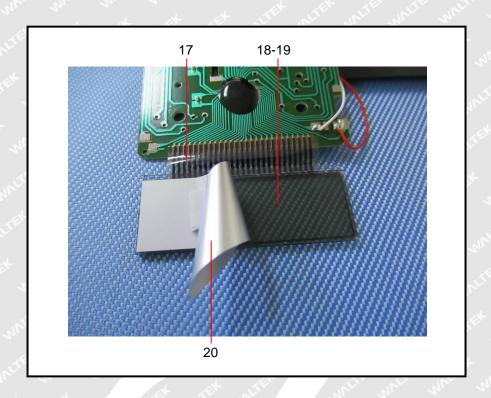


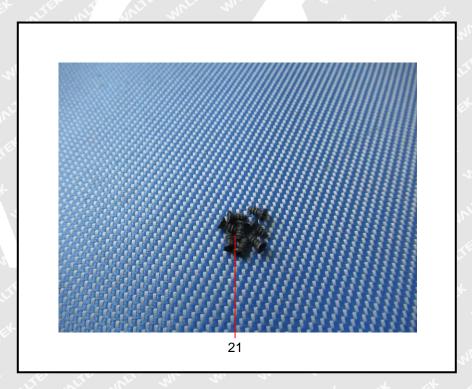












===== End of Report =====