No. SIT240529160302RR

TEST REPORT

Customer information	Client	Mid Ocean Brands B.V.
	Address	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Sample information	Name of sample	Locator
	Test Model No.	MO2277
	Trade mark	N/A
	Lot number	----
	Manufacturer	114628
Test information	Sample received	May 30, 2024
	Testing date	May 30, 2024 to June 03, 2024
	Test sort	Commission Test
	Requested/item	RoHS directive 2011/65/EU Annex II amending Annex(EU)2015/863. (1) Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs Content. (2) Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate(DBP), Disobutyl phthalate(DIBP) Content.
	Standard/ Foundation	(1)With reference to IEC 62321-3-1:2013, scanning by XRF Spectroscopy Chemical test method： With reference to IEC 62321-5:2013, determination of Cadmium, lead by ICP With reference to IEC 62321-4:2013+AMD1:2017, determination of Mercury by ICP With reference to IEC 62321-7-2:2017&IEC 62321-7-1:2015, determination of Hexavalent Chromium by Colorimetric method. With reference to IEC 62321-6:2015 determination of PBBs and PBDEs by GC-MS (2)With reference to IEC 62321-8:2017, and analysis was performed by GC-MS.
	Conclusion	(1)The tested sample complied with RoHS directive (2011/65/EU). (2)The tested part of submitted sample complied with directive (EU)2015/863
Remark	----	

Tested By： Vicky Date： 2024/06/03

Checked By： Alex Peng Date： 2024/06/03

Approved By： Sean Date： 2024/06/03

SIT TESTING TECHNOLOGY CO.,LTD. APPROVED SHENZHEN

Test result：1. Structural parts

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
1	White plastic shell	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
2	White plastic open sheet	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
3	Black thin sling	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
4	Black sling	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
5	Silver metal ring	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	/	/	＜1000	/
		PBDEs	/	/	＜1000	/
6	Black PCB board	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
7	Silver metal button	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	/	/	＜1000	/
		PBDEs	/	/	＜1000	/
8	Black plastic button	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
9	Silver metal feet	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	/	/	＜1000	/
		PBDEs	/	/	＜1000	/
10	Black plastic block	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
11	Solder	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	/	/	＜1000	/
		PBDEs	/	/	＜1000	/
12	Silver metal sheet	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	/	/	＜1000	/
		PBDEs	/	/	＜1000	/

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
13	Yellow PCB board	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
14	Brown inductance	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
15	IC	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
16	IC feet	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	/	/	＜1000	/
		PBDEs	/	/	＜1000	/
17	Silver metal chip	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	/	/	＜1000	/
		PBDEs	/	/	＜1000	/
18	Black component	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
19	Yellow inductance	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
20	Black chip resistor	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
21	Black chip	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	P	N.D.	＜1000	P
		PBDEs	P	N.D.	＜1000	P
22	Solder	Cd	P	N.D.	＜100	P
		Cr(VI)	P	N.D.	＜1000	P
		Hg	P	N.D.	＜1000	P
		Pb	P	N.D.	＜1000	P
		PBBs	/	/	＜1000	/
		PBDEs	/	/	＜1000	/

Remark：

1 It is the result on total Br while test PBBs and PBDEs by EDXRF. It is the result on total Cr while test Hexavalent Chromium by EDXRF。

2 Results are obtained by EDXRF for primary screening, and chemical testing by ICP (for Cd, Pb, Hg),UV-VIS (Cr(VI)) and GCMS (for PBBs, PBDEs) is recommended to be performed.

3.

Element	Polymer	Metal	Composite Materials
Cd	P≤70-3σ＜D＜130+3σ≤F	P≤70-3σ＜D＜130+3σ≤F	P≤50-3σ＜D＜150+3σ≤F
Pb	P≤700-3σ＜D＜1300+3σ≤F	P≤700-3σ＜D＜1300+3σ≤F	P≤500-3σ＜D＜1500+3σ≤F
Hg	P≤700-3σ＜D＜1300+3σ≤F	P≤700-3σ＜D＜1300+3σ≤F	P≤500-3σ＜D＜1500+3σ≤F
Br	P≤300-3σ＜D	----	P≤250-3σ＜D
Cr	P≤700-3σ＜D	P≤700-3σ＜D	P≤500-3σ＜D

P = PASS； F = FAIL； D = DETECTED;

4. mg/kg = ppm; N.D. = NOT DETECTED（＜MDL）Pb, Cd, Hg,Cr(VI): 2mg/kg; PBBs, PBDEs: 5mg/kg

5. With reference to IEC 62321:-7-1:2015, result on Cr (VI) for metal sample is shown as Positive/Negative.
Positive = Presence of Cr(VI) coating, Negative = Absence of Cr(VI) coating

6 *According to Annex III of European Council Directive 2011/65/EU, Lead in copper alloy containing up to 4% lead by weight.

7 **According to Annex III of European Council Directive 2011/65/EU, Lead in steel alloy containing up to 0.35% lead by weight.

8 #According to Annex III of European Council Directive 2011/65/EU, Cadmium and its compounds in electrical contacts is exempted.

(3) DEHP, BBP, DBP, DIBP

ITEM \ SAMPLE No.	SAMPLE CONCENTRATION (mg/kg)				MDL (mg/kg)	REQUIRED LIMIT (mg/kg)
	1	2	3	4		
Di-2-ethylhexyl phthalate (DEHP)	ND	ND	ND	ND	30	1000
Dibutyl phthalate (DBP)	ND	ND	ND	ND	30	1000
Benzylbutyl phthalate (BBP)	ND	ND	ND	ND	30	1000
Diisobutyl phthalate (DIBP)	ND	ND	ND	ND	30	1000

ITEM \ SAMPLE No.	SAMPLE CONCENTRATION (mg/kg)					MDL (mg/kg)	REQUIRED LIMIT (mg/kg)
	6	8	10	13	14		
Di-2-ethylhexyl phthalate (DEHP)	ND	ND	ND	ND	ND	30	1000
Dibutyl phthalate (DBP)	ND	ND	ND	ND	ND	30	1000
Benzylbutyl phthalate (BBP)	ND	ND	ND	ND	ND	30	1000
Diisobutyl phthalate (DIBP)	ND	ND	ND	ND	ND	30	1000

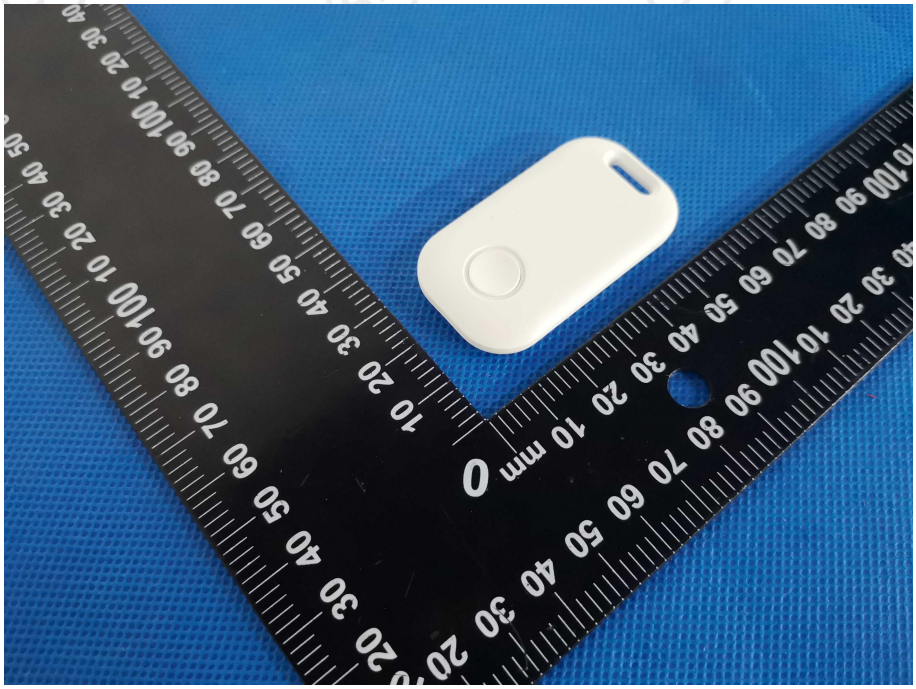
ITEM \ SAMPLE No.	SAMPLE CONCENTRATION (mg/kg)					MDL (mg/kg)	REQUIRED LIMIT (mg/kg)
	15	18	19	20	21		
Di-2-ethylhexyl phthalate (DEHP)	ND	ND	ND	ND	ND	30	1000
Dibutyl phthalate (DBP)	ND	ND	ND	ND	ND	30	1000
Benzylbutyl phthalate (BBP)	ND	ND	ND	ND	ND	30	1000
Diisobutyl phthalate (DIBP)	ND	ND	ND	ND	ND	30	1000

Note: MDL = Method Detection Limit, ND=not detected (<Method Detection Limit).

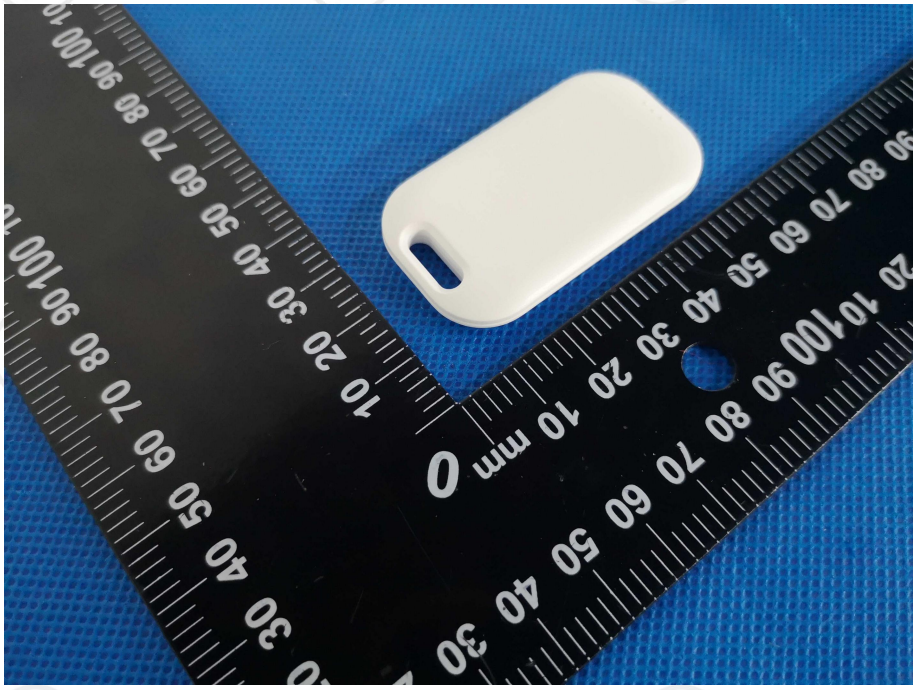
Appearance photograph of EUT



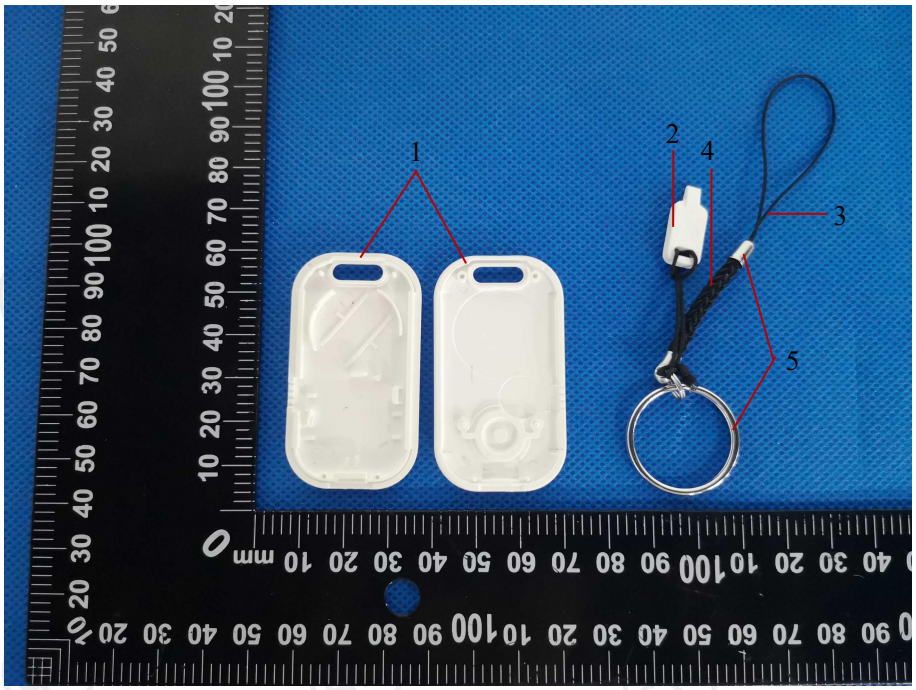
Appearance photograph of EUT



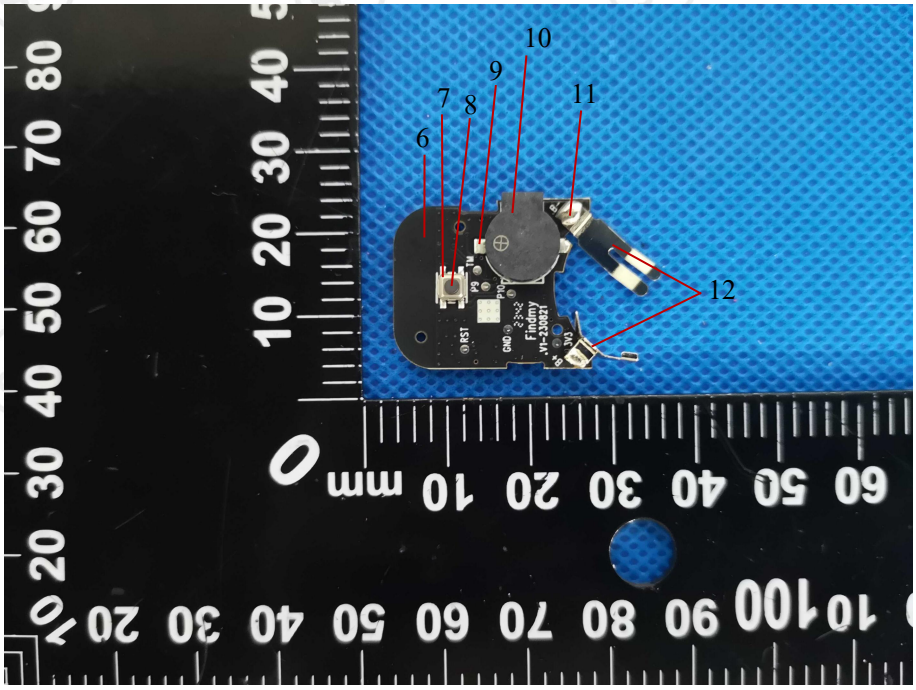
Appearance photograph of EUT



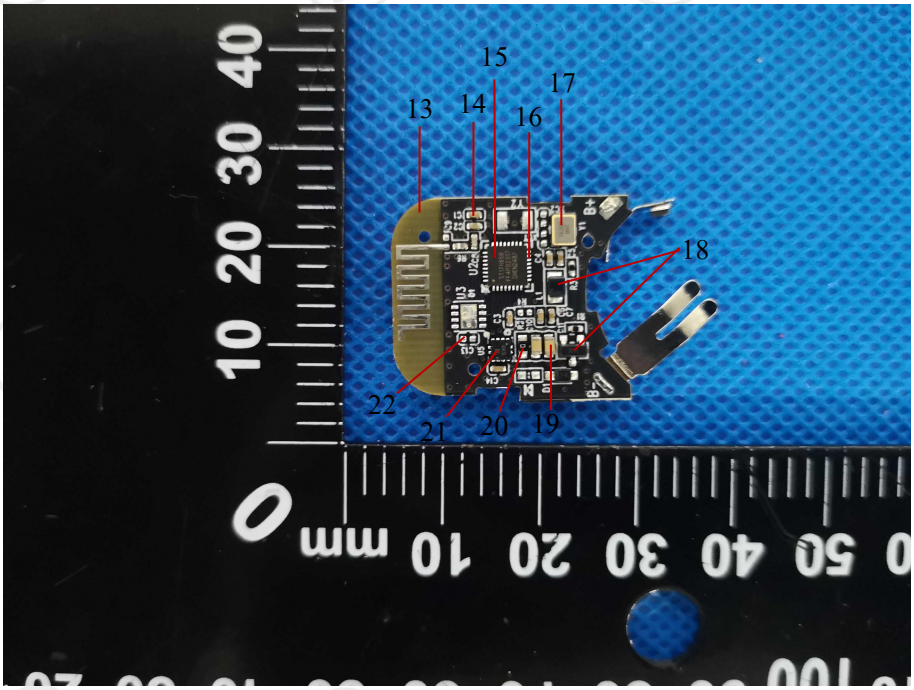
Appearance photograph of EUT



Appearance photograph of EUT



Appearance photograph of EUT



List of apparatus

No.	Name	Model	Calibration Valid Date	USE(√)
1	ICP-OES	VISTA-MPX	2024/09/28	√
2	GC-MS	5975i	2024/09/16	√
3	UV-Vis	Lambda 25	2024/09/16	√
4	XRF	EDX3000B	2024/09/22	√

****** END OF REPORT ******