

# Test Report

**Applicant: DONGGUAN LIDEA ELECTRONICS CO., LTD.**

**Address: Room 901, Building 2, No. 30 Fumin South Third Road, Baopi, Dalang Town, Dongguan City, Guangdong Province, P.R.China**

**Report on the submitted sample(s) said to be:**

Sample Name : Button Lithium-ion Cell

Sample Model : LIR1254、LIR640、LIR654、LIR7840、LIR7854、LIR840、LIR854、LIR940、LIR1040、LIR1045、LIR1054、LIR1140、LIR1154、LIR1240、LIR1254、LIR1454、LIR1654;  
LDA5254、LDA5840、LDA5853、LDA5854、LDA58100、LDA58135、LDA640、LDA650、LDA654、LDA65180、LDA740、LDA7840、LDA7854、LDA78100、LDA78130、LDA78150;  
LDA78200、LDA78220、LDA840、LDA854、LDA8558、LDA870、LDA940、LDA954、LDA9540、LDA1040、LDA1045、LDA1054、LDA1070、LDA1140、LDA1154、LDA11100;  
LDA1240、LDA1254、LDA12100、LDA1454、LDA1654、LIR1220、LIR1620、LIR1632、LIR2016、LIR2025、LIR2032、LIR2040、LIR2050、LIR2430、LIR2440、LIR2450、LIR2477、LIR3032、LIR3048

Trademark : N/A

Manufacturer : DONGGUAN LIDEA ELECTRONICS CO., LTD.

Address : Room 901, Building 2, No. 30 Fumin South Third Road, Baopi, Dalang Town, Dongguan City, Guangdong Province, P.R.China

Sample Received Date : Dec.13, 2024

Testing Period : Dec.16, 2024 to Dec. 25, 2024

Test Method : 1.Screening test method: IEC62321-3-1:2013/XRF  
2.Wet chemical test method  
Lead(Pb): IEC62321-5:2013/ICP-OES  
Cadmium(Cd): IEC62321-5:2013/ICP-OES  
Mercury(Hg): IEC62321-4:2013+A1: 2017/ICP-OES  
Hexavalent Chromium(CrVI): IEC62321-7-1:2015/UV-VIS and IEC62321-7-2:2017/UV-VIS  
Polybrominated Biphenyls (PBBs): IEC62321-6:2015 /GC-MS  
Polybrominated Biphenyl Ethers(PBDEs): IEC62321-6:2015 /GC-MS  
3. Phthalates: IEC62321-8:2017 /GC-MS

Test Results : Refer to the next page(s).

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Test Requested	Conclusion
{1}RoHS Directive 2011/65/EU Annex II – Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(CrVI), Polybrominated Biphenyls (PBBs), Polybrominated Biphenyl Ethers(PBDEs)	PASS
{2} RoHS Directive (EU)2015/863 amending Annex II - Dibutyl phthalate (DBP), Butyl benzyl phthalate(BBP), Bis-(2-ethylhexyl)phthalate(DEHP), Di-iso-butyl ortho-phthalate(DIBP)	PASS

Test by:



Inspected by :

May Chen

Approved by :

Date : Jan. 02, 2025

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## {1} Pb、Cd、Hg、CrVI、PBBs、PBDEs Test Results:

Part No.	Results	Cd	Pb	Hg	Cr <sup>6+</sup>	PBBs	PBDEs	Conclusion on RoHS
1	EDXRF	BL	BL	BL	BL	BL	BL	--
	Wet Chemical Testing	--	--	--	--	--	--	Comply

### Remark:

(a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr<sup>6+</sup>.

(b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for CrVI) 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	$BL \leq (70-3\sigma) < X < (130+30\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+30\sigma) \leq OL$	$LOD < X < (150+30\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+30\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+30\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1300+30\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+30\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+30\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1300+30\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	--	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(c) BL=Below Limit, OL=Over Limit, IN=Inconclusive, LOD=Limit of Detection,

(d) The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition

(e) mg/kg = ppm = 0.0001%, N.D. = not detected (<MDL), --- = not conducted

(f) Unit and Method Detection Limit (MDL) in wet chemical test:

Test Items	Pb	Cd	Hg
Units	mg/kg	mg/kg	mg/kg
MDL	2	2	2

The MDL for single compound of PBBs & PBDEs is 5 mg/kg and MDL of Cr<sup>6+</sup> for polymer & composite sample is 2 mg/kg.

(g) According to IEC 62321:2008, result on Cr<sup>6+</sup> for metal sample is shown as Positive/Negative. Positive = Presence of Cr<sup>6+</sup> coating, Negative = Absence of Cr<sup>6+</sup> coating.

## {2} Phthalates Test Results

Test Method: Refer to EN14372:2004 and use GC-MS to perform the test

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Test Item	CAS No.	Test Method / Instrument	MDL (%)	Limit (%)
Dibutyl phthalate (DBP)	84-74-2	IEC 62321-8:2017 / GC-MS	0.005	0.1
Butyl benzyl phthalate (BBP)	85-68-7	IEC 62321-8:2017 / GC-MS	0.005	0.1
Bis-(2-ethylhexyl)phthalate (DEHP)	117-81-7	IEC 62321-8:2017 / GC-MS	0.005	0.1
Di-iso-butyl ortho-phthalate (DIBP)	84-69-5	IEC 62321-8:2017 / GC-MS	0.005	0.1

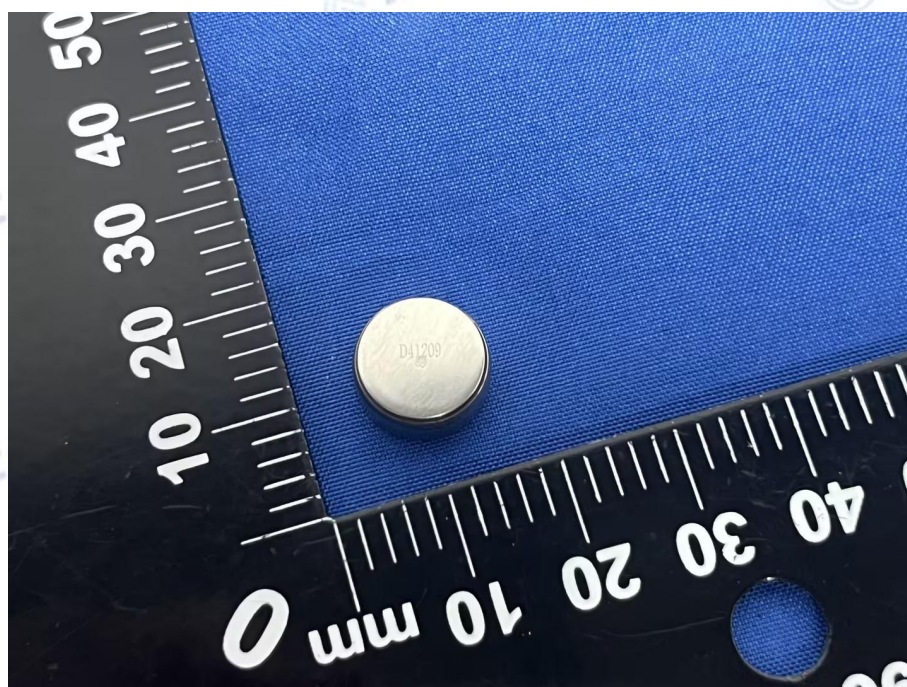
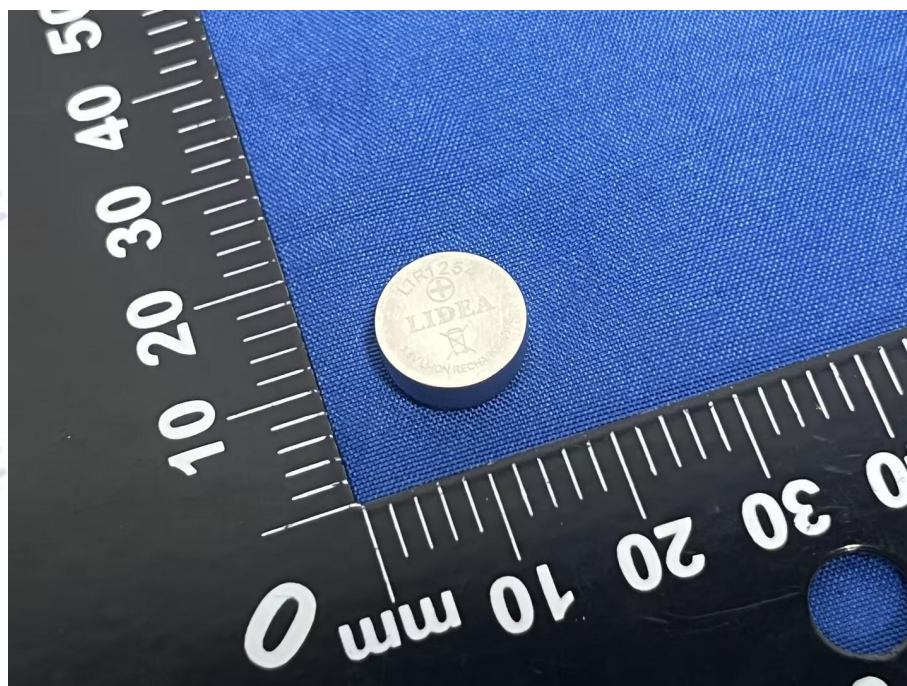
Test Item	Result (%)							
	1							
Dibutyl phthalate (DBP)	N.D							
Butyl benzyl phthalate(BBP)	N.D							
Bis-(2-ethylhexyl) phthalate (DEHP)	N.D							
Di-iso-butyl ortho-phthalate (DIBP)	N.D							

**Note:**

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) N.D. = Not Detected (less than MDL)
- (3) MDL = Method Detection Limit



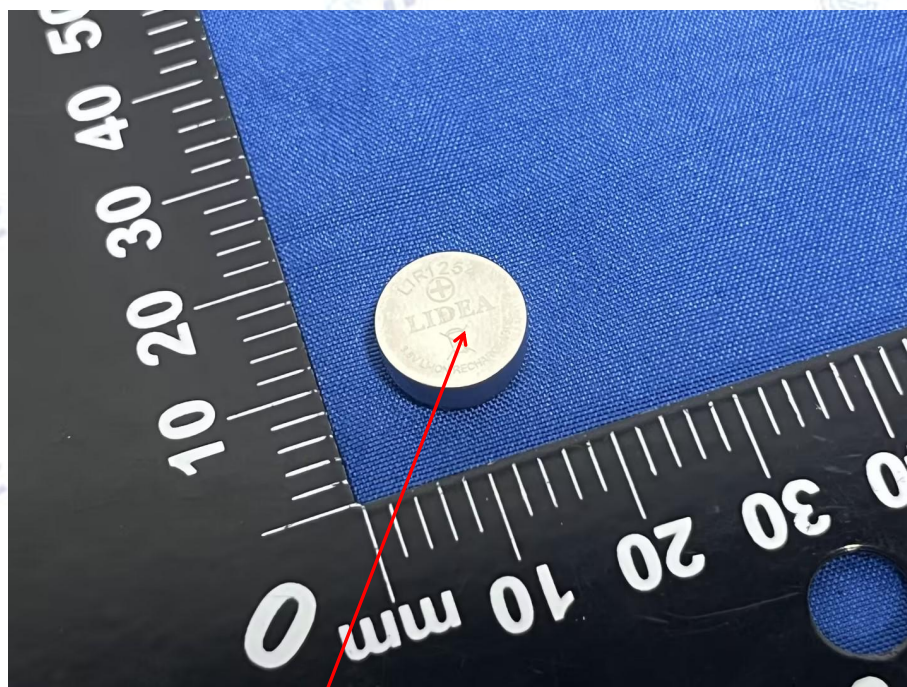
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Photo(s) of the sample(s)

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product



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\*\*\* End of Report \*\*\*

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