



# TEST REPORT

**Report No.**..... : WTX22X07147389C  
**Applicant**..... : SHENZHEN MONOKO TECHNOLOGY CO.,LTD.  
**Address**..... : Room 507, Building 10, Yungu Phase 2, No.2, Pingshan First Road,  
Taoyuan street, Nanshan District, Shenzhen, China  
**Manufacturer**..... : SHENZHEN MONOKO TECHNOLOGY CO.,LTD.  
**Address**..... : Room 507, Building 10, Yungu Phase 2, No.2, Pingshan First Road,  
Taoyuan street, Nanshan District, Shenzhen, China  
**Sample Name**..... : aluminium alloy nylon braided cable  
**Sample Model**..... : UC411  
**Sample Material**..... : NA  
**Supplier**..... : NA  
**Test Requested**..... : 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.  
**Test Conclusion**..... : **Pass** (Based on the performed tests on the submitted samples, the  
results comply with the requirement of EU RoHS Directive 2011/65/EU  
and its amendment (EU) No. 2015/863).  
**Date of Receipt sample**..... : 2022-07-20  
**Testing period**..... : 2022-07-20~2022-07-27  
**Date of Issue**..... : 2022-07-28  
**Test Result**..... : Refer to next page (s)



**Prepared By:**

**Waltek Testing Group (Shenzhen) Co., Ltd.**

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Signed for and on behalf of  
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**Reference Model No. .... :** US220-01,US220-02,US220-03,US220-04,US320-02,UC422-24,UC420,UC419,UC418,UC417,UC416,UC415,UC415-21R,UC415-22R,UC415-23R,UC415-24R,UC413,UC412,UC410,UC409,UC408,UC407,UC406,UC405,UC403,UC402,UC401,UC201,UC103,UC102,UC101,UC101-44,UA401-31,UA402-32,UA402-22,UC302,UC301,US401,UC501-2C,UC502,UC421-28,UC101-28,UC409-2A,UC409-2B,UC409-2C,UC409-2D,UC409-2E,UC409,US130-04

**Brand..... :** NA

**Test Method:**

- IEC 62321-3-1:2013, screening - Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry (XRF)
- IEC 62321-4:2013/AMD1:2017 for mercury (Hg), analyzed by ICP-OES
- IEC 62321-5:2013 for lead (Pb) and cadmium (Cd), analyzed by ICP-OES
- IEC 62321-7-2:2017 and/or IEC 62321-7-1:2015 for hexavalent chromium (Cr<sup>6+</sup>), analyzed by UV-Vis
- IEC 62321-6:2015 for PBBs and PBDEs, analyzed by GC-MS
- IEC 62321-8:2017 for phthalates, analyzed by GC-MS

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**Test Results:**

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

No.	Part Description (See Photograph of parts tested)	Result of XRF					Result of Chemical Testing (mg/kg)
		Pb	Cd	Hg	Cr	Br	
1	Black fiber cable jacket	BL	BL	BL	BL	BL	NA
2	Black soft plastic cable jacket	BL	BL	BL	BL	BL	NA
3	Red plastic wire jacket 1	BL	BL	BL	BL	BL	NA
4	Black plastic wire jacket 1	BL	BL	BL	BL	BL	NA
5	White plastic wire jacket 1	BL	BL	BL	BL	BL	NA
6	Green plastic wire jacket 1	BL	BL	BL	BL	BL	NA
7	Silvery metal wire core	BL	BL	BL	BL	NA	NA
8	Black plastic (USB Type-C)	BL	BL	BL	BL	BL	NA
9	Silvery metal (USB Type-C)	BL	BL	BL	IN	NA	Cr <sup>6+</sup> :Negative
10	Golden cladding metal PIN (USB Type-C)	BL	BL	BL	BL	NA	NA
11	Black cladding metal shell	BL	BL	BL	BL	NA	NA
12	Black soft plastic plug	BL	BL	BL	BL	BL	NA



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No.	Part Description (See Photograph of parts tested)	Result of XRF					Result of Chemical Testing (mg/kg)
		Pb	Cd	Hg	Cr	Br	
13	Green cladding PCB board	BL	BL	BL	BL	IN	PBBs:ND PBDEs:ND
14	Solder	BL	BL	BL	BL	NA	NA
15	Blue plastic wire jacket	BL	BL	BL	BL	BL	NA

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**Note:**

- (1) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr<sup>6+</sup>) 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 ≤ (700-3σ) < IN < (1300+3σ) ≤ 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	BL ≤ (500-3σ) < IN
Br	BL ≤ (300-3σ) < IN	--	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, μg/cm<sup>2</sup>= Micrograms per square centimeter.
- (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 chemical testing.
- (7) MDL= Method Detection Limit in chemical test.

Test Items	Pb	Cd	Hg	Cr <sup>6+</sup>	PBB	PBDE
Units	mg/kg	mg/kg	mg/kg	mg/kg	μg/cm <sup>2</sup>	mg/kg
MDL	10	10	10	10	0.1	10

The MDL for single compound of PBBs and PBDEs is 10mg/kg, MDL of Cr<sup>6+</sup> for polymer and composite sample is 10mg/kg and MDL of Cr<sup>6+</sup> for metal sample is 0.1μg/cm<sup>2</sup>.

- (8) Requirement as per RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863

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 <sup>6+</sup> )	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 Cr<sup>6+</sup> on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.

Boiling water extraction:

Negative = Absence of Cr<sup>6+</sup> coating, the detected concentration in boiling water extraction solution is less than 0.10μg/cm<sup>2</sup>.



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Positive = Presence of Cr<sup>6+</sup> coating, the detected concentration in boiling water extraction solution is greater than 0.13μg/cm<sup>2</sup>.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr<sup>6+</sup> 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<sup>6+</sup>” denotes Hexavalent Chromium, “Br” denotes Bromine, “PBBs” denotes Total Polybrominated Biphenyls, “PBDEs” denotes Total Polybrominated Diphenyl Ethers.

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

Serial No.	Part No. (See Photograph of parts tested)	Result (mg/kg)			
		DIBP	DBP	BBP	DEHP
T01	1	ND	ND	ND	ND
T02	2+12 <sup>△</sup>	ND	ND	ND	ND
T03	3+4 <sup>△</sup>	ND	ND	ND	ND
T04	5+6+15 <sup>△</sup>	ND	ND	ND	ND
T05	8+13 <sup>△</sup>	ND	ND	ND	ND

### Note:

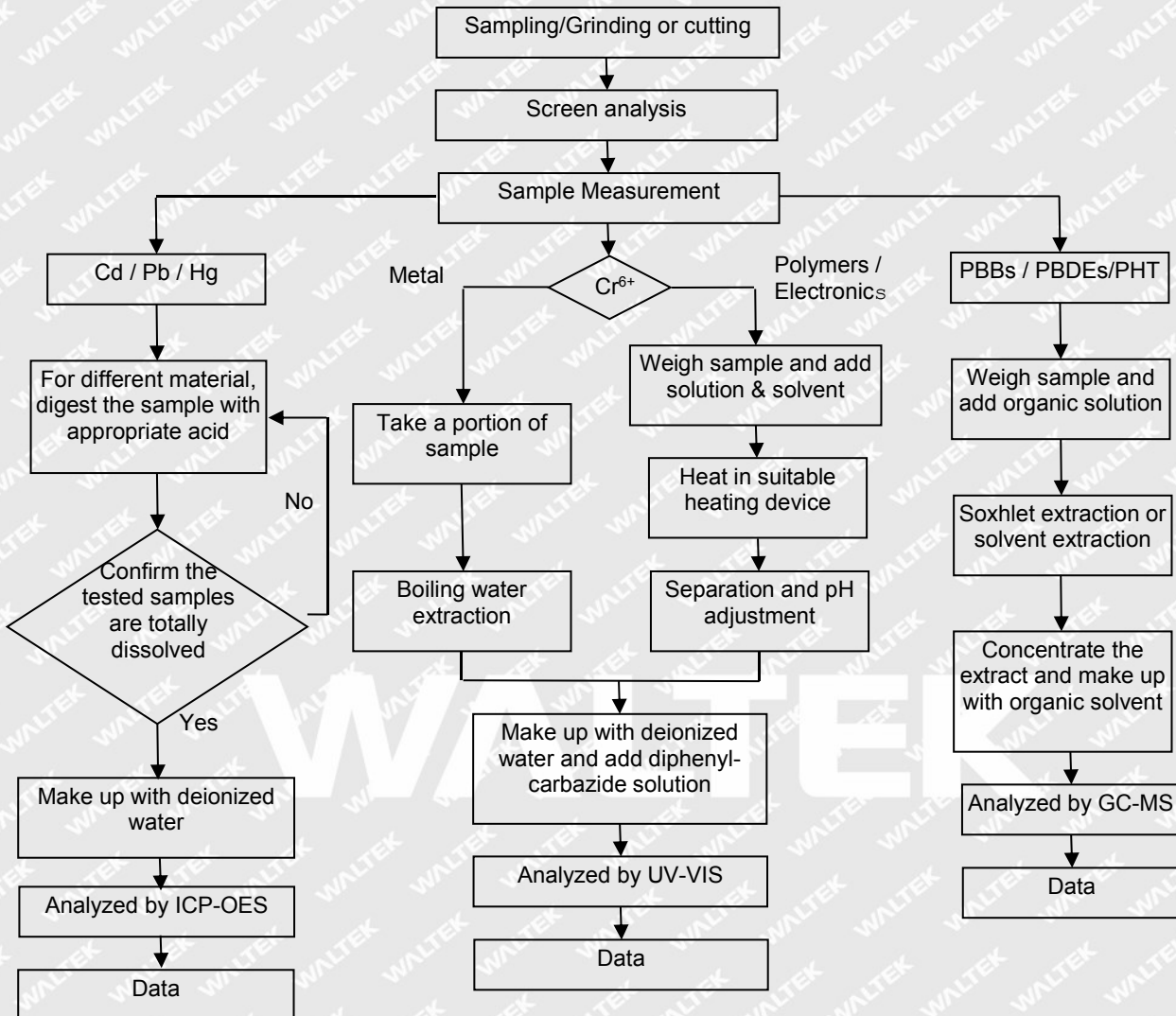
- (1) mg/kg = milligram per kilogram = ppm.
- (2) Requirement as per RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863

Test Item(s)	Limit (mg/kg)
Bis (2-ethylhexyl)- phthalate (DEHP)	1000
Dibutyl phthalate (DBP)	1000
Benzylbutyl phthalate (BBP)	1000
Diisobutyl phthalate (DIBP)	1000

- (3) Abbreviation:  
“DBP” denotes Dibutyl phthalate, “BBP” denotes Benzyl butyl phthalate (BBP), “DEHP” denotes Bis(2-ethylhexyl)-phthalate, “DIBP” denotes Diisobutyl phthalate, “PHT” denotes Phthalates.
- (4) Method Detection Limit (MDL) : 50mg/kg for each of phthalate.
- (5) “△”= As client’s requirement, the testing was conducted based on mixed components. Results are calculated by the minimum weight of mixed components.



Measurement Flow chart:







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**Sample Photo:**



**Photograph of parts tested :**





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Remarks:

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

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