



仅限货机
CAO



NO.2119138886



货物运输条件鉴定书

Certification

for Safe Transport of Chemical Goods

危险品

样品名称：

鈕扣電池、鈕扣電池（不可充電）、鋰電池、鋰錳電池、鋰錳扣式電池、鋰二氧化錳扣式電池、二氧化錳鋰電池、鋰的原電池、原電池、鋰金屬電池、金屬電池芯、鋰錳扣式原電池、鈕扣式鋰電池、鈕扣電池組、鈕扣電池套裝DBV CR2032-帶線 3.0V 220~245mAh
LITHIUM MANGANESE DIOXIDE BATTERY DBV CR2032-with line 3.0V 220~245mAh

Sample name:

委托单位：

广立登股份有限公司
Double Best Corporation Limited

生产单位：

力佳电源科技（深圳）股份有限公司
POWER GLORY BATTERY TECH (SHENZHEN) CO., LTD.



上海化工院检测有限公司

Shanghai Research Institute of Chemical Industry Testing Co., Ltd



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样品名称 Sample name	中文 Chinese	鈕扣電池、鈕扣電池（不可充電）、鋰電池、鋰錳電池、鋰錳扣式電池、鋰二氧化錳扣式電池、二氧化錳鋰電池、鋰的原電池、原電池、鋰金屬電池、金屬電池芯、鋰錳扣式原電池、鈕扣式鋰電池、鈕扣電池組、鈕扣電池套裝DBV CR2032-帶線 3.0V 220~245mAh		
	英文 English	LITHIUM MANGANESE DIOXIDE BATTERY DBV CR2032-with line 3.0V 220~245mAh		
委托单位 Consignor		广立登股份有限公司 Double Best Corporation Limited		
生产单位 Manufacturer		力佳电源科技（深圳）股份有限公司 POWER GLORY BATTERY TECH (SHENZHEN) CO., LTD.		
检验方法、程序 Inspection method and procedure		国际航空运输协会《危险品规则》60版 IATA Dangerous Goods Regulations (DGR) 60th Edition		
样品外观 Sample appearance		黑色鈕扣狀塑料薄膜外壳 Black Button plastic film shell		
包装件信息 Package information		锂电池总净重≤2.5kg. Lithium batteries total net weight≤2.5kg.		
序号 NO.	电池种类 Battery type	型号 Model	容量Capacity / 锂含量Li content	放置方式 Placement
1	不可充电锂金属单电芯电池 Primary Li-metal single cell battery	CR2032	220~245mAh / ≤0.3g	电池单独运输 Battery only
鉴定结论 IDENTIFICATION CONCLUSION	1. 危险性识别 (Hazards identification) 杂项。 Miscellaneous.			
	2. 空运按照国际航空运输协会《危险品规则》办理的类型 (Suggestion according to IATA DGR) Shipping name: Lithium metal batteries Class or division: 9 UN Number: UN3090			
论	3. 包装要求 (Packaging requirements) 按包装说明968第IB部分要求办理。 The goods are packaged according to the Packaging Instruction 968 section IB.			
	仅限货机。 Cargo Aircraft Only.			
检验日期: Inspection Date:		2018-12-15	签发日期: Issue Date:	2018-12-15
			生效日期: Effective Date:	2019-01-01
备注 Comment		/		

批准
Approver:

张小明

审核
Checker:

花宇

主检
Appraiser: (30)

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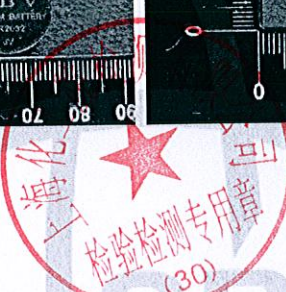
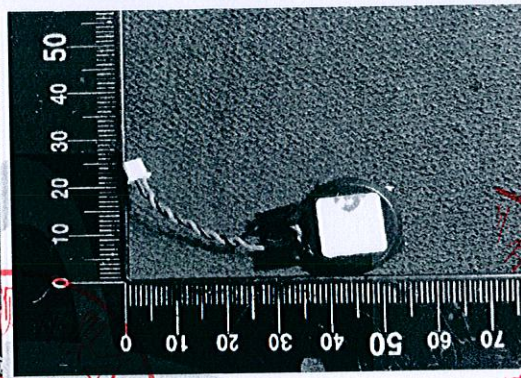
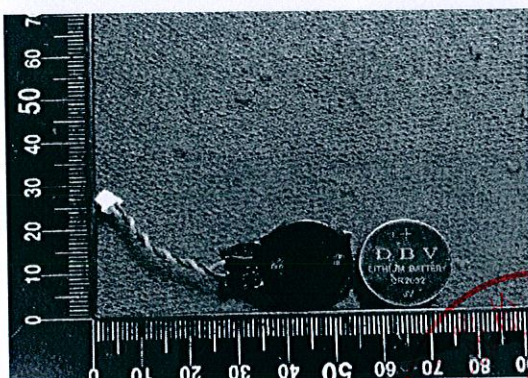
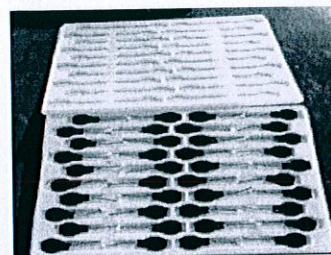
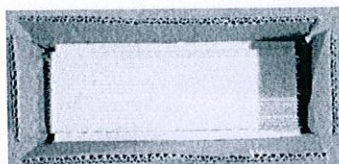
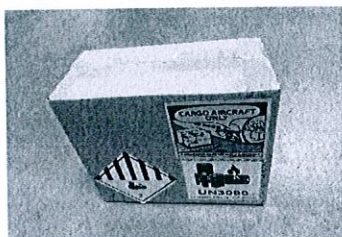
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序号 No.	检验结果及其他事项 Inspection results and other things
1	<p>本报告所述锂电池按照《危险品规则》(60版)[以下简称DGR] 3.9.2.6.1(e)规定的质量管理体系进行制造。</p> <p>本报告所述锂电池不属于因安全原因召回的锂电池。</p> <p>本报告所述锂电池不进行以回收或处置为目的的航空运输, 不属于废弃锂电池。</p> <p>Lithium cells and batteries listed in this report were manufactured under the quality management programme as described in IATA DGR 60th 3.9.2.6.1(e).</p> <p>Lithium cells and batteries listed in this report are not the defective cells or batteries returned to the manufacturer for safety reasons.</p> <p>Lithium cells and batteries listed in this report are not waste lithium cells or batteries, and they will not be shipped for recycling or disposal.</p>
2	<p>本报告所述锂电池已通过《联合国试验和标准手册》第III部分38.3小节相应测试要求。</p> <p>包装件能够承受1.2m跌落试验。</p> <p>Lithium cells and batteries listed in this report are of the types proven to meet the requirements of each applicable test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.</p> <p>The package has passed the 1.2m drop test.</p>
3	<p>锂电池完全封装在内包装内, 位于坚固的刚性外包装中。</p> <p>电池具有适当的防短路措施。</p> <p>Lithium cells and batteries are packed in inner packagings that completely enclose the cell or battery and placed in a strong rigid outer packaging.</p> <p>Cells and batteries are properly protected to prevent short circuits.</p>
4	<p>按DGR 1B部分托运的电池必须根据第8部分规定在托运人申报单中描述; 并且当使用航空货运单时, 货运单必须包含8.2.1和8.2.2中相关适用要求。</p> <p>Cells or batteries shipped under the provisions of Section 1B in IATA DGR must be described on a Shipper's Declaration as set out in Section 8, and the air waybill, when used, must contain the applicable information required by 8.2.1 and 8.2.2.</p>
5	<p>除使用9类锂电池危险性标签(DGR图7.3.X)外, 每个包装件必须按DGR图7.1.C所示做耐久清晰的标记。</p> <p>每个包装件必须按DGR 7.1.4.1(a)和(b)要求标记, 此外当7.1.4.1(c)有要求时还必须标明包装件净重。</p> <p>每个包装件必须贴有“仅限货机”标签(DGR图7.4.B)。</p> <p>Each package must be durably and legibly marked with the mark shown in Figure 7.1.C in IATA DGR in addition to the Class 9-Lithium Battery hazard label (Figure 7.3.X in IATA DGR).</p> <p>Each package must be marked in accordance with the requirements of 7.1.4.1(a) and (b) in IATA DGR and in addition the net weight when required by 7.1.4.1(c) must be marked on the package.</p> <p>Each package must be labelled with the "Cargo Aircraft Only" label (Figure 7.4.B in IATA DGR).</p>
6	<p>电池不得与第1类爆炸品(1.4S项除外), 2.1项易燃气体, 第3类易燃液体, 4.1项易燃固体或5.1项氧化性物质等危险品包装在同一外包装内。</p> <p>Cells and batteries must not be packed in the same outer packaging with dangerous goods classified in Class 1 (explosives) other than Division 1.4S, Division 2.1 (flammable gases), Class 3 (flammable liquids), Division 4.1 (flammable solids) or Division 5.1 (oxidizers).</p>
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报告结束



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货物运输条件鉴定书

Certification
for Safe Transport of Chemical Goods

锂电池类货物

样品名称：

鈕扣電池、鈕扣電池（不可充電）、鋰電池、鋰錳電池、鋰錳扣式電池、鋰二氧化錳扣式電池、二氧化錳鋰電池、鋰的原電池、原電池、鋰金屬電池、金屬電池芯、鋰錳扣式原電池、鈕扣式鋰電池、鈕扣電池組、鈕扣電池套裝DBV CR2032-帶線 3.0V 220~245mAh
LITHIUM MANGANESE DIOXIDE BATTERY DBV CR2032-with line 3.0V 220~245mAh

Sample name:

委托单位：

广立登股份有限公司
Double Best Corporation Limited

生产单位：

力佳电源科技（深圳）股份有限公司
POWER GLORY BATTERY TECH (SHENZHEN) CO., LTD.



上海化工院检测有限公司

Shanghai Research Institute of Chemical Industry Testing Co., Ltd



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样品名称 Sample name	中文 Chinese	鈕扣電池、鈕扣電池（不可充電）、鋰電池、鋰錳電池、鋰錳扣式電池、鋰二氧化錳扣式電池、二氧化錳鋰電池、鋰的原電池、原電池、鋰金屬電池、金屬電池芯、鋰錳扣式原電池、鈕扣式鋰電池、鈕扣電池組、鈕扣電池套裝DBV CR2032-帶線 3.0V 220~245mAh		
	英文 English	LITHIUM MANGANESE DIOXIDE BATTERY DBV CR2032-with line 3.0V 220~245mAh		
委托单位 Consignor		广立登股份有限公司 Double Best Corporation Limited		
生产单位 Manufacturer		力佳电源科技（深圳）股份有限公司 POWER GLORY BATTERY TECH (SHENZHEN) CO., LTD.		
检验方法、程序 Inspection method and procedure		国际海事组织《国际海运危险货物规则》(2016版) IMO International Maritime Dangerous Goods Code (2016 Edition)		
样品外观 Sample appearance		黑色鈕扣狀塑料薄膜外壳 Black Button plastic film shell		
包装件信息 Package information		重量≤30kg. Weight≤30kg.		
序号 NO.	电池种类 Battery type	型号 Model	容量Capacity / 鋰含量Li content	放置方式 Placement
1	不可充电鋰金屬单电芯電池 Primary Li-metal single cell battery	CR2032	220~245mAh / ≤0.3g	電池单独运输 Battery only
鉴定结论 IDENTIFICATION CONCLUSION	1. 危险性识别 (Hazards identification) 鋰金屬電池。 Lithium metal battery.			
	2. 海运按照国际海事组织《国际海运危险货物规则》办理的类项 (Suggestion according to IMO IMDG Code) 根据特殊规定188, 该物品不受IMO IMDG Code其他条款限制。 The article is not subject to other provisions of IMO IMDG Code according to special provision 188.			
鉴定结论 IDENTIFICATION CONCLUSION	3. 包装要求 (Packaging requirements) 无。 None.			
	<div style="display: flex; justify-content: space-between;"> <div> 检验日期: 2018-12-15 Inspection Date: 2018-12-15 </div> <div> 签发日期: 2018-12-15 Issue Date: 2018-12-15 </div> <div> 生效日期: 2019-01-01 Effective Date: 2019-01-01 </div> </div>			
备注 Comment		/		

批准
Approver: 张小明

审核
Checker: 范安

主检
Appraiser: 马卓 (30)



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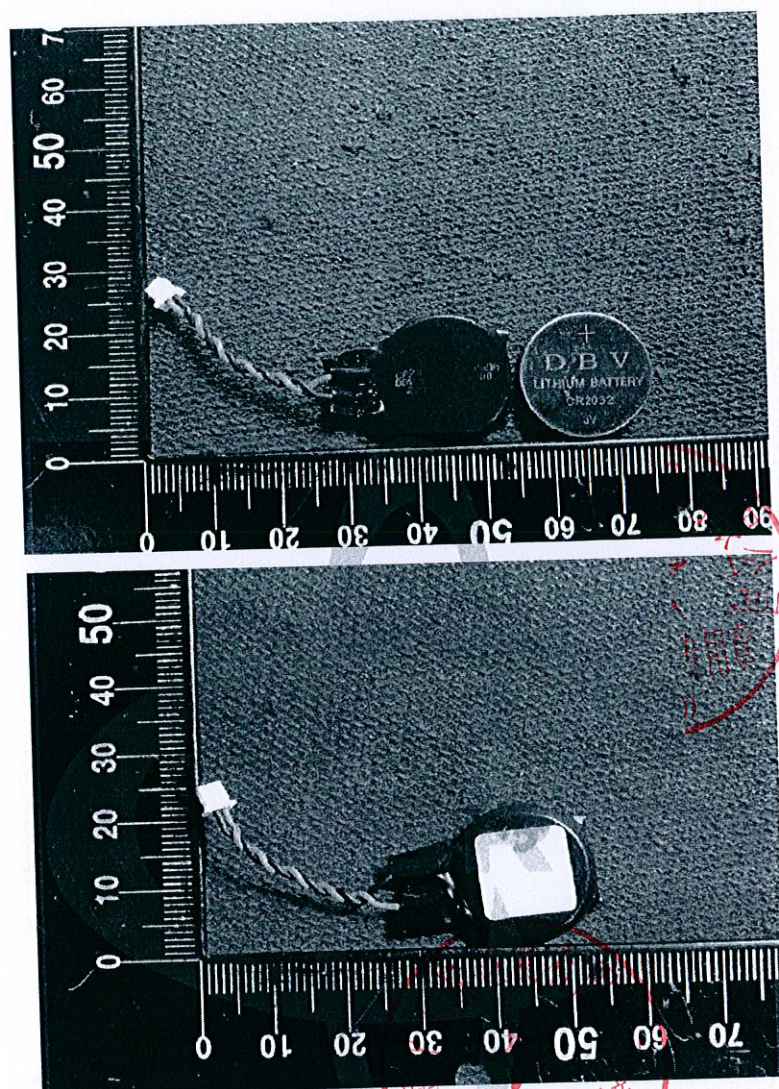
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序号 No.	检验结果及其他事项 Inspection results and other things
1	本报告所述锂电池按照《国际海运危险货物规则》(2016版) 2.9.4.5规定的质量管理体系进行制造。 Lithium cells and batteries listed in this report were manufactured under the quality management programme as described in IMDG CODE 2016 EDITION 2.9.4.5 .
2	本报告所述锂电池已通过《联合国试验和标准手册》第III部分38.3小节相应测试要求。 包装件能够承受1.2m跌落试验。 Lithium cells and batteries listed in this report are of the types proven to meet the requirements of each applicable test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3. The package has passed the 1.2m drop test.
3	锂电池完全封装在内包装内, 位于坚固的外包装中。 Lithium cells and batteries are packed in inner packagings that completely enclose the cell or battery and placed in a strong outer packaging.
4	电池具有适当的防短路措施。 Cells and batteries are properly protected to prevent short circuits.
5	每个包装件必须标示恰当的锂电池标记。 Each package shall be marked with the appropriate lithium battery mark.
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报告结束

DBV Batteries

MATERIAL SAFETY DATA SHEET

The batteries are exempt articles and are not subject to the OSHA Hazard Communication Standard Requirement. This sheet is provided as technical information only. The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. However, DBV makes no warranty expressed or Implied.

Section 1-Product and Company Identification

Product Name: Lithium Manganese Dioxide Batteries		CHEMICAL SYSTEM: Lithium Manganese Dioxide	Volts: 3 V
Size: CR2032	Trade Mark: DBV		Approximate Weight: 3.2 g
Designed for Recharge: NO		Date of preparation: Jan 01 2021	
Company: Double Best Corporation Limited			Telephone Numbers: 886-(02)-8751-9188
Address (Number, Street, City, State, and ZIP Code): 5F.,No.37,Ln.221,Gangqian Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C)			Fax Numbers: 886-(02)-8751-8387

Section 2- Composition/Information on Ingredients

Ingredient	CAS NO.	Content (wt%)
Lithium	7439-93-2	2.0 (0.064 gram)
Propylene Carbonate	108-32-7	6.1
Manganese dioxide	1313-13-9	29.0
1,2-Dimethoxyethane	110-71-4	4.2
Lithium trifluoromethanesulfonate	33454-82-9	0.9
Graphite	7782-42-5、1333-86-4	3.4
Polypropylene	9003-07-0	4.1
Teflon	9002-84-0	0.3
Stainless steel	7439-89-6	50.0

DBV Batteries

Section 3 – Hazards Identification

This contains lithium, organic solvent, and other combustible materials. For this reason, Improper handling of the battery could lead to distortion, leakage*, overheating, explosion of fire and cause human injury or equipment trouble. Please strictly observe safety instruction.

(*Leakage is defined as an unintended escape of liquid from a battery.)

Section 4 – First Aid Measures

None unless internal materials exposure. If contents are leaked out, observe following Instructions

Inhalation	Fumes can cause respiratory irritation . Remove to fresh air and consult a physician.
Skin	Immediately flush skin plenty of water. If itch or irritation by chemical burn persists, consult a physician.
Eyes	Immediately flush eye with plenty of water for at least 15 minutes. Consult a physician immediately
Ingestion	If swallowing a battery, consult a physician immediately. If contents come into mouth, immediately rinse by plenty of water and consult a physician.

Section 5-Fire Fighting Measures

Extinguishing Media Extinguisher of alkaline metal fire is effective.
Plenty of cold water is also effective to cool the surrounding area and control the spread fire. But hydrogen gas may be evolved by the reaction of water and lithium and it can form an explosive mixture. Therefore in the case that lots of lithium batteries are burning in a confined space ,use a smothering agent.

Fire fighting procedure Use self-contained breathing apparatus and full protective gear not to inhale harmful gas .

Section 6-Accidental Release Measures

Accidental Releases: Do not breathe vapors or touch liquid with bare hands (see section 4).

Waste Disposal Methods: Evacuate area. If possible, a trained person should attempt to stop or contain the leak by neutralizing spill with soda lime or baking soda. A NIOSH Approved Acid Gas Filter Mask or Self-Contained Breathing Apparatus should be worn. Seal leaking battery and soda lime or baking soda in a plastic bag and dispose of as hazardous waste.

Other: Follow North American Emergency Response Guide (NAERG)#138 for cells involved in an accident, cells that have vented, or have exploded.

Section 7-Handling and Storage

1) Handling

Never swallow. Never reverse the positive and negative terminals when mounting . Never short-circuit the battery. Never heat. Never expose to open flame. Never disassemble. Never weld the terminal or wire to the body of the battery directly. Never touch the liquid leaked out of battery. Never bring fire close to battery liquid. Never keep in touch with battery.

2) Storage

Never let the battery contact with water. Never store the battery in hot and high humid place. Don't push the battery excessively and destroy the battery packaging, often wet and ventilating the dry place to keep in the normal atmospheric temperature, find the unusual battery is dealt with in time

DBV Batteries

Section 8 – Exposure Controls, Personal Protection

Respiratory Protection		NA
Ventilation	Local Exhaust	NA
	Mechanical	NA
	Special	NA
	Other	NA
Eye Protection		NA
Protective Gloves		NA
Other protective clothing		NA

Section 9 – Physical/Chemical Characteristics

State of matter: Solid state

Form: Button type

Color: True quality of stainless steel

Smell: Tasteless (At the time of the fullness)

Resolve temperature: NA

Spontaneous combustion temperature: NA

Explosion demarcation line: Higher than 170 degrees Centigrade of batteries will be burnt

To the density (Water =1): NA

Dissolving: NA

Boiling Point:	1,2-Dimethoxyethane : 83 °C
Vapor Pressure:	1,2-Dimethoxyethane :6.40(20 °C)
Vapor Density:	1,2-Dimethoxyethane : 3.11
Solubility in Water:	1,2-Dimethoxyethane : :diffluence contact with water
Specific Gravity:	1,2-Dimethoxyethane :1.63
Melting Point:	1,2-Dimethoxyethane :-67 °C
Evaporation Rate:	N/A
Water Reactive:	1,2-Dimethoxyethane : :diffluence contact with water
Appearance & Odor:	1,2-Dimethoxyethane : achromatism liquid; slight aether odor.

Section 10 – Stability and Reactivity

Stability	Stable
Incompatibility	Water
Hazardous polymerization	Will not occur.
Condition to avoid	See section 7.
Hazardous Decomposition or Byproducts	Hydrogen

DBV Batteries

Section 11 – Toxicological Information

Acute Toxicity:

1,2-Dimethoxyethane:

LC₅₀ (Inhalation): N/A

LD₅₀: N/A

Eye Effects: Corrosive

Skin Effects: Corrosive

Section 12 – Ecological Information

Aquatic Toxicity: Do not let internal components enter marine environments. Avoid releases into waterways, wastewater or groundwater.

Section 13 – Disposal condition

The battery may be regulated by national or local regulation. Please follow the instructions of Proper regulation. As electric capacity is left in a discarded battery and it comes into contact With other metals, it could lead to distortion, leakage, overheating, or explosion, so make sure to cover the (+) and (-) terminals with friction tape or some other insulator before disposal.

Section 14 – Transportation Information

Lithium battery model CR2032 is considered as “Dangerous Goods” cargo because they complied with IATA Dangerous Goods Regulations 62nd Edition of 2021 & Section IB of Packing Instruction PI 968.

Shipping Name Lithium Metal Batteries

UN Number UN3090

Hazard Classification Class 9 (Miscellaneous)

Organizations governing the transport of lithium batteries

Area	Method	Organization	Special Provision
International	Air	IATA, ICAO	Packing Instruction PI968~970
International	Water	IMO	188 & 230
U.S.A	Air, Rail, Highway, Water	DOT	49 CFR Section 173.185

These regulations are based on the UN Recommendations . Each special provision provides specifications on exceptions and packaging for shipping lithium batteries. All the Lithium metal cells of DBV comply in all respects can be shipped as “ Dangerous Goods” cargo in accordance with IATA Dangerous Goods Regulations 62nd Edition & Section IB of Packing Instruction PI 968

If all of following 3 requirements are satisfied, lithium metal batteries can be transported as “Dangerous Goods” cargo.

1) Lithium weight or equivalent lithium content must be less than value in table.

Contents	Lithium metal cells and/or batteries with a lithium content not more than 0.3 g	Lithium metal cells and/or batteries with a lithium content greater than 0.3 g but not more than 1 g	Lithium metal cells and/or batteries with a lithium content greater than 1 g but not more than 2 g
Maximum number of cells / batteries per package	No limit	8 pieces per carton	2 pieces per carton

DBV Batteries

Maximum net quantity (mass) per package	2.5 Kg	N/A	N/A
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Equivalent lithium content (g) is calculated as 0.3 (g/Ah) times the rated capacity (Ah) .

- 2) Each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part V, section 38.3 Cells
- 3) Section II of Packing Instruction PI 968:
 - a) Be marked to indicate that it contains lithium metal cells & batteries, and that special procedures be followed in the event that the package is damaged.
 - b) Each package must be labeled with a lithium battery handling label.
 - c) Be accompanied by a shipping paper explaining that the cells and batteries are excepted from regulations.
 - d) Packaging requirement following to above 1) Lithium weight or equivalent lithium content must be less than value in table.
 - e) Be capable of withstanding a 1.2m drop test in any orientation without shifting of the contents that would allow short-circuiting, and without release of package contents.

Because the consignor has to take the responsibility, the customer has to confirm the exception conditions when shipping.

Section 15-Regulatory Information

EC Labeling: None

Risk Phrases: None

Safety Phrases: None

Labeling is not required because batteries are classified as “articles” under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.

Section 16-Other Information

If you want further information, please contact:

FAE

Paul Wang

Double Best Corporation Limited

5F.,No.37,Ln.221,Gangqian Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C)

Tel: +886-2-8751-9188 Fax: +886-8751-8387

Last data revised 2021.01.01



Report No.:
报告编号: 20130101031

检 验 报 告

TEST REPORT

NAME OF SAMPLE: LITHIUM MANGANESE DIOXIDE BATTERY
产品名称: 锂-二氧化锰电池

CLIENT: Double Best Corporation Limited

委托单位: 广立登股份有限公司

CLASSIFICATION OF TEST: Commission test
检验类别: 委托检测

广州邦禾检测技术有限公司

Guangzhou MCM Certification and Testing Co., Ltd



Applicant information 申请资料	
Name of samples 样品名称	LITHIUM MANGANESE DIOXIDE BATTERY 锂-二氧化锰电池
Type/ Model 型号规格	CR2032 3.0V 220mAh
Lithium metal content 锂金属含量	0.064g
Trade mark 商标	DBV
Commission by 委托单位	Double Best Corporation Limited 广立登股份有限公司
Commissioner address 委托单位地址	7F., No.49, Ln.35, Jihu Rd., Neihu Dist, Taipei City 114, Taiwan 台北市基湖路 35 巷 49 號 7 樓
Manufacturer 制造商	POWER GLORY BATTERY TECH (SHENZHEN) CO.,LTD. 力佳电源科技(深圳)有限公司
Manufacturer address 制造商地址	GONGMING INDUSTRIAL ZONE, DONG KENG VILLAGE, GONGMING TOWN, SHENZHEN CHINA 深圳市公明镇东坑村东坑工业区
Factory 生产厂	POWER GLORY BATTERY TECH (SHENZHEN) CO.,LTD. 力佳电源科技(深圳)有限公司
Factory address 生产厂地址	GONGMING INDUSTRIAL ZONE, DONG KENG VILLAGE, GONGMING TOWN, SHENZHEN CHINA 深圳市公明镇东坑村东坑工业区
Appearance 样品外观颜色	—
Sample status 样品状态	Good 完好
Package of goods 样品外包装	k3k
Quantity of sample 样品数量	40pcs
Sample identification 样品标识序号	c1#~c40#
Receiving date 接样日期	2012.12.28
Completing date 测试完成日期	2013.02.20

Test Conclusion

测试结论

No. 序号	Name of test 测试项目名称	Testing standard 测试标准	Test result 测试结果	conclusion 本项结论	Remarks 备注
1	Altitude simulation 高度模拟	UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.5,amend1, 38.3. 联合国《关于危险货物运输的建议书试验和标准手册》ST/SG/AC.10/11/ Rev.5,amend1, 38.3.	See Appendix 1 见附表 1	Passed 合格	/
2	Thermal test 温度试验		See Appendix 2 见附表 2	Passed 合格	/
3	Vibration 振动		See Appendix 3 见附表 3	Passed 合格	/
4	Shock 冲击		See Appendix 4 见附表 4	Passed 合格	/
5	External Short-circuit 外部短路		See Appendix 5 见附表 5	Passed 合格	/
6	Impact 撞击		/	/	N/A 不适用
	Crush 挤压		See Appendix 6 见附表 6	Passed 合格	/
7	Overcharge 过度充电		/	/	N/A 不适用
8	Forced discharge 强制放电		See Appendix 7 见附表 7	Passed 合格	/
9	Drop test 跌落测试	Dangerous Goods Regulation of IATA 54th 国际航空运输协会危险物品规则：54th	See Appendix 8 见附表 8	Passed 合格	/

Conclusion/结论：

The LITHIUM MANGANESE DIOXIDE BATTERY submitted by Double Best Corporation Limited has passed the test items of UNITED NATIONS "Recommendations on the Transport of Dangerous Goods, Manual of Test and Criteria ST/SG/AC, 10/11/Rev.5 amend1, 38.3. The package has passed the test of packing instructions 968 of 54th DGR manual of IATA.

由广立登股份有限公司送检的锂-二氧化锰电池符合联合国《关于危险品货物运输的建议书 试验和标准手册》ST/SG/AC, 10/11/Rev.5 amend1, 38.3 的要求。包装件符合 IATA 第 54 版 DGR 手册包装说明 968 的要求。

Seal/公章:

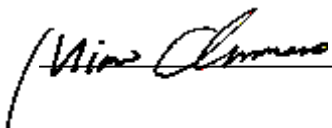
Date of issue/日期: Feb.21,2013

Approved : Miao Chunmao

Reviewed : Xu Hongbin

Tested : Fu Ziwen

批准:



审核:



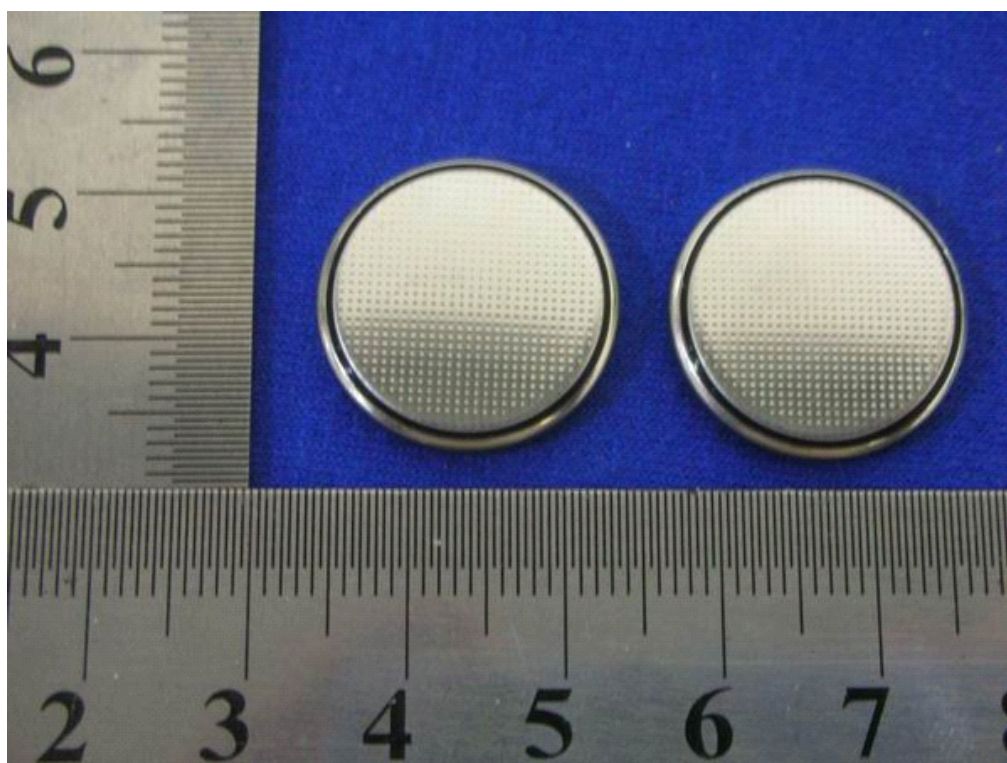
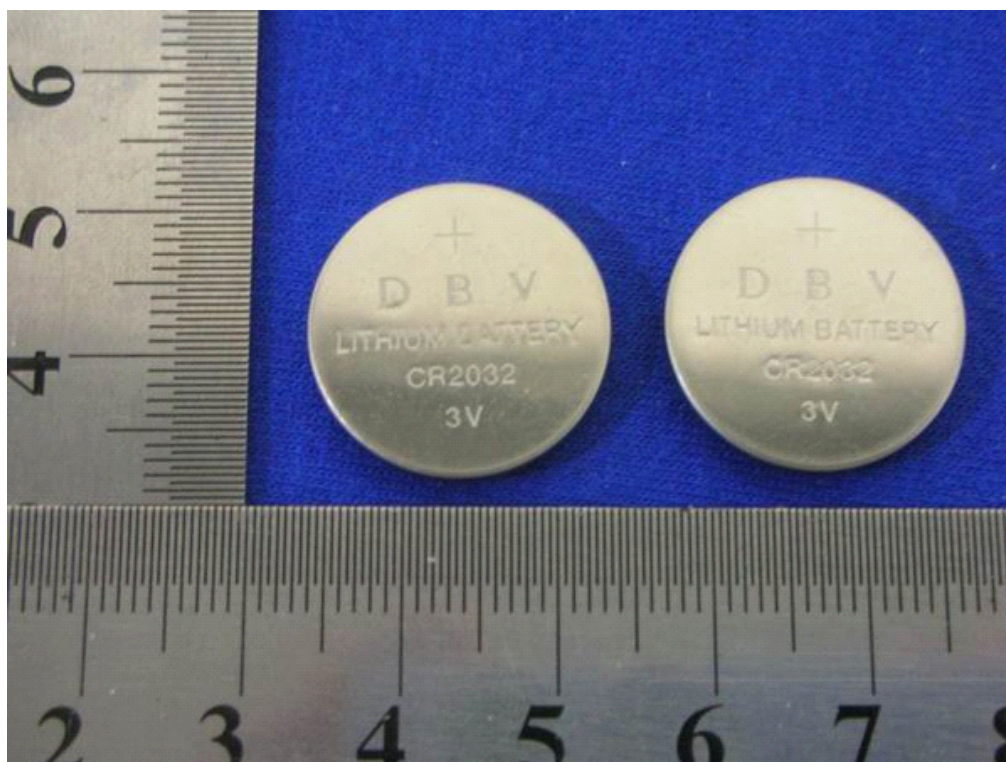
测试:



Photos of samples and markings

样品及标识照片

Battery (CR2032 3.0V 220mAh)



Packing photos and markings**包装照片及标识****drop test (before test)****after test**

Appendix 1

附表 1

Test Items 测试项目	Altitude simulation 高度模拟						
1,1	Test procedure 测试步骤						
	Test cells and batteries shall be stored at a pressure of 11,6kPa or less for at least six hour at ambient temperature (20±5℃). 试验电池芯和电池在环境温度 (20±5℃) 下, 储存在小于等于 11, 6kPa 的压力下至少六小时。						
1,2	Sample status 样品状态						
	The conditions of primary cells of sample No. c1# to c10# are in un-discharged state. c1#到 c10#在未放电状态。 The conditions of primary cells of sample No. c11# to c20# are in fully discharged state. c11#到 c20#在完全放电状态。						
1,3	Result 测试结果						
Sample No. 样品编号	Before 测试前		After 测试后		Mass loss 质量损失 (%)	Residual OCV 剩余电压 (%)	Test result 测试结果
	Mass 样品质量 (g)	Voltage 开路电压 (V)	Mass 样品质量 (g)	Voltage 开路电压 (V)			
C1#	3,066	3,254	3,066	3,254	0,000	100,00	○
C2#	3,104	3,249	3,104	3,249	0,000	100,00	○
C3#	3,119	3,257	3,119	3,257	0,000	100,00	○
C4#	3,096	3,260	3,095	3,260	0,032	100,00	○
C5#	3,109	3,259	3,109	3,259	0,000	100,00	○
C6#	3,104	3,255	3,104	3,255	0,000	100,00	○
C7#	3,122	3,256	3,122	3,256	0,000	100,00	○
C8#	3,120	3,259	3,120	3,259	0,000	100,00	○
C9#	3,101	3,256	3,100	3,256	0,032	100,00	○
C10#	3,122	3,251	3,121	3,251	0,032	100,00	○
C11#	3,077	/	3,076	/	0,032	/	○
C12#	3,107	/	3,107	/	0,000	/	○
C13#	3,112	/	3,112	/	0,000	/	○
C14#	3,119	/	3,118	/	0,032	/	○

C15#	3,111	/	3,111	/	0,000	/	O
C16#	3,097	/	3,097	/	0,000	/	O
C17#	3,116	/	3,116	/	0,000	/	O
C18#	3,081	/	3,080	/	0,032	/	O
C19#	3,105	/	3,105	/	0,000	/	O
C20#	3,117	/	3,117	/	0,000	/	O

Note: **L**-Leakage, **V**-Venting, **D** -Disassembly, **R** -Rupture, **F**-Fire, **O**-No leakage, no venting, no disassembly, no rupture, no fire.

注: L- 泄漏; V- 排气; D- 解体; R- 破裂; F- 起火; O- 无泄漏、无排气、无解体、无破裂、无起火。

Appendix 2

附表 2

Test Items 测试项目	Thermal test 温度测试						
1,1	Test procedure 测试步骤						
	<p>Test cells and batteries are to be stored for at least six hours at a test temperature equal to $72\pm 2^{\circ}\text{C}$, followed by storage for at least six hours at a test temperature equal to $-40\pm 2^{\circ}\text{C}$. The maximum time interval between test temperature extremes is 30 minutes. This procedure is to be repeated until 10 total cycles are complete, after which all test cells and batteries are to be stored for 24 hours at ambient temperature ($20\pm 5^{\circ}\text{C}$).</p> <p>将电芯和电池在温度为 $72\pm 2^{\circ}\text{C}$ 的条件下贮存不少于 6 个小时, 然后, 在温度 $-40\pm 2^{\circ}\text{C}$ 条件下贮存不少于 6 个小时, 两个温度间的间隔最长为 30min, 重复操作上述步骤直到 10 次, 然后, 将其在环境温度为 $20\pm 5^{\circ}\text{C}$ 的条件下放置 24 个小时。</p>						
1,2	Sample status 样品状态						
	<p>The conditions of primary cells of sample No. c1# to c10# are in un-discharged state. c1#到 c10#在未放电状态。</p> <p>The conditions of primary cells of sample No. c11# to c20# are in fully discharged state. c11#到 c20#在完全放电状态。</p>						
1,3	Result 测试结果						
Sample No. 样品编号	Before 测试前		After 测试后		Mass loss 质量损失 (%)	Residual OCV 剩余电压 (%)	Test result 测试结果
	Mass 样品质量 (g)	Voltage 开路电压 (V)	Mass 样品质量 (g)	Voltage 开路电压 (V)			
C1#	3,066	3,254	3,067	3,289	-0,033	101,08	○
C2#	3,104	3,249	3,104	3,304	0,000	101,69	○
C3#	3,119	3,257	3,117	3,301	0,064	101,35	○
C4#	3,095	3,260	3,096	3,311	-0,032	101,56	○
C5#	3,109	3,259	3,108	3,278	0,032	100,58	○
C6#	3,104	3,255	3,101	3,312	0,097	101,75	○
C7#	3,122	3,256	3,119	3,308	0,096	101,60	○
C8#	3,120	3,259	3,117	3,297	0,096	101,17	○
C9#	3,100	3,256	3,100	3,300	0,000	101,35	○
C10#	3,121	3,251	3,120	3,306	0,032	101,69	○
C11#	3,076	/	3,075	/	0,033	/	○
C12#	3,107	/	3,107	/	0,000	/	○

C13#	3,112	/	3,110	/	0,064	/	O
C14#	3,118	/	3,118	/	0,00	/	O
C15#	3,111	/	3,110	/	0,032	/	O
C16#	3,097	/	3,096	/	0,032	/	O
C17#	3,116	/	3,115	/	0,032	/	O
C18#	3,080	/	3,080	/	0,00	/	O
C19#	3,105	/	3,103	/	0,064	/	O
C20#	3,117	/	3,115	/	0,096	/	O

Note: **L**-Leakage, **V**-Venting, **D** -Disassembly, **R** -Rupture, **F**-Fire, **O**-No leakage, no venting, no disassembly, no rupture, no fire.

注: L- 泄漏; V- 排气; D- 解体; R- 破裂; F- 起火; O- 无泄漏、无排气、无解体、无破裂、无起火。

Appendix 3

附表 3

Test Items 测试项目	Vibration 振动						
1,1	Test procedure 测试步骤						
	<p>Cells and batteries are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration, The vibration shall be a sinusoidal wave form with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes, This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting position of the cell.</p> <p>将电芯和电池牢固地安装在振动台的台面上，然后开始振动。振动以正弦波形式，以 7Hz 增加至 200Hz，然后再减少回到 7Hz 为一个循环，一个循环持续 15 分钟的对数扫频。每个电芯和电池从三个互相垂直的方向上循环 12 次，3 个小时。</p>						
1,2	Sample status 样品状态						
	<p>The conditions of primary cells of sample No. c1# to c10# are in un-discharged state. c1#到 c10#在未放电状态。</p> <p>The conditions of primary cells of sample No. c11# to c20# are in fully discharged state. c11#到 c20#在完全放电状态。</p>						
1,3	Result 测试结果						
Sample No. 样品编号	Before 测试前		After 测试后		Mass loss 质量损失 (%)	Residual OCV 剩余电压 (%)	Test result 测试结果
	Mass 样品质量 (g)	Voltage 开路电压 (V)	Mass 样品质量 (g)	Voltage 开路电压 (V)			
C1#	3,067	3,289	3,067	3,289	0,000	100,00	○
C2#	3,104	3,304	3,104	3,303	0,000	99,97	○
C3#	3,117	3,301	3,115	3,300	0,064	99,97	○
C4#	3,096	3,311	3,096	3,311	0,000	100,00	○
C5#	3,108	3,278	3,108	3,277	0,000	99,97	○
C6#	3,101	3,312	3,101	3,312	0,000	100,00	○
C7#	3,119	3,308	3,119	3,308	0,000	100,00	○
C8#	3,117	3,297	3,115	3,297	0,064	100,00	○
C9#	3,100	3,300	3,100	3,300	0,000	100,00	○
C10#	3,120	3,306	3,120	3,305	0,000	99,97	○
C11#	3,075	/	3,073	/	0,064	/	○

C12#	3,107	/	3,107	/	0,000	/	O
C13#	3,110	/	3,108	/	0,064	/	O
C14#	3,118	/	3,118	/	0,000	/	O
C15#	3,110	/	3,110	/	0,000	/	O
C16#	3,096	/	3,095	/	0,032	/	O
C17#	3,115	/	3,115	/	0,000	/	O
C18#	3,080	/	3,080	/	0,000	/	O
C19#	3,103	/	3,103	/	0,000	/	O
C20#	3,115	/	3,115	/	0,000	/	O

Note: **L**-Leakage, **V**-Venting, **D** -Disassembly, **R** -Rupture, **F**-Fire, **O**-No leakage, no venting, no disassembly, no rupture, no fire.

注: L- 泄漏; V- 排气; D- 解体; R- 破裂; F- 起火; O- 无泄漏、无排气、无解体、无破裂、无起火。

Appendix 4

附表 4

Test Items 测试项目	Shock 冲击						
1,1	Test procedure 测试步骤						
	<p>Test cells and batteries shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each battery, Each cell or battery shall be subjected to a half-sine shock of peak acceleration of 150gn and pulse duration of 6 milliseconds, Each cell or battery shall be subjected to three shocks in the positive direction followed by three shocks in the negative direction of three mutually perpendicular mounting positions of the cell or battery for a total of 18 shocks.</p> <p>以稳固的托架固定住每个电芯和电池样品的全部配件表面。对每个电芯或电池以峰值为 150gn 的半正弦的加速度撞击，脉冲持续 6 毫秒。按三个互相垂直轴向分别对其正负极各碰撞三次，每个电芯或电池碰撞总次数为 18 次。</p>						
1,2	Sample status 样品状态						
	<p>The conditions of primary cells of sample No. c1# to c10# are in un-discharged state. c1#到 c10#在未放电状态。</p> <p>The conditions of primary cells of sample No. c11# to c20# are in fully discharged state. c11#到 c20#在完全放电状态。</p>						
1,3	Result 测试结果						
Sample No. 样品编号	Before 测试前		After 测试后		Mass loss 质量损失 (%)	Residual OCV 剩余电压 (%)	Test result 测试结果
	Mass 样品质量 (g)	Voltage 开路电压 (V)	Mass 样品质量 (g)	Voltage 开路电压 (V)			
C1#	3,067	3,289	3,067	3,288	0,000	99,97	○
C2#	3,104	3,303	3,104	3,303	0,000	100,00	○
C3#	3,115	3,300	3,115	3,300	0,000	100,00	○
C4#	3,096	3,311	3,096	3,309	0,000	99,94	○
C5#	3,108	3,277	3,108	3,277	0,000	100,00	○
C6#	3,101	3,312	3,100	3,312	0,032	100,00	○
C7#	3,119	3,308	3,119	3,307	0,000	99,97	○
C8#	3,115	3,297	3,115	3,297	0,000	100,00	○
C9#	3,100	3,300	3,100	3,300	0,000	100,00	○
C10#	3,120	3,305	3,120	3,304	0,000	99,97	○
C11#	3,073	/	3,072	/	0,033	/	○

C12#	3,107	/	3,107	/	0,000	/	O
C13#	3,108	/	3,108	/	0,000	/	O
C14#	3,118	/	3,118	/	0,000	/	O
C15#	3,110	/	3,110	/	0,000	/	O
C16#	3,095	/	3,094	/	0,032	/	O
C17#	3,115	/	3,115	/	0,000	/	O
C18#	3,080	/	3,080	/	0,000	/	O
C19#	3,103	/	3,103	/	0,000	/	O
C20#	3,115	/	3,115	/	0,000	/	O

Note: **L**-Leakage, **V**-Venting, **D**-Disassembly, **R**-Rupture, **F**-Fire, **O**-No leakage, no venting, no disassembly, no rupture, no fire.

注: L- 泄漏; V- 排气; D- 解体; R- 破裂; F- 起火; O- 无泄漏、无排气、无解体、无破裂、无起火。

Appendix 5

附表 5

Test Items 测试项目	External short circuit 外部短路				
1,1	Test procedure 测试步骤				
	<p>The cell or battery to be tested shall be temperature stabilized so that its external case temperature reaches $55\pm 2^{\circ}\text{C}$ and then the cell or battery shall be subjected to a short circuit condition with a total external resistance of less than 0,1 ohm at $55\pm 2^{\circ}\text{C}$. This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to $55\pm 2^{\circ}\text{C}$, the cell or battery must be observed for a further six hour for the test to be concluded.</p> <p>保持试验环境温度稳定在 $55\pm 2^{\circ}\text{C}$，以使电芯或电池样品外表温度达到 $55\pm 2^{\circ}\text{C}$，然后，在此温度下，将其正负极用小于 0,1 欧姆的线路短接，待电芯或电池的外表温度恢复到 $55\pm 2^{\circ}\text{C}$ 之后再持续 1 小时以上，对电芯或电池必须进一步观察 6 个小时才能下结论。</p>				
1,2	Sample status 样品状态				
	<p>The conditions of primary cells of sample No. c1# to c10# are in un-discharged state. c1#到 c10#在未放电状态。</p> <p>The conditions of primary cells of sample No. c11# to c20# are in fully discharged state. c11#到 c20#在完全放电状态。</p>				
1,3	Result 测试结果				
Sample No. 样品编号	Max. External Temperature 样品表面最高温度 ($^{\circ}\text{C}$)	Test result 测试结果	Sample No. 样品编号	Max. External Temperature 样品表面最高温度 ($^{\circ}\text{C}$)	Test result 测试结果
C1#	67,8	○	C11#	57,5	○
C2#	66,5	○	C12#	56,6	○
C3#	68,7	○	C13#	57,7	○
C4#	68,2	○	C14#	58,8	○
C5#	69,0	○	C15#	57,9	○
C6#	66,3	○	C16#	56,9	○
C7#	68,7	○	C17#	57,8	○
C8#	68,0	○	C18#	56,4	○
C9#	69,1	○	C19#	57,7	○
C10#	69,4	○	C20#	56,5	○
<p>Note: D -Disassembly, R -Rupture, F-Fire, O-no disassembly, no rupture, no fire. 注: D- 解体; R- 破裂; F - 起火; O- 无解体、无破裂、无起火。</p>					

Appendix 6

附表 6

Test Items 测试项目	Crush 挤压				
1,1	Test procedure 测试步骤				
	<p>A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1,5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached.</p> <p>(a) The applied force reaches 13kN±0,78kN; (b) The voltage of the cell drops by at least 100 mV; or (c) The cell is deformed by 50% or more of its original thickness.</p> <p>Once the maximum pressure has been obtained, the voltage drops by 100mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released.</p> <p>电池芯或组成电池芯在两个平面间挤压。挤压在第一个接触点以约 1,5cm/s 的速度慢慢进行，直到下面三个选项之一达到为止：</p> <p>(a) 作用力达到 13kN±0,78kN; (b) 电池芯电压降至少达到 100mV; (c) 电池芯厚度和最初比较变形至少 50%。</p> <p>一旦达到最大压力，电压降超过 100 mV 或者电池芯变形超过 50%，压力应该解除。</p>				
1,2	Sample status 样品状态				
	<p>The conditions of primary cells of sample No. c21# to c25# are in un-discharged state. c21#到 c25#在未放电状态。</p> <p>The conditions of primary cells of sample No. c26# to c30# are in fully discharged state. c26#到 c30#在完全放电状态。</p>				
1,3	Result 测试结果				
Sample No. 样品编号	Max. External Temperature 样品表面最高温度 (°C)	Test result 测试结果	Sample No. 样品编号	Max. External Temperature 样品表面最高温度 (°C)	Test result 测试结果
C21#	22,5	○	C26#	21,8	○
C22#	22,0	○	C27#	22,1	○
C23#	22,2	○	C28#	21,4	○
C24#	22,6	○	C29#	21,7	○
C25#	22,7	○	C30#	22,0	○
<p>Note: D -Disassembly, F-Fire, ○- no disassembly, no fire. 注: D- 解体; F - 起火; ○-无解体、无起火。</p>					

Appendix 7

附表 7

Test Items 测试项目	Forced discharge 强制放电				
1,1	Test procedure 测试步骤				
	<p>Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12V D. C, power supply at an initial current equal to the maximum discharge current specified the manufacturer The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell, Each cell shall be forced discharged for a time interval(in hours) equal to its rated capacity divided by the initial test current(in ampere).</p> <p>在 20±5℃ 的环境温度下，将单个电芯连接在 12V 的直流电源上进行强制放电，此直流电源提供每个电芯初始电流为制造厂指定的最大放电电流，放电时间为额定容量除以初始电流。</p>				
1,2	Sample status 样品状态				
	The conditions of primary cells of sample No. c31# to c40# are in fully discharged state. c31#到 c40#在完全放电状态。				
1,3	Result 测试结果				
Sample No. 样品编号	Voltage Before test 测试前开路电压 (V)	Test result 测试结果	Sample No. 样品编号	Voltage Before test 测试前开路电压 (V)	Test result 测试结果
C31#	2,955	○	/	/	/
C32#	2,951	○	/	/	/
C33#	2,950	○	/	/	/
C34#	2,952	○	/	/	/
C35#	2,950	○	/	/	/
C36#	2,970	○	/	/	/
C37#	2,966	○	/	/	/
C38#	2,940	○	/	/	/
C39#	2,950	○	/	/	/
C40#	2,910	○	/	/	/
<p>Note: D -Disassembly, F-Fire, ○- no disassembly, no fire.</p> <p>注: D- 解体; F - 起火; ○-无解体、无起火。</p>					

Appendix 8

附表 8

Appendix 8

附表 8

Test Items 测试项目	Drop test 跌落测试		
1,1	Test procedure 测试步骤		
	The package of battery is dropped from 1,2m in any orientation. The test floor is concrete floor. 电池的包装件以任意方向从 1, 2 米跌落至水泥地面。		
	Each package is capable of withstanding a 1,2m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery(or cell to cell) contact and without release of contents. 每个电池的包装件以任意方向从 1, 2 米跌落, 而没有造成包装件内的电池或电芯的损坏, 也没有移动包装件内的电池或电芯使其相互接触以及包装件内的电池或电芯漏出。		
1,2	Package information 包装信息		
	Package weight (kg) 包装重量 (kg)	2,35	
	Package size(mm) 包装箱尺寸 (mm)	195×135×162	
	Net weight of batteries or cells per package (kg) 单个包装件内电池或电芯的净重量 (kg)	1,90	
	number of batteries or cells per package (pcs) 包装件内含电池或电芯的数量 (pcs)	640	
	number of equipment per package (pcs) 包装件内含设备数量 (pcs)	—	
1,3	Result 测试结果		
	No battery is damaged or connected by neighbor, the battery should not be released from package. 包装件内的电池或电芯无损坏, 无相互接触。 包装件内的电池或电芯不能从包装件漏出。	Surface 面跌落	The package is not cracked, the contents are not damaged and not shifted. 包装未破裂, 内装物完好。
		Ariss 棱跌落	The package is not cracked, the contents are not damaged and not shifted. 包装未破裂, 内装物完好。
		Angle 角跌落	The package is not cracked, the contents are not damaged and not shifted. 包装未破裂, 内装物完好。

注 意 事 项

Important

1. 本报告无检验单位公章、骑缝章无效;

The test report is invalid without the official stamp and Paging seal of Guangzhou MCM Certification and Testing Co., Ltd.

2. 未经本试验室书面同意, 不得部分地复制本报告。

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3. 本报告无批准人、审核人及检测人签名无效。

The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.

4. 本报告涂改无效。

The test report is invalid if altered.

5. 对检验报告若有异议, 应于收到报告之日起十五天内向检验单位提出。

Objections to the test report must be submitted to Guangzhou MCM Certification and Testing Co., Ltd. Within 15 days.

6. 本报告中以逗号代替小数点。

Throughout this report a comma is used as the decimal separator.

7. 本报告仅对来样负责。

The test report is valid for the tested samples only.

检测单位: 广州邦禾检测技术有限公司

Laboratory: Guangzhou MCM Certification and Testing Co., Ltd

地 址: 中国 广州市番禺区市广路钟三路段 13 号之一

Address: 1 F No.13, Zhong San Section, ShiGuang Road, Panyu District, Guangzhou City, Guangdong Province, China.

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检测
TESTING
CNAS L4065



Report No.:
报告编号: LJKJ20161025D11

1, 2 米 跌落 测试 报告

1,2m Drop Test Report

NAME OF SAMPLE: LITHIUM MANGANESE DIOXIDE BATTERY
(DBV ,CR2032 -with line 3,0V 220~245mAh)

产品名称: 鈕扣電池、鈕扣電池(不可充電)、鋰電池、
鋰錳電池、鋰錳扣式電池、鋰錳 CR 扣式電池、
鋰二氧化錳扣式電池、二氧化錳鋰電池、鋰的原電池、
原電池、鋰金屬電池、金屬電池芯、鋰錳扣式原電池、
鈕扣式鋰電池、鈕扣電池組、鈕扣電池套裝
(DBV ,CR2032-帶线 3, 0V 220~245mAh)

CLIENT: Double Best Corporation Limited

委托单位: 广立登股份有限公司

CLASSIFICATION OF TEST: Commission test

检测类别: 委托检测

广州邦禾检测技术有限公司

Guangzhou MCM Certification and Testing Co., Ltd



General information

Name of samples 样品名称	LITHIUM MANGANESE DIOXIDE BATTERY(DBV ,CR2032 -with line 3,0V 220~245mAh) 鈕扣電池、鈕扣電池(不可充電)、鋰電池、鋰錳電池、鋰錳扣式電池、鋰錳 CR 扣式電池、鋰二氧化錳扣式電池、二氧化錳鋰電池、鋰的原電池、原電池、鋰金屬電池、金屬電池芯、鋰錳扣式原電池、鈕扣式鋰電池、鈕扣電池組、鈕扣電池套裝 (DBV ,CR2032-帶線 3,0V 220~245mAh)		
Type/ Model 型号规格	CR2032 3,0V 220~245mAh		
Lithium content 锂含量	0,064g		
Commission by 委托单位	Double Best Corporation Limited 广立登股份有限公司		
Commissioner address 委托单位地址	No.37, Ln. 221, Gangqian Rd., Neihu Dist.,Taipei City 114, Taiwan (R.O.C.) 台北市內湖區港墘路 221 巷 37 號 5 樓		
Manufacturer 制造商	POWER GLORY BATTERY TECH (SHENZHEN) CO.,LTD 力佳电源科技(深圳)股份有限公司		
Manufacturer address 制造商地址	Block 4 No.7 Peng Ling Road, Dongkeng Community, Guangming New District, Gongming town, Shenzhen China 深圳光明新区公明办事处东坑社区鹏凌路 7 号第四栋		
Factory 生产厂	POWER GLORY BATTERY TECH (SHENZHEN) CO.,LTD 力佳电源科技(深圳)股份有限公司		
Factory address 生产厂地址	Block 4 No.7 Peng Ling Road, Dongkeng Community, Guangming New District, Gongming town, Shenzhen China 深圳光明新区公明办事处东坑社区鹏凌路 7 号第四栋		
Appearance 样品外观颜色	—		
Package of goods 样品外包装	K5K		
Sample identification 样品标识	P1#		
Tested Method and criterion 测试方法和标准	UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Model Regulations(18th) special provisions 188 联合国《关于危险货物运输的建议书 规章范本》(Rev.18) 特殊规定 188 条款		
Accepted date 样品接收日期	2016.10.27	Completed date 完成日期	2016.10.28

Test conclusion:

The package submitted by Double Best Corporation Limited is capable withstanding a 1,2m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents.

检测结论:

由广立登股份有限公司送检的包装件能够承受 1,2m 跌落试验, 其内包装的电池没有损坏, 没有导致内装电池的移动使其相互接触及内装物泄漏。

Seal

检测专用章

Date of issue:

签发日期: Nov. 01, 2016

WARM PROMPT: This test report can be used worldwide (including apply for the certification for safe transport of Shanghai Research Institute of Chemical Industry).

温馨提示: 此份报告全球通用 (包含申请上海化工鉴定书)。

Approver: Liang Hongcheng

Checker: Hu Pingfei

Tester: Lin Zhenwen

批准:

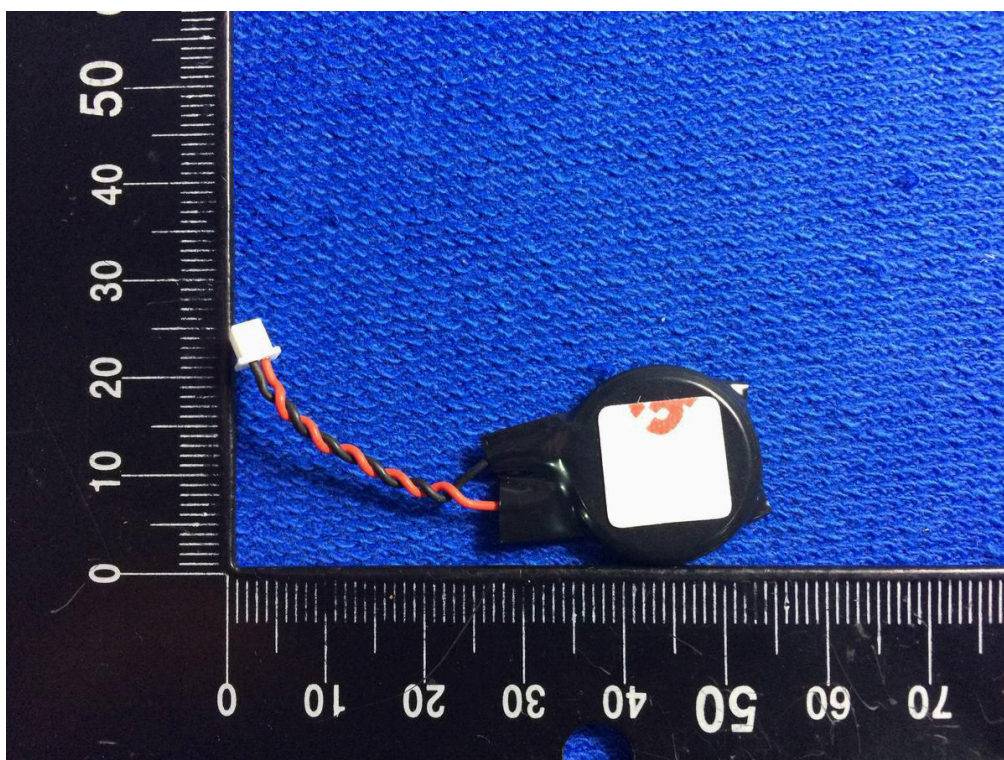
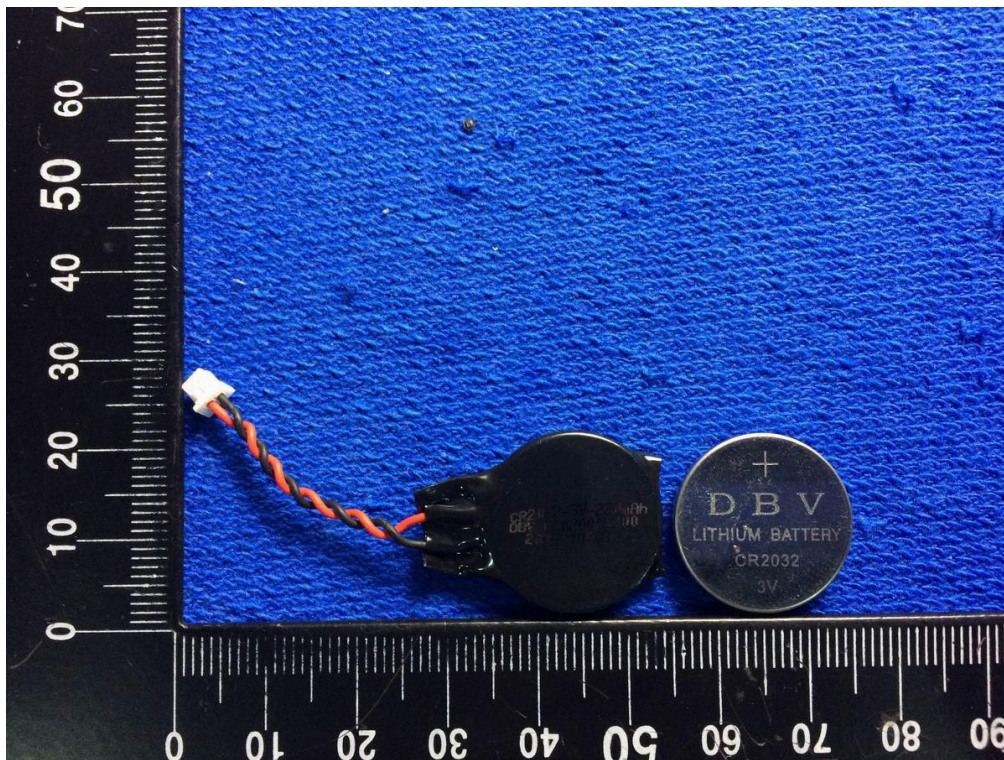
审核:

测试:

Photos of samples and markings

电池样品照片及标识

Battery (CR2032 3.0V 220~245mAh)



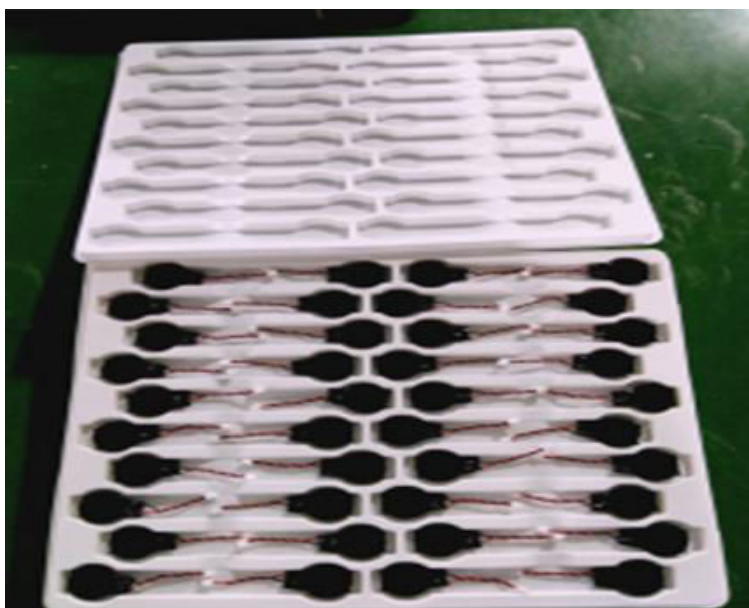
Photos of samples and markings

包装样品照片及标识

drop test (before test)



after test



联合国《关于危险货物运输的建议书 规章范本》(Rev.18) 特殊规定 188 条款 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Model Regulations(18 th) special provisions 188			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
Drop test / 跌落测试			P
1,1	Test procedure/ 测试步骤		P
	The package of batteries is dropped from 1,2m in any orientation. The test floor is concrete floor/ 电池的包装件以任意方向从 1,2 米跌落至水泥地面		P
	Each package is capable of withstanding a 1,2m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery(or cell to cell) contact and without release of contents./ 每个电池的包装件以任意方向从 1,2 米跌落, 而没有造成包装件内的电池或电芯的损坏, 也没有移动包装件内的电池或电芯使其相互接触以及包装件内的电池或电芯漏出。		P
1,2	Package information/包装信息		P
	Package weight (kg) 包装重量 (kg)	2,36	P
	Package size(mm) 包装箱尺寸 (mm)	290×100×255	P
	Net weight of batteries or cells per package (kg) 单个包装件内电池或电芯的净重量 (kg)	1,72	P
	number of batteries or cells per package (pcs) 包装件内含电池或电芯的数量 (pcs)	520	P
1,3	Requirements/ 标准要求		P
	No battery is damaged or connected by neighbor, the battery should not be released from package. 包装件内的电池或电芯无损坏, 无相互接触。包装件内的电池或电芯不能从包装件漏出。	Surface 面跌落	The package is not cracked, the contents are not damaged and not shifted. 包装未破裂, 内装物完好。
		Arris 棱跌落	The package is not cracked, the contents are not damaged and not shifted. 包装未破裂, 内装物完好。
		Angle 角跌落	The package is not cracked, the contents are not damaged and not shifted. 包装未破裂, 内装物完好。

注 意 事 项

Important

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Objections to the test report must be submitted to Guangzhou MCM Certification and Testing Co., Ltd. Within 15 days.

6. 本报告仅对来样负责。

The test report is valid for the tested samples only.

7. 本检测结果中“N”表示“不适用”，“P”表示“通过”，“F”表示“不通过”。

As for the test result, “N” means “not applicable”, “P” means “pass” and “F” means “fail”.

8. 本报告中以逗号代替小数点。

Throughout this report a comma is used as the decimal separator.

检测单位：广州邦禾检测技术有限公司

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