

Rechargeable Li-Ion battery pack, BL0900CAA651 S1 PCBT; BL0900CAA651 S1 P*****

Tested under

UL/CSA 62133-2:2017/AMD1:2021 Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems

File: E115461

MET Report: 117413

Approved: February 15, 2022

Applicant:

GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 New Jersey, USA

Prepared By:

Eurofins Electrical and Electronic Testing North America, Inc. 914 West Patapsco Avenue Baltimore, Maryland 21230-3432 (410) 949-1802

This report shall not be reproduced except in full, without the express written consent of MET Laboratories, Inc.

MET Recognition
 MET Classification
 MET Listing

☐ MET-C Recognition
 ☐ MET-C Classification
 ☑ MET-C Listing



E&E



Table Of Contents

CHANGE RECORD	3
DESCRIPTION	4
MARKINGS	6
APPLICANT'S RESPONSIBILITIES	7
PRODUCT MODIFICATION MANUFACTURING AND PRODUCTION-LINE TESTS AND DOCUMENTATION PREFORMED BY MANUFACTURER	8
MODIFICATIONS TO SIQ REPORT NO. T211-0218/21 A1	9
CRITICAL COMPONENTS	
FIGURES	.11
TESTING CONSIDERATIONS	.12
CONCLUSION	.13
CONVERSION REPORT	.14

SAFJ TEMP-101-0, Listing Transfer or CB Conversion to MET NRTL 2-10-2022



MET Report: 117413

File Number: E115461

Change Record

Change	Description	Approval	Project	Amendment	Engineer
Number		Date	Number	Engineer	Initials
-					



MET * MET Report: 117413

File Number: E115461

Description

Product(s) Covered:

 Rechargeable Li-Ion battery pack, Models BL0900CAA651 S1 PCBT; BL0900CAA651 S1 P*****

Model Differences:

• See page 6 of SIQ Report No. T211-0218/21 A1 for details.

E&E

Electrical Rating:

• 3,7 V; 900 mAh; 3,33 Wh (Max. 950 mAh; 3,52 Wh)

Engineering Considerations (Not For Field Representative's Use):

- The Rechargeable Li-Ion battery pack, Models BL0900CAA651 S1 PCBT; BL0900CAA651 S1 P***** has been investigated in accordance with UL/CSA 62133-2:2017/AMD1:2021 Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems.
- This report is based on the SIQ Report No. T211-0218/21 A1 along with the modifications indicated on the Modifications pages of this report.



MET Report: 117413

File Number: E115461

Description (Continued)

Note to Field Representative:

- Refer to SIQ Report No. T211-0218/21 A1 and the Modifications page for details. •
- Critical Components, see page 24 of the CB Report. ٠
- Figures/Illustrations, see Attachment 1 of the CB Report.

Note to Field Representative:

No requirements currently. The report is not an NRTL Listing.

MET Laboratories, Inc.

914 West Patapsco Avenue Baltimore, Maryland 21230-3432

for reassessment processed under job #xxxxx for verification of construction against the associated drawings also listed below. The transformers shall be subjected to an annual audit by MET for continued compliance. The annual re-verification is a client incurred expense to be assessed at the current hourly rate at the time of the test. The estimated time for re-verification is also listed below.

Figure/ Item #	Component	Controlled Document Number	Re-verification Maximum Estimated time (hours)

Operation/Service Instructions:

Operations and Service instructions are provided with the equipment.





Markings

Etching, molding, die-stamping, silk-screening, stamped-, or etched-metal labels secured by rivets or screws are considered permanent. Recognized/Certified Component, Marking and Labeling Systems, suitable for the surface to which it is applied is also considered permanent. Per the Canadian Electrical Code described in CSA C22. No. 0 General Requirements, Canadian product certification requires warning/cautionary markings in both English and French languages. It is the Applicant's responsibility to provide the listed Bilingual Markings shown below in accordance with the Canadian regulatory requirements. Each product is to be permanently marked with the following information:

- a. The MET Mark (refer to MET Applicant Contract) with the applicant/listee, alternate listee as identified below, trade name or trademark, product model number, and a date of manufacture or serial number.
- b. Method of applying the MET Mark:
 Direct Imprinting
 Purchasing Labels from MET Laboratories, Inc. Approved MET Mark:



c. Alternate listees and product names or model numbers: None Note: an alternate listee is only allowed to change the Company name and Product name and model number.

	Company Name	Product Name
Listee	-	-
Alt. Listee 1	-	-

d. For additional markings, see Cb Report.



MET * MET Report: 117413

Applicant's Responsibilities

Product Modification

For any changes related to the controlled/critical product construction, manufacturing locations, if the product is intended to be marketed/sold under an alternate name or model number than that originally listed, or any issues which would require notification or change in the status of this file, please complete the form and return to Eurofins E&E NA following the instructions provided on the form.

For your convenience a Project Amendment Request (PAR) form is available for download at <u>http://corp.metlabs.com/safetyreq/</u> Alternatively, please provide it to your local Eurofins office or Eurofins Partner Representative.

If you are terminating or temporarily suspending production of this product for an extended period, please send a letter on company letterhead to:

Eurofins E&E NA, Inc. Attn: Follow Up Services Department 914 West Patapsco Avenue Baltimore, Maryland 21230 USA Fax: (410) 354-3313





Applicant's Responsibilities (Continued)

Manufacturing and Production-Line Tests and Documentation preformed by Manufacturer.

This product is exempt from production line testing.





Modifications to SIQ Report No. T211-0218/21 A1

The following changes affect the original SIQ Report No. T211-0218/21 A1

Original Certification

February 15, 2022

• Markings:

This report covers a MET certification of the identified products. This NRTL MET-C certification is based on the CB certification report included within and as modified as shown below.





Critical Components

• See page 24 of the CB Report. Original certification

Figure /item No.	Object/ Parts No.	Manufacturer /Trademark	Type/ Model	Technical Data	Standard (Edition / year)	Mark(s) of Conformity	Secured Method





Figures

See Attachment 1 of the CB Report.





Testing Considerations

According to the SIQ Report No. T211-0218/21 A1, a sample of the • Rechargeable Li-Ion battery pack, Models BL0900CAA651 S1 PCBT; BL0900CAA651 S1 P***** were subjected to a test program in accordance with UL/CSA 62133-2:2017/AMD1:2021 Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems with satisfactory results.

Detailed test results are available upon request from SIQ.



E&E

File Number: E115461



Conclusion

The product(s) covered by this report have been tested, examined, and found to comply with the applicable requirements. This certification has been granted under a System 3 program as defined in ISO/IEC 17067.

Prepared By:

Micheal Collins Project Engineer, MET Safety Laboratory



MET * MET Report: 117413

Conversion Report

SIQ Report No. T211-0218/21 A1, CB Certificate # SI-8787 A1

Attach in order listed under: <u>Engineering Considerations (Not For Field Representative's Use)</u>:

- $\circ \hspace{0.1in} SI-8787_A1_GlobTek_BL0900CAA651S1PCBT_iec62133_2a$
- o T211-0218_21_A1 iec62133_2b_2021-08-31



Test Report issued under the responsibility of:



TEST REPORT IEC 62133-2

Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems

Report Number:	T211-0218/21 A1
Date of issue:	2021-03-25; Amendment No.1: 2022-01-25
Total number of pages:	67
Name of Testing Laboratory preparing the Report:	SIQ Ljubljana SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number LP-009 in the field of testing
Applicant's name:	GlobTek, Inc.
Address:	186 Veterans Dr. Northvale, NJ 07647, New Jersey, USA
Test specification:	
Standard:	IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021
Test procedure:	CB Scheme
Non-standard test method:	N/A
TRF template used:	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No	IEC62133_2B
Test Report Form(s) Originator :	DEKRA Certification B.V.
Master TRF:	Dated 2021-08-31
Copyright © 2021 IEC System of Co and Components (IECEE System). A	nformity Assessment Schemes for Electrotechnical Equipment All rights reserved.
	in part for non-commercial purposes as long as the IECEE is acknowledged as EE takes no responsibility for and will not assume liability for damages resulting from iterial due to its placement and context.
If this Test Report Form is used by nor Scheme procedure shall be removed.	n-IECEE members, the IECEE/IEC logo and the reference to the CB
	Report unless signed by an approved IECEE Testing Laboratory te issued by an NCB in accordance with IECEE 02.
General disclaimer:	
The test results presented in this report	relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing NCB. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description Rechargeable Li-lon battery pack Trade Mark(s) GlobTek, Inc. Manufacturer GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647, New Jersey, USA Model/Type reference BL0900CAA651S1PCBT; BL0900CAA651S1PCBT; SIQ Ljubijana SIQ Ljubijana is accredited by Storeniar/Korreditation number (P-006 in the field of testing * Testing location/ address : Testing procedure: CTF Stage 1: * Testing procedure: CTF Stage 2: * Testing procedure: CTF Stage 2: * Testing procedure: CTF Stage 3: * Testing procedure: CTF Stage 3: * Testing procedure: CTF Stage 4: * Testing procedure: CTF Stage 3: *	SI®		Page	e 2 of 67	Report No. T211-0218/21 A1
Manufacturer GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647, New Jersey, USA Model/Type reference BL0900CAA651S1PCBT; BL0900CAA651S1P***** Ratings 3,7 V; 900 mAh; 3,33 Wh (Max. 950 mAh; 3,52 Wh) Responsible Testing Laboratory (as applicable), testing procedure and testing location(s): CB Testing Laboratory: SIQ Ljubijana Testing location/ address Mašera-Spasićeva ulica 10, SI-1000 Ljubijana, Slovenia SIQ Ljubijani a sacreditato Nith accreditation number UP-000 In the field of testing Tested by (name, function, signature) Testing location/ address Testing location/ address Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing procedure: CTF Stage 4: .	Test	item description:	Recha	rgeable Li-lon battery pac	k
Model/Type reference 186 Veterans Dr. Northvale, NJ 07647, New Jersey, USA BL0900CAA651S1PCBT; BL0900CAA651S1PCBT; BL0900CAA651S1PCBT; SIQ Ljubijana Testing location/ address SIQ Ljubijana is accredited by SloveniarA60reditation with accreditation number LP-009 in the field of testing Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing procedure: CTF Stage 4:	Trad	le Mark(s):	G	GlobTek, Inc.	
Model/Type reference EL0900CAA651S1PCBT; BL0900CAA651S1PCBT; BL0900CAA651S1P***** Ratings 3.7 V; 900 mAh; 3,33 Wh (Max. 950 mAh; 3,52 Wh) Responsible Testing Laboratory (as applicable), testing procedure and testing location(s): CB Testing Laboratory: SIQ Ljubijana Testing location/ address Mašera-Spasićeva ulica 10, SI-1000 Ljubijana, Slovenia SIG Ljubijana is accredited by SloveniarAccreditation with accreditation number LP-09 in the field of testing Tested by (name, function, signature) Tibor Kokelj Approved by (name, function, signature) Matej Žontar Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 3: Image: Stage 3: Testing procedure: CTF Stage 4: Image: Stage 4: Testing procedure: CTF Stag	Man	ufacturer:	GlobT	ek, Inc.	
BL0900CAA651S1P***** Ratings 3,7 V; 900 mAh; 3,33 Wh (Max. 950 mAh; 3,52 Wh) Responsible Testing Laboratory (as applicable), testing procedure and testing location(s): CB Testing Laboratory: SIQ Ljubljana Testing location/ address SIQ Ljubljana is accredited by Slovenjar Accreditation with accreditation mumber P-009 in the field of testing Tested by (name, function, signature) : Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 2: : Testing procedure: CTF Stage 3: : Testing procedure: CTF Stage 4: : Testing procedure: CTF Stage 3: : Testing procedure: CTF Stage 4: : Testing pro					07647, New Jersey, USA
Ratings 3,7 V; 900 mAh; 3,33 Wh (Max. 950 mAh; 3,52 Wh) Responsible Testing Laboratory (as applicable), testing procedure and testing location(s): CB Testing Laboratory: SIQ Ljubljana Testing location/ address Mašera-Spasićeva ulica 10, SI-1000 Ljubljana, Slovenia SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number LP-009 in the field of testing Tested by (name, function, signature) Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 1: Tested by (name, function, signature) Approved by (name, function, signature)	Mod	el/Type reference:			
CB Testing Laboratory: SIQ Ljubljana Testing location/ address Mašera-Spasićeva ulica 10, SI-1000 Ljubljana, Slovenia SIQ Ljubljana is accredited by Stoveniam & Coreditation with accreditation number LP-009 in the field of testing Tested by (name, function, signature) : Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing location/ address Testing location, signature) Testing procedure: CTF Stage 4: Testing procedure: CTF Stage 4: Testing location, address Testing location, signature) <	Rati	ngs:			. 950 mAh; 3,52 Wh)
Testing location/ address Image: State of the stat	Res	ponsible Testing Laboratory (as a	applical	ble), testing procedure	and testing location(s):
SIQ Ljubijana is accredited by Slovenian Accreditation number LP-009 in the field of testing Tested by (name, function, signature): Tibor Kokelj Approved by (name, function, signature): Matej Žontar Testing procedure: CTF Stage 1: Testing location/ address: Tested by (name, function, signature): Approved by (name, function, signature): Approved by (name, function, signature): Approved by (name, function, signature): Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing location/ address		CB Testing Laboratory:		SIQ Ljubljana	
number LP-009 in the field of testing Tested by (name, function, signature): Testing procedure: CTF Stage 1: Testing location/ address Tested by (name, function, signature): Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 1: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Testing location/ address Tested by (name, function, signature) Testing procedure: CTF Stage 2: Testing procedure: CTF Stage 2: Tested by (name, function, signature) Witnessed by (name, function, signature) Approved by (name, function, signature) Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing procedure: CTF Stage 4: Testing procedure: CTF Stage 4: Testing location/ address Witnessed by (name, function, signature) Witnessed by (name, function, signature) Approved by (name, function, signature) Approved by (name, function, signature) Approved by (name, function, signature)	Test	ing location/ address	:	Mašera-Spasićeva ulica	10, SI-1000 Ljubljana, Slovenia
Approved by (name, function, signature): Matej Žontar □ Testing procedure: CTF Stage 1: Testing location/ address : Tested by (name, function, signature): : Approved by (name, function, signature): : Approved by (name, function, signature): : Testing procedure: CTF Stage 2: : Testing location/ address : Testing location/ address : Tested by (name + signature) : Witnessed by (name, function, signature) : Approved by (name, function, signature) : Testing procedure: CTF Stage 3: : Testing procedure: CTF Stage 4: : Testing procedure: CTF Stage 4: : Testing location/ address : Witnessed by (name, function, signature) : Witnessed by (name, function, signature) : Witnessed by (name, function, signature) : Approved by (name, function, signature) : Approved by (name, function, signature) :				SIQ Ljubljana is accredited by number LP-009 in the field of	Slovenian Accreditation with accreditation testing
Image Extract Image Extract Image Extrema	Test	ed by (name, function, signature)) :	Tibor Kokelj	In it
Testing location/ address	Арр	roved by (name, function, signate	u re) :	Matej Žontar	1. herl
Tested by (name, function, signature): Approved by (name, function, signature) Testing procedure: CTF Stage 2: Testing location/ address Tested by (name + signature) Witnessed by (name, function, signature) Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing procedure: CTF Stage 4: Testing location/ address Witnessed by (name, function, signature) Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing location/ address Witnessed by (name, function, signature) Mitnessed by (name, function, signature) Approved by (name, function, signature) Approved by (name, function, signature)		Testing procedure: CTF Stage 1	:		
Approved by (name, function, signature): Testing procedure: CTF Stage 2: Testing location/ address Tested by (name + signature): Witnessed by (name, function, signature): Approved by (name, function, signature): Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing location/ address Testing procedure: CTF Stage 4: Testing location/ address Witnessed by (name, function, signature): Approved by (name, function, signature):	Test	ing location/ address	:		
Testing procedure: CTF Stage 2: Testing location/ address Tested by (name + signature) Witnessed by (name, function, signature) Approved by (name, function, signature) Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing location/ address Testing procedure: CTF Stage 4: Testing location/ address Witnessed by (name, function, signature) Image: Testing location/ address Testing location/ address Tested by (name, function, signature) Image: Testing location, signature Tested by (name, function, signature) Image: Testing location, signature Image: Testing location, signature <th>Test</th> <th>ed by (name, function, signature)</th> <th>) :</th> <th></th> <th></th>	Test	ed by (name, function, signature)) :		
Testing location/ address : Tested by (name + signature) : Witnessed by (name, function, signature) : Approved by (name, function, signature) : Testing procedure: CTF Stage 3: : Testing procedure: CTF Stage 4: : Testing location/ address : Tested by (name, function, signature) : Approved by (name, function, signature) : Tested by (name, function, signature) : Approved by (name, function, signature) : Approved by (name, function, signature) :	Арр	roved by (name, function, signate	ure):		
Testing location/ address		Testing procedure: CTF Stage 2	:		
Witnessed by (name, function, signature). : Approved by (name, function, signature): Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing location/ address	Test				
Approved by (name, function, signature): Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing location/ address	Test	ed by (name + signature)	:		
Testing procedure: CTF Stage 3: Testing procedure: CTF Stage 4: Testing location/ address: Tested by (name, function, signature): Witnessed by (name, function, signature).: Approved by (name, function, signature):	Witn	essed by (name, function, signat	ture).:		
Testing procedure: CTF Stage 4: Testing location/ address	Арр	roved by (name, function, signate	ure) :		
Testing procedure: CTF Stage 4: Testing location/ address		Testing procedure: CTF Stage 3	:		
Tested by (name, function, signature) : Witnessed by (name, function, signature). : Approved by (name, function, signature):					
Witnessed by (name, function, signature). : Approved by (name, function, signature) :	Test	ing location/ address	:		5
Approved by (name, function, signature):	Test	ed by (name, function, signature)) :		
	Witn	essed by (name, function, signat	ure).:		
Supervised by (name, function, signature) :	Арр	roved by (name, function, signate	ure):		
	Sup	ervised by (name, function, signa	ture) :		

TRF No. IEC62133_2B



List of Attachments (including a total news)	at names in each attack man().			
List of Attachments (including a total numbe				
Attachment No.1- Photo documentation (13 pag				
Attachment No.2- Technical documentation (23 pages)				
Attachment No.3- US/CAN National Deviations (5 pages)				
Summary of testing:				
Tests performed (name of test and test	Testing location:			
clause):	SIQ Ljubljana,			
7.1.1 (Charge procedure)	Mašera-Spasićeva ulica 10,			
7.2.2 (Case stress)	SI-1000 Ljubljana, Slovenia.			
7.3.2 (External short circuit)				
7.3.3 (Free fall)				
7.3.6 (Overcharge)				
7.3.8 (Mechanical - Vibration + Shock)				
☐ The product fulfils the requirements of IE A1:2021	C 62133-2:2017 + A1:2021 and EN 62133-2:2017 +			
Use of uncertainty of measurement for decis	sions on conformity (decision rule) :			
applicable limit according to the specification i	ndard, when comparing the measurement result with the n that standard. The decisions on conformity are made ("simple acceptance" decision rule, previously known as			
Other: (to be specified, for example when accreditation requirements apply)	required by the standard or client, or if national			
Information on uncertainty of measurement:				
The uncertainties of measurement are calculate	ed by the laboratory based on application of criteria given tion of test methods, decision sheets and operational			
IEC Guide 115 provides guidance on the applic the decision rule when reporting test results	ation of measurement uncertainty principles and applying within IECEE scheme, noting that the reporting of the s not necessary unless required by the test standard or			
Calculations leading to the reported values are	on file with the NCB and testing laboratory that conducted			



Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks. BL0900CAA651S1PCBT



Test item particulars:	
Classification of installation and use	Rechargeable Li-ion battery pack
Supply Connection:	Connector
Recommend charging method declared by the manufacturer:	CC/CV
Discharge current (0,2 It A)	180 mA
Specified final voltage:	2,70 Vdc
Upper limit charging voltage per cell	4,20 Vdc
Maximum charging current	475 mA
Charging temperature upper limit	45°C
Charging temperature lower limit	0°C
Polymer cell electrolyte type:	🗌 gel polymer 🔲 solid polymer 🛛 N/A
Possible test case verdicts:	
- test case does not apply to the test object:	N/A
- test object does meet the requirement:	P (Pass)
- test object does not meet the requirement:	F (Fail)
Testing:	
Date of receipt of test item:	2021-01-15
Date (s) of performance of tests:	(2021-01-18) to (2021-03-22)
General remarks:	
"(See Enclosure #)" refers to additional information ap "(See appended table)" refers to a table appended to the	•
Throughout this report a 🖂 comma / 🗌 point is u	sed as the decimal separator.
Manufacturer's Declaration per sub-clause 4.2.5 of	IECEE 02:
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	 ☐ Yes ☑ Not applicable
When differences exist; they shall be identified in t	he General product information section.
Name and address of factory (ies):	
	Building 4 No. 76, Jinling East Road Suzhou
	Industrial Park Jiangsu 215021, P.R. China

General product information and other remarks: The BL0900CAA651S1PCBT and BL0900CAA651S1P****** is a 3,7 V; 900 mAh; 3,3 mAh; 3,52 Wh) portable battery pack. Configuration: 1S1P with cells IMR14650 made by SHENZHEN HIBATT TECHNOLO Additional constructions types information for BL0900CAA651S1P***** The first '*' May be A~Z or 0~9 for marketing purposes. The second '*' May be A~Z or 0~9, when'*' = S means solder tab, when'*' = W means welded tab, when'*' = P means plastic housing, when'*' = C means cables or wires, The rest may vary for marketing purposes. The third '*' May be A~Z or 0~9, when'*' = N means Nickel wires, the rest may vary for marketing purposes The fourth '*' May be A~Z or 0~9 for marketing purpose The sixth '*' May be A~Z or 0~9 for marketing purpose The sixth '*' May be A~Z or 0~9 for marketing purpose				
 mAh; 3,52 Wh) portable battery pack. Configuration: 1S1P with cells IMR14650 made by SHENZHEN HIBATT TECHNOLO Additional constructions types information for BL0900CAA651S1P***** The first '*' May be A~Z or 0~9 for marketing purposes. The second '*' May be A~Z or 0~9, when'*' = S means solder tab, when'*' = S means welded tab, when'*' = P means plastic housing, when'*' = C means cables or wires, The rest may vary for marketing purposes. The third '*' May be A~Z or 0~9, when'*' = N means Nickel wires, the rest may vary for marketing purposes The fourth '*' May be A~Z or 0~9 for marketing purpose 				
Additional constructions types information for BL0900CAA651S1P***** The first '*' May be A~Z or 0~9 for marketing purposes. The second '*' May be A~Z or 0~9, when'*' = S means solder tab, when'*' = W means welded tab, when'*' = P means plastic housing, when'*' = C means cables or wires, The rest may vary for marketing purposes. The third '*' May be A~Z or 0~9, when'*' = N means Nickel wires, the rest may vary for marketing purposes The fourth '*' May be A~Z or 0~9 for marketing purpose The fifth '*' May be A~Z or 0~9 for marketing purpose	3 Wh (Max. 950			
The first '*' May be A~Z or 0~9 for marketing purposes. The second '*' May be A~Z or 0~9, when'*' = S means solder tab, when'*' = W means welded tab, when'*' = P means plastic housing, when'*' = C means cables or wires, The rest may vary for marketing purposes. The third '*' May be A~Z or 0~9, when'*' = N means Nickel wires, the rest may vary for marketing purposes The fourth '*' May be A~Z or 0~9 for marketing purpose The fifth '*' May be A~Z or 0~9 for marketing purpose	GY CO., LTD.			
The second '*' May be A~Z or 0~9, when'*' = S means solder tab, when'*' = W means welded tab, when'*' = P means plastic housing, when'*' = C means cables or wires, The rest may vary for marketing purposes. The third '*' May be A~Z or 0~9, when'*' = N means Nickel wires, the rest may vary for marketing purposes The fourth '*' May be A~Z or 0~9 for marketing purpose The fifth '*' May be A~Z or 0~9 for marketing purpose				
 when^(*) = S means solder tab, when^(*) = W means welded tab, when^(*) = P means plastic housing, when^(*) = C means cables or wires, The rest may vary for marketing purposes. The third ^(*) May be A~Z or 0~9, when^(*) = N means Nickel wires, the rest may vary for marketing purposes The fourth ^(*) May be A~Z or 0~9 for marketing purpose The fifth ^(*) May be A~Z or 0~9 for marketing purpose 				
when'*' = N means Nickel wires, the rest may vary for marketing purposes The fourth '*' May be A~Z or 0~9 for marketing purpose The fifth '*' May be A~Z or 0~9 for marketing purpose				
The fifth '*' May be A~Z or 0~9 for marketing purpose				
	The fifth '*' May be A~Z or 0~9 for marketing purpose			
Construction types examples:				
1.) 1 cell with PCM BL0900CAA651S1PCBT***				
2.) 1 cell with PCM plus solder tab BL0900CAA651S1P*S****				
3.) 1 cell with PCM plus added red and black wire BL0900CAA651S1P*C****				
4.) 1 cell with PCM and enclosure BL0900CAA651S1P*P****				
5.) 1 cell with PCM plus added 2 welded pads insulated BL0900CAA651S1P*Wi	N***			
History sheet				
Report No. Date Change	Revision No.			
T211-0218/212021-03-25Initial Test Report issued.				
T211-0218/21 A1 2022-01-25 Updated to new TRF and added A1:2021. Added USA/CAN ND	1.0			

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

4	PARAMETER MEASUREMENT TOLERANCES		Р
	Parameter measurement tolerances		Р

5	GENERAL SAFETY CONSIDERATIONS		Р
5.1	General		Р
	Cells and batteries so designed and constructed that they are safe under conditions of both intended use and reasonably foreseeable misuse		Р
5.2	Insulation and wiring		Р
	The insulation resistance between the positive terminal and externally exposed metal surfaces of the battery (excluding electrical contact surfaces) is not less than 5 M Ω	No external metal surfaces	N/A
	Insulation resistance (MΩ)		—
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements	See details in LOCC	Ρ
	Orientation of wiring maintains adequate clearances and creepage distances between conductors	Adequately fixed	Р
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse		Р
5.3	Venting		Р
	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition	Battery case and cells provided with such pressure relief	Ρ
	Encapsulation used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief		Р
5.4	Temperature, voltage and current management		Р
	Batteries are designed such that abnormal temperature rise conditions are prevented	Electronic protective circuit incorporated (BMS) with overcharge, over-discharge, over current, short-circuit and over temperature protection	Ρ
	Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer	Electronic protective circuit incorporated (BMS) with overcharge, over-discharge, over current, short-circuit and over temperature protection	Ρ

	IEC 62133-2		
Clause	Requirement + Test	Result - Remark	Verdict
	Batteries are provided with specifications and charging instructions for equipment manufacturers so that specified chargers are designed to maintain charging within the temperature, voltage and current limits specified	Technical specifications provided, see Attachment No.2- Technical documentation	P
5.5	Terminal contacts		Р
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current		Р
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance		Р
	Terminal contacts are arranged to minimize the risk of short circuits		Р
5.6	Assembly of cells into batteries		Р
5.6.1	General		Р
	Each battery has an independent control and protection for current, voltage, temperature and any other parameter required for safety and to maintain the cells within their operating region	Electronic protective circuit incorporated (BMS) with Overcharge, over-discharge, over current, short-circuit and over temperature protection	P
	This protection may be provided external to the battery such as within the charger or the end devices	Electronic protective circuit (BMS) incorporated in battery pack	N/A
	If protection is external to the battery, the manufacturer of the battery provide this safety relevant information to the external device manufacturer for implementation	Electronic protective circuit (BMS) incorporated in battery pack	N/A
	If there is more than one battery housed in a single battery case, each battery has protective circuitry that can maintain the cells within their operating regions		N/A
	Manufacturers of cells specify current, voltage and temperature limits so that the battery manufacturer/designer may ensure proper design and assembly	See Attachment No.2- Technical documentation	P
	Batteries that are designed for the selective discharge of a portion of their series connected cells incorporate circuitry to prevent operation of cells outside the limits specified by the cell manufacturer		N/A
	Protective circuit components are added as appropriate and consideration given to the end- device application	See details in LOCC	Р

SI®

	IEC 62133-2		
Clause	Requirement + Test	Result - Remark	Verdict
	The manufacturer of the battery provide a safety analysis of the battery safety circuitry with a test report including a fault analysis of the protection circuit under both charging and discharging conditions confirming the compliance	Preformed during this approval	N/A
5.6.2	Design recommendation		Р
	For the battery consisting of a single cell or a single cellblock, it is recommended that the charging voltage of the cell does not exceed the upper limit of the charging voltage specified in Table 2	Electronic protective circuit incorporated (BMS) with overcharge protection	Ρ
	For the battery consisting of series-connected plural single cells or series-connected plural cellblocks, it is recommended that the voltages of any one of the single cells or single cellblocks does not exceed the upper limit of the charging voltage, specified in Table 2, by monitoring the voltage of every single cell or the single cellblocks	Single cell battery pack	N/A
	For the battery consisting of series-connected plural single cells or series-connected plural cellblocks, it is recommended that charging is stopped when the upper limit of the charging voltage is exceeded for any one of the single cells or single cellblocks by measuring the voltage of every single cell or the single cellblocks	Single cell battery pack. Electronic protective circuit incorporated (BMS) with overcharge protection	N/A
	For batteries consisting of series-connected cells or cell blocks, nominal charge voltage are not counted as an overcharge protection	Single cell battery pack	N/A
	For batteries consisting of series-connected cells or cell blocks, cells have closely matched capacities, be of the same design, be of the same chemistry and be from the same manufacturer	Single cell battery pack	N/A
	It is recommended that the cells and cell blocks are not discharged beyond the cell manufacturer's specified final voltage	Over-discharge protection incorporated in protective circuit (BMS)	Р
	For batteries consisting of series-connected cells or cell blocks, cell balancing circuitry are incorporated into the battery management system	Single cell battery pack	N/A
5.6.3	Mechanical protection for cells and components of batteries		Р
	Mechanical protection for cells, cell connections and control circuits within the battery are provided to prevent damage as a result of intended use and reasonably foreseeable misuse		Ρ
	The mechanical protection can be provided by the battery case or it can be provided by the end product enclosure for those batteries intended for building into an end product	Mechanical protection provided by the end product enclosure.	Ρ

Г

	IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict	
	The battery case and compartments housing cells are designed to accommodate cell dimensional tolerances during charging and discharging as recommended by the cell manufacturer		P	
	For batteries intended for building into a portable end product, testing with the battery installed within the end product is considered when conducting mechanical tests		N/A	
5.7	Quality plan		Р	
	The manufacturer prepares and implements a quality plan that defines procedures for the inspection of materials, components, cells and batteries and which covers the whole process of producing each type of cell or battery	ISO 9001 certificate for battery/cell manufacturer.	P	
5.8	Battery safety components	Safety components on protective circuit tested with fault conditions.	N/A	

6	TYPE TEST AND SAMPLE SIZE		Р
	Tests are made with the number of cells or batteries specified in Table 1 using cells or batteries that are not more than six months old		Р
	The internal resistance of coin cells are measured in accordance with Annex D. Coin cells with internal resistance less than or equal to 3Ω are tested in accordance with Table 1	No coin cells	N/A
	Unless otherwise specified, tests are carried out in an ambient temperature of 20 $^{\circ}C \pm 5 ^{\circ}C$		Р
	The safety analysis of 5.6.1 identify those components of the protection circuit that are critical for short-circuit, overcharge and over discharge protection	Electronic protective circuit (BMS) analysed, mosfets identified as critical components.	Р
	When conducting the short-circuit test, consideration is given to the simulation of any single fault condition that is likely to occur in the protecting circuit that would affect the short-circuit test		Р

7	SPECIFIC REQUIREMENTS AND TESTS		Р
7.1	Charging procedure for test purposes		Р
7.1.1	First procedure		Р
	This charging procedure applies to subclauses other than those specified in 7.1.2		Р
	Unless otherwise stated in this document, the charging procedure for test purposes is carried out in an ambient temperature of 20 °C ± 5 °C, using the method declared by the manufacturer	CC/CV	Р

SI®

	IEC 62133-2		
Clause	Requirement + Test	Result - Remark	Verdict
	Prior to charging, the battery has been discharged at 20 $^{\circ}C \pm 5 ^{\circ}C$ at a constant current of 0,2 It A down to a specified final voltage		Р
7.1.2	Second procedure		N/A
	This charging procedure applies only to 7.3.1, 7.3.4, 7.3.5, and 7.3.9	Battery pack with certified cell.	N/A
	After stabilization for 1 h to 4 h, at an ambient temperature of the highest test temperature and the lowest test temperature, respectively, as specified in Table 2, cells are charged by using the upper limit charging voltage and maximum charging current, until the charging current is reduced to 0,05 It A, using a constant current to constant voltage charging method		N/A
7.2	Intended use		Р
7.2.1	Continuous charging at constant voltage (cells)	Battery pack with certified cell.	N/A
	Fully charged cells are subjected for 7 days to a charge using the charging method for current and standard voltage specified by the cell manufacturer		N/A
	Results: no fire, no explosion, no leakage:	(See appended table 7.2.1)	N/A
7.2.2	Case stress at high ambient temperature (battery)	S20209913 S20209918 S20209923	Р
	Oven temperature (°C):	72°C	—
	Results: no physical distortion of the battery case resulting in exposure of internal protective components and cells		Р
7.3	Reasonably foreseeable misuse		Р
7.3.1	External short-circuit (cell)	Battery pack with certified cell.	N/A
	The cells were tested until one of the following occurred:		N/A
	- 24 hours elapsed; or		N/A
	- The case temperature declined by 20 % of the maximum temperature rise		N/A
	Results: no fire, no explosion:	(See appended table 7.3.1)	N/A
7.3.2	External short-circuit (battery)		Р
	The batteries were tested until one of the following occurred:		Р
	- 24 hours elapsed; or		N/A
	- The case temperature declined by 20 % of the maximum temperature rise		Р

	IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict	
	In case of rapid decline in short circuit current, the battery pack remained on test for an additional one hour after the current reached a low end steady state condition		Р	
	A single fault in the discharge protection circuit is conducted on one to four (depending upon the protection circuit) of the five samples before conducting the short-circuit test	(See appended table 7.3.2)	Р	
	A single fault applies to protective component parts such as MOSFET (metal oxide semiconductor field- effect transistor), fuse, thermostat or positive temperature coefficient (PTC) thermistor	Applied on mosfets, for details see appended table 7.3.2	Р	
	Results: no fire, no explosion:	(See appended table 7.3.2)	Р	
7.3.3	Free fall	S20209913 S20209918 S20209923	P	
	Results: no fire, no explosion		Р	
7.3.4	Thermal abuse (cells)	Battery pack with certified cells.	Р	
	Oven temperature (°C):	130°C		
	Results: no fire, no explosion		N/A	
7.3.5	Crush (cells)	Battery pack with certified cell.	N/A	
	The crushing force was released upon:		N/A	
	- The maximum force of 13 kN \pm 0,78 kN has been applied; or		N/A	
	- An abrupt voltage drop of one-third of the original voltage has been obtained		N/A	
	Results: no fire, no explosion:	(See appended table 7.3.5)	N/A	
7.3.6	Over-charging of battery		Р	
	The supply voltage which is:		Р	
	- 1,4 times the upper limit charging voltage presented in Table A.1 (but not to exceed 6,0 V) for single cell/cell block batteries or	5,88 V	Р	
	- 1,2 times the upper limit charging voltage resented in Table A.1 per cell for series connected multi-cell batteries, and		N/A	
	- Sufficient to maintain a current of 2,0 It A throughout the duration of the test or until the supply voltage is reached	1,8 A	Р	
	Test was continued until the temperature of the outer casing:		Р	

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- Reached steady state conditions (less than 10 °C change in 30-minute period); or		Р
	- Returned to ambient		N/A
	Results: no fire, no explosion:	(See appended table 7.3.6)	Р
7.3.7	Forced discharge (cells)	Battery pack with certified cell.	N/A
	Discharge a single cell to the lower limit discharge voltage specified by the cell manufacturer		N/A
	The discharged cell is then subjected to a forced discharge at 1 It A to the negative value of the upper limit charging voltage		N/A
	- The discharge voltage reaches the negative value of upper limit charging voltage within the testing duration. The voltage is maintained at the negative value of the upper limit charging voltage by reducing the current for the remainder of the testing duration		N/A
	- The discharge voltage does not reach the negative value of upper limit charging voltage within the testing duration. The test is terminated at the end of the testing duration		N/A
	Results: no fire, no explosion	(See appended table 7.3.7)	N/A
7.3.8	Mechanical tests (batteries)		Р
7.3.8.1	Vibration		Р
	Results: no fire, no explosion, no rupture, no leakage or venting:	(See appended table 7.3.8.1)	Р
7.3.8.2	Mechanical shock		Р
	Results: no leakage, no venting, no rupture, no explosion and no fire:	(See appended table 7.3.8.2)	Р
7.3.9	Design evaluation – Forced internal short-circuit (cells)	Approved cell.	N/A
	The cells complied with national requirement for:	France, Japan, Korea, Switzerland	—
	The pressing was stopped upon:		N/A
	- A voltage drop of 50 mV has been detected; or		N/A
	- The pressing force of 800 N (cylindrical cells) or 400 N (prismatic cells) has been reached		N/A
	Results: no fire:	(See appended table 7.3.9)	N/A

8	INFORMATION FOR SAFETY		Р
8.1	General		Р
	Manufacturers of secondary cells provides information about current, voltage and temperature limits of their products	See Attachment No.2- Technical documentation	Ρ

TRF No. IEC62133_2B

	IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict	
	Manufacturers of batteries provides information regarding how to minimize and mitigate hazards to equipment manufacturers or end-users	See Attachment No.2- Technical documentation	P	
	Systems analyses are performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product	Considered	Р	
	As appropriate, any information relating to hazard avoidance resulting from a system analysis is provided to the end user		N/A	
8.2	Small cell and battery safety information		N/A	
	The following warning language is to be provided with the information packaged with the small cells and batteries or equipment using them:	No small cells	N/A	
	- Keep small cells and batteries which are considered swallowable out of the reach of children		N/A	
	- Swallowing may lead to burns, perforation of soft tissue, and death. Severe burns can occur within 2 h of ingestion		N/A	
	- In case of ingestion of a cell or battery, seek medical assistance promptly		N/A	

9	MARKING		Р
9.1	Cell marking	Battery pack	N/A
	Cells are marked as specified in IEC 61960, except coin cells		N/A
	Coin cells whose external surface area is too small to accommodate the markings on the cells show the designation and polarity		N/A
	By agreement between the cell manufacturer and the battery and/or end product manufacturer, component cells used in the manufacture of a battery need not be marked		N/A
9.2	Battery marking		Р
	Batteries are marked as specified in IEC 61960, except for coin batteries	See copy of marking plate	Р
	Coin batteries whose external surface area is too small to accommodate the markings on the batteries show the designation and polarity	No coin batteries	N/A
	Batteries are marked with an appropriate caution statement		
	- Terminals have clear polarity marking on the external surface of the battery, or	Polarity marked on marking label.	Р

SI®

	IEC 62133-2		
Clause	Requirement + Test	Result - Remark	Verdict
	- Not be marked with polarity markings if the design of the external connector prevents reverse polarity connections		N/A
9.3	Caution for ingestion of small cells and batteries	No small cells or batteries	N/A
	Coin cells and batteries identified as small batteries include a caution statement regarding the hazards of ingestion in accordance with 8.2	No small cells or batteries	N/A
	Small cells and batteries are intended for direct sale in consumer-replaceable applications, caution for ingestion is given on the immediate package	No small cells or batteries	N/A
9.4	Other information		Р
	The following information are marked on or supplied with the battery:		
	- Storage and disposal instructions	See Attachment No.2- Technical documentation	Р
	- Recommended charging instructions	See Attachment No.2- Technical documentation	Р

10	PACKAGING AND TRANSPORT		Р
	Packaging for coin cells are not be small enough to fit within the limits of the ingestion gauge of Figure 3	No coin cells	N/A

ANNEX A	CHARGING AND DISCHARGING RANGE OF SECONDARY LITHIUM ION CELLS FOR SAFE USE		
A.1	General		Р
A.2	Safety of lithium ion secondary battery		Р
A.3	Consideration on charging voltage		Р
A.3.1	General		Р
A.3.2	Upper limit charging voltage		Р
A.3.2.1	General		Р
A.3.2.2	Explanation of safety viewpoint		Р
A.3.2.3	Safety requirements, when different upper limit charging voltage is applied		N/A
A.4	Consideration of temperature and charging current		Р
A.4.1	General		Р
A.4.2	Recommended temperature range	Battery pack: +0°C – +45°C Cells: 0°C – +45°C	Р
A.4.2.1	General		Р

TRF No. IEC62133_2B

	IEC 62133-2		
Clause	Requirement + Test	Result - Remark	Verdict
A.4.2.2	Safety consideration when a different recommended temperature range is applied	Considered Battery within upper and lower temperature limits of used cells	Р
A.4.3	High temperature range	No new high temperature range defined	N/A
A.4.3.1	General		N/A
A.4.3.2	Explanation of safety viewpoint		N/A
A.4.3.3	Safety considerations when specifying charging conditions in the high temperature range		N/A
A.4.3.4	Safety considerations when specifying a new upper limit in the high temperature range		N/A
A.4.4	Low temperature range	No new low temperature range defined	N/A
A.4.4.1	General		N/A
A.4.4.2	Explanation of safety viewpoint		N/A
A.4.4.3	Safety considerations, when specifying charging conditions in the low temperature range		N/A
A.4.4.4	Safety considerations when specifying a new lower limit in the low temperature range		N/A
A.4.5	Scope of the application of charging current		N/A
A.4.6	Consideration of discharge		N/A
A.4.6.1	General	Considered	Р
A.4.6.2	Final discharge voltage and explanation of safety viewpoint	Considered	Р
A.4.6.3	Discharge current and temperature range	Considered	Р
A.4.6.4	Scope of application of the discharging current	Considered	Р
A.5	Sample preparation		N/A
A.5.1	General		N/A
A.5.2	Insertion procedure for nickel particle to generate internal short		N/A
A.5.3	Disassembly of charged cell		N/A
A.5.4	Shape of nickel particle		N/A
A.5.5	Insertion of nickel particle in cylindrical cell		N/A
A.5.5.1	Insertion of nickel particle in winding core		N/A
A.5.5.2	Marking the position of the nickel particle on both ends of the winding core of the separator		N/A
A.5.6	Insertion of nickel particle in prismatic cell		N/A
A.6	Experimental procedure of the forced internal short-circuit test		N/A

	IEC 62133-2		
Clause	Requirement + Test	Result - Remark	Verdict
A.6.1	Material and tools for preparation of nickel particle		N/A
A.6.2	Example of a nickel particle preparation procedure		N/A
A.6.3	Positioning (or placement) of a nickel particle		N/A
A.6.4	Damaged separator precaution		N/A
A.6.5	Caution for rewinding separator and electrode		N/A
A.6.6	Insulation film for preventing short-circuit		N/A
A.6.7	Caution when disassembling a cell		N/A
A.6.8	Protective equipment for safety		N/A
A.6.9	Caution in the case of fire during disassembling		N/A
A.6.10	Caution for the disassembling process and pressing the electrode core		N/A
A.6.11	Recommended specifications for the pressing device		N/A

ANNEX B RECOMMENDATIONS TO EQUIPMENT MANUFACTURERS AND BATTERY ASSEMBLERS

Ρ

Ρ

ANNEX C RECOMMENDATIONS TO THE END-USERS

ANNEX D MEASUREMENT OF THE INTERNAL AC RESISTANCE FOR COIN CELLS N/A D.1 General N/A D.2 Method N/A A sample size of three coin cells is required for this (See appended table D.2) N/A measurement Coin cells with an internal resistance greater than 3 (See appended table D.2) N/A Ω require no further testing: Coin cells with an internal resistance less than or N/A equal to 3 Ω are subjected to the testing according to Clause 6 and Table 1

ANNEX E	PACKAGING AND TRANSPORT	N/A

ANNEX F COMPONENT STANDARDS REFERENCES

N/A

SI®

Page 18 of 67

Report No. T211-0218/21 A1

IEC 62133-2							
Clause	Requirer	ment + Test		Result - Remark	Verdict		
7.2.1	TABLE:	Continuous charging	at constant voltage	(cells)		N/A	
Sample No.		Recommended charging voltage Vc (Vdc)	Recommended charging current I _{rec} (A)	OCV before test (Vdc)	Resi	ılts	
Supplemen	Supplementary information:						
- No fire or explosion							
- No leakag	- No leakage						
- Others (pl	ease exp	lain)					

7.3.1	1 TABLE: External short circuit (cell)						N/A
Sample No. Ambient (°C)		OCV at start of test (Vdc)	Resistance of circuit (mΩ)	Maximum case temperature rise ∆T (K)	Results		
Samples charged at charging temperature upper limit							
		Samples ch	narged at chargin	g temperature lo	wer limit		
Supplemer	ntary ir	nformation:					
- No fire or	explos	ion					
- Others (pl	ease e	xplain)					

IEC 62133-2								
Clause	e Requirement + Test Result - Remark							
7.3.2	TABLE: Externa	al short-circuit (l	battery)			Р		
Sample no	Ambient T (°C)	OCV before test (Vdc)	Resistance of circuit (mΩ)	Maximum case temperature rise ∆T (K)	Component single fault condition	Results		
S20209916	6 23	4,189	80	0	-	Р		
S20209914	4 23	4,197	80	0	-	Р		
S20209917	7 23	4,187	80	0	-	Р		
S2020991	5 23	4,185	80	0	1	Р		
S20209919	9 23	4,189	80	0	2	Р		

Supplementary information:

- No fire or explosion

- Others (please explain):

Battery short-circuit without single faulted components on protective circuit (BMS) – Mosfets on protective circuit (BMS) reacted immediately (Q1, Q2). Battery normally working after the test.

Battery short-circuit with components single faulted on protective circuit (BMS):

1) Short-circuit of mosfet Q1 (S-D pins) – Mosfet Q2 reacted, no hazard. Battery normally working after the test.

2) Short-circuit of mosfet Q2 (S-D pins) – Mosfet Q1 reacted, no hazard. Battery normally working after the test.

7.3.5	TABLE:	Crush (cells)			N/A
Sample No.		OCV before test (Vdc)	OCV at removal of crushing force (Vdc)	Maximum force applied to the cell during crush (kN)	Results
Samples charged at charging temperature upper li			re upper limit		
		Samples charged	at charging temperatu	re lower limit	

SI®

Page 20 of 67

Report No. T211-0218/21 A1

		EC 62133-2	
Clause	Requirement + Test	Result - Remark	Verdict
- No fire or	ntary information: explosion ease explain)		

IEC 62133-2								
Clause	ause Requirement + Test				Result - Remark		Verdict	
7.3.6	TABL	E: Over-charging of bat	tery				Р	
Constant charging current (A): 1,8								
Supply voltage (Vdc): 5,88 -								
Sample no.		OCV before charging (Vdc)			Maximum outer case temperature (°C)	Re	esults	
S20209	922	3,082	,	*	25,6		Р	
S20209	920	3,061	,	*	24,8		Р	
S20209921		3,052	*		* 25,2			Р
S20209	20209928 3,081 *		* 24,3			Р		
S20209	927	3,062	*		24,8		Р	

Supplementary information:

- No fire or explosion

- Others (please explain): *Batteries are charging with 1,8 A, until the voltage reaches approx. 4,71 V. Then the protection circuit interrupts the charging sequence. Batteries are working normally after the test. The batteries were left in charging state for 24h.

7.3.7	TABL	LE: Forced discharge (cells)				
Sample No.		OCV before application of reverse charge (Vdc)	Measured reverse charge I _t (A)	Lower limit discharge voltage (Vdc)	Resi	ılts
Sunnleme	ntarv ir	formation:				

Supplementary information:

- No fire or explosion

- Others (please explain)

7.3.8.1	TABLE: Vibration						Р
Sample no	0.	OCV before test (Vdc)	OCV after test (Vdc)	Mass before test (g)	Mass after test (g)	Re	esults
S2020992	26	4,191	4,187	27,78	27,76		Р
S2020992	25	4,188	4,185	28,01	27,95		Р
S2020992	24	4,189	4,184	27,92	27,89		Р

		IEC 62133-2		
Clause	Requirement + Test		Result - Remark	Verdict
0				

Supplementary information:

No fire or explosion
No rupture
No leakage

- No venting

- Others (please explain):

7.3.8.2 T	ABLE: Mechanical shock						
Sample no.	OCV before test (Vdc)	OCV after test (Vdc)	Mass before test (g)	Mass after test (g)	Results		
S20209926	4,187	4,185	27,76	27,75	Р		
S20209925	4,185	4,184	27,95	27,93	Р		
S20209924 4,184		4,182	27,89	27,88	Р		
Supplementar	Supplementary information:						

- No fire or explosion

- No rupture

No leakage
 No venting
 Others (please explain):

7.3.9	TAB	LE: Forced interna	l short circuit (ce	ells)		N/A	
Sample No.		Chamber ambient T (°C)	OCV before test (Vdc)	Particle location ¹⁾	Maximum applied pressure (N)	Results	
Samples charged at charging temperature upper limit							
		Samples ch	arged at chargin	g temperature lo	wer limit		

SI®

	IEC 62133-2		
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

¹⁾ Identify one of the following:

1: Nickel particle inserted between positive and negative (active material) coated area.

2: Nickel particle inserted between positive aluminium foil and negative active material coated area.

- No fire

- Others (please explain)

D.2	TABLE: Internal AC resistance for coin cells N/					N/A	
Sample no.		Ambient T (°C)	Store time (h)	Resistance Rac (Ω)	Re	sults ¹⁾	
Supplementary information:							
		nternal resistance less th	han or equal to 3 Ω , s	ee test result on corresp	ondinę	g tables	

according to Clause 6 and Table 1.

SI®

Page 24 of 67

_

			IEC 6213	3-2				
Clause	Requ	rement + Test			Result - Rema	ark		Verdict
	TABL	E: Critical compor	nents information					Р
Object/par	t no.	Manufacturer/ trademark	Type/model	Tech	nical data	Standard		ark(s) of onformity
Outer wrap w labelling (Hea shrinkable tu	ath	Interchangeable	Interchangeable	Mi	n. 70°C	IEC/EN 62133-2		ested with the unit
Terminals insulation (Heath shrink tubing) (Optional)		Interchangeable	Interchangeable	Min. 300	V, Min. 200°C	IEC/EN 62133-2		ested with the unit
External wirin (Optional)	ıg	Interchangeable	Interchangeable		WG, Min.30V, n. 80°C	IEC/EN 62133-2		ested with the unit
PVC housing (Optional)		SABIC	945		mm; V-0; ′FI 800°C	UL 764		E207780 E E45329
- PVC housin (Optional) (Alternative)	g	SABIC	SE1X		mm; V-1; ′FI 725°C	UL 764		L E45329 . E207780
PCB		JIANGXI ZHONG XIN HUA ELECTRONICS INDUSTRY CO LTD	ZXH-2	V-(), 130°C	UL 94 UL 746 IEC/EN 62133-2	Te	E331298 ested with the unit
- PCB (Alternative)		Interchangeable	Interchangeable	Min. V	√-0, 130°C	UL 94 UL 746	UL	Approved
-Protection IC	C (U1)	Texas Instruments	BQ29705****	Voltage: 4 Over Pro Voltage:	rge Protection 4.425V±0.05V, discharge otection : 2.5V±0.05V, 40°C ~+85°C	IEC/EN 62133-2		ested with the unit
- Mosfets (Q1, Q2)		Micro Commercial Components Corp.	MCG30N03	VG IE	DS: 30V, S: ±20V, D: 60A, °C ~+150°C	IEC/EN 62133-2		ested with the unit
- Mosfets (Alternative)		Interchangeable	Interchangeable	VG IE	DS: 30V, S: ±20V, D: 60A, 0°C ~+150°C	IEC/EN 62133-2		ested with the unit
Cell		GLOBTEK / SHENZHEN HIBATT TECHNOLOGY CO., LTD	IMR14650		; 3,7 Vdc; 3,52 h; Li-Ion	IEC/EN 62133-2		JPTUV- 120479

List of test equipment used: N/A (CBTL)

A completed list of used test equipment shall be provided in the Test Reports when a Customer's Testing Facility according to CTF stage 1 or CTF stage 2 procedure has been used. Note: This page may be removed when CTF stage 1 or CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

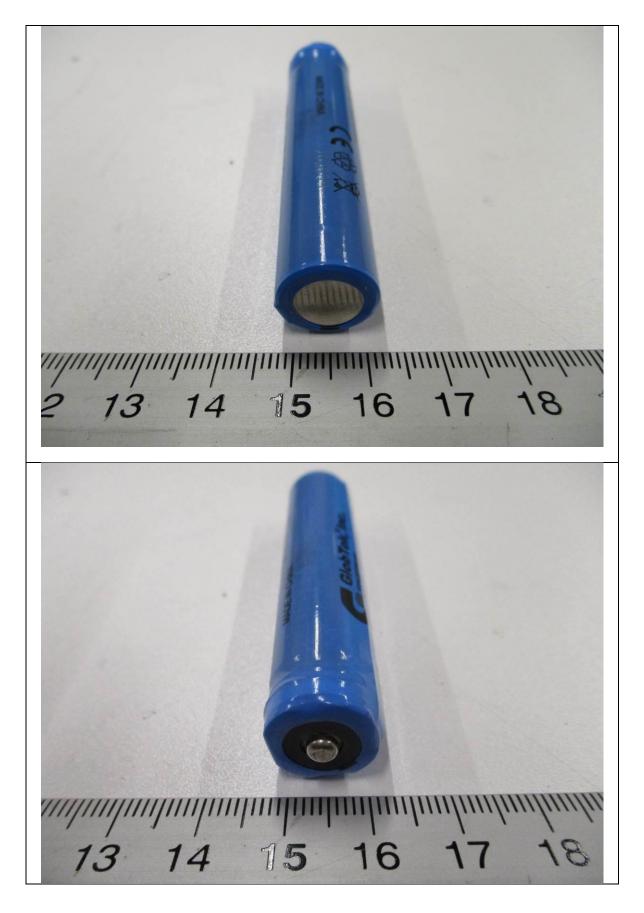
Clause	Measurement / testing	Testing / measuring equipment / material used, (Equipment ID)	Range used	Last Calibration date	Calibration due date

Attachment No.1.: Photos

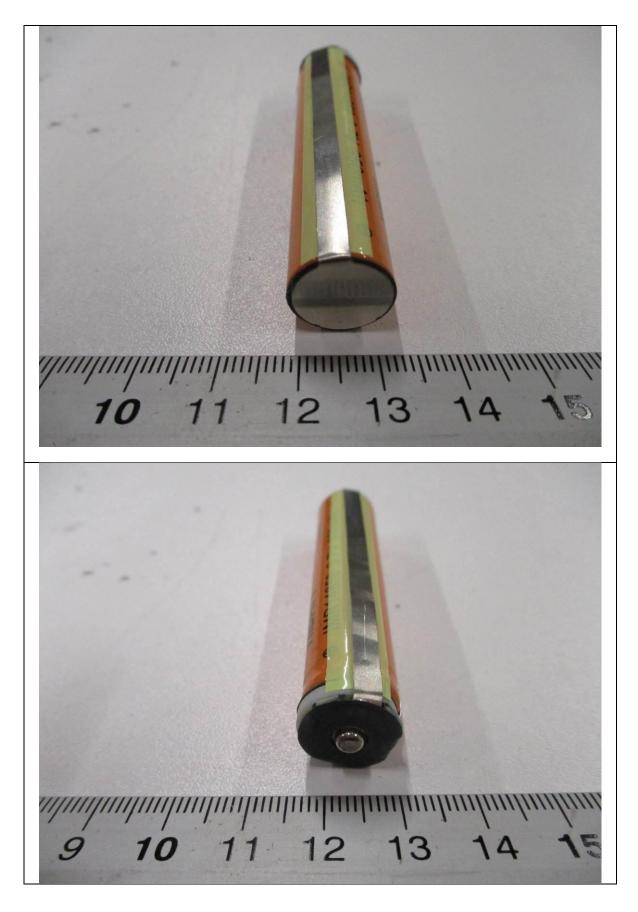


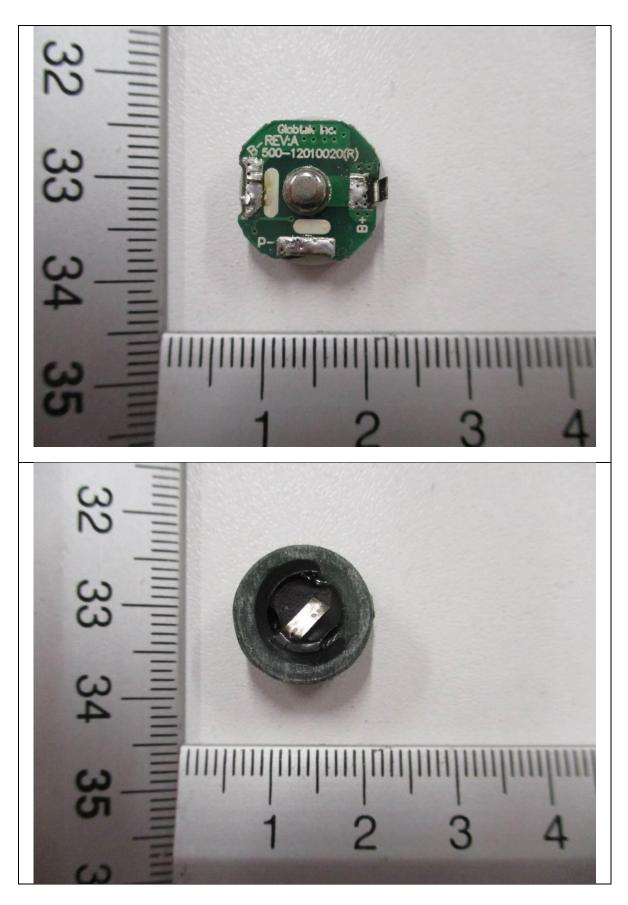






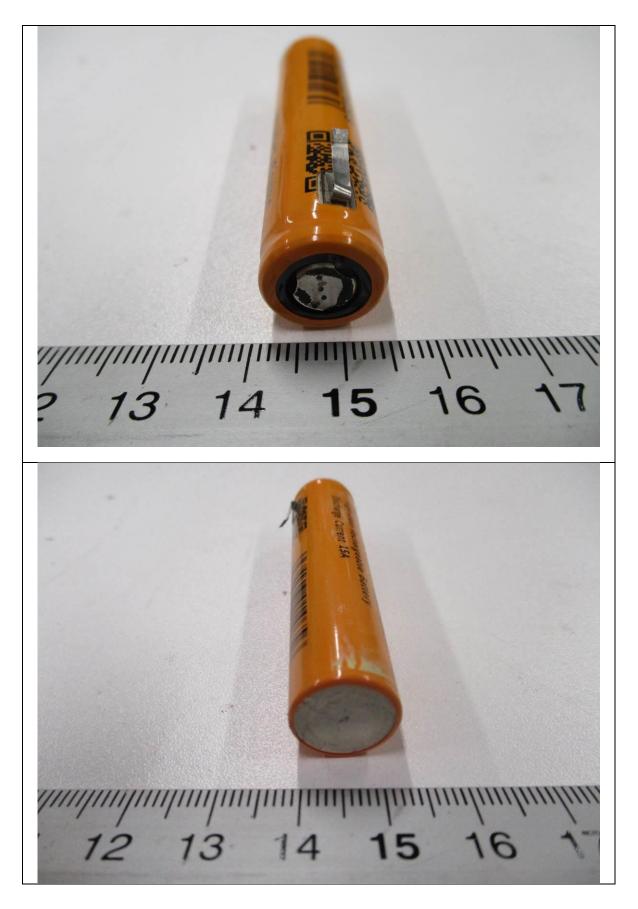


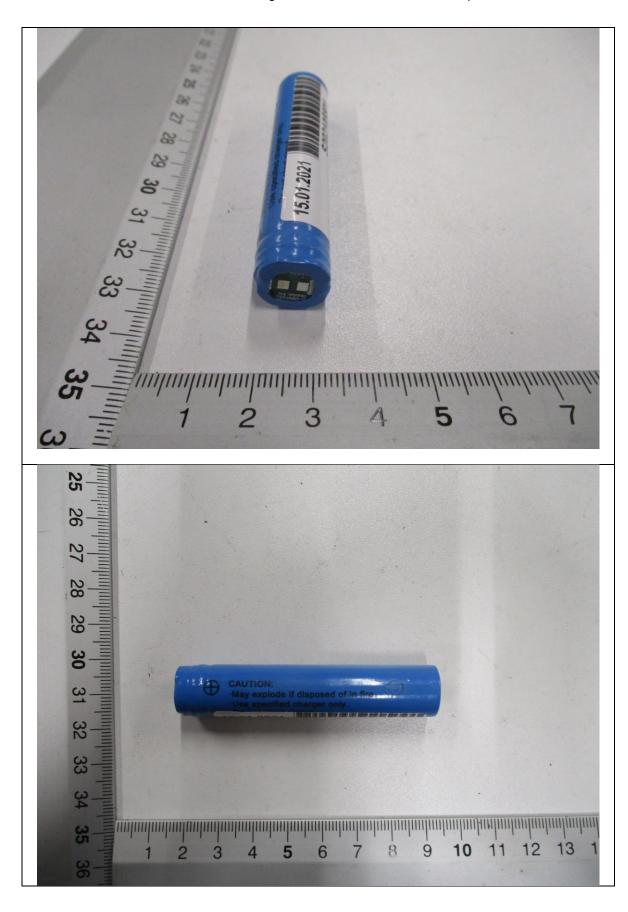


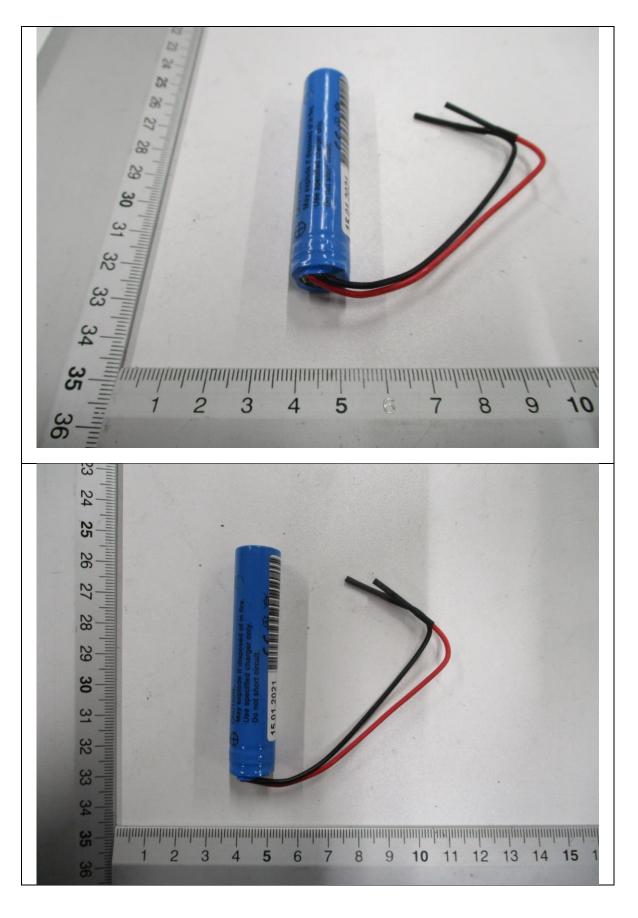


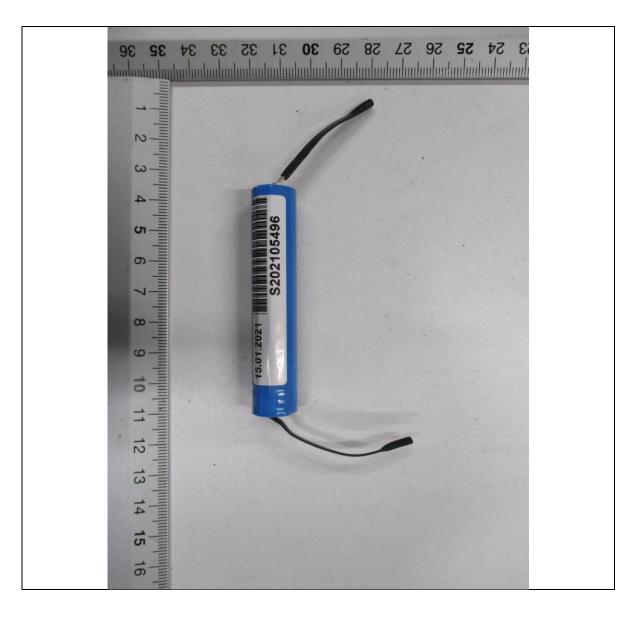


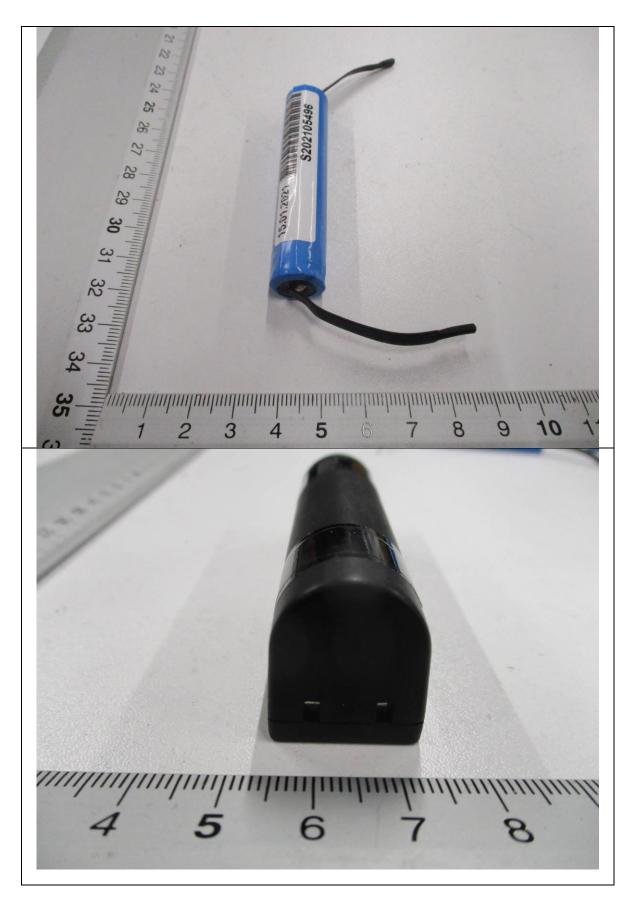
Page 34 of 67













Attachment No.2.: Technical documentation





User manual

Rechargeable Li-Ion battery MODEL: L0900CAA651S1PCBT Ratings 3.7V, 900mAh, 3.33Wh 3.7V, Max. 950mAh, 3.52Wh Charge Temperature: 0~45°C DISCHARGE Temperature: -20 TO +60°C

Please read the below information carefully

1. Handling

1.1 The Li-ion battery pack should be stored in a cool, dry and well-ventilated area. and should be far from the fire and the high temperature. If has surpasses above for six months the long time storage, suggested you should carry on additional charge to the battery.

- 1.2 Do not expose to, dispose of the battery in fire.
- 1.3 Do not put the battery in a charger or equipment with wrong terminals connected.
- 1.4 Avoid shorting the battery
- 1.5 Avoid excessive physical shock or vibration.
- 1.6 Do not disassemble or deform the battery.
- 1.7 Do not immerse in water.
- 1.8 Do not use the battery mixed with other different make, type, or model batteries.
- 1.9 Keep out of the reach of children.

2. Charge:

- 2.1 Battery must be charged in appropriate charger only.
- 2.2 Never use a modified or damaged charger.
- 2.3 Do not leave battery in charger over 24 hours.
- 2.4 Charging current: Can not surpass the biggest charging current which in this specification book stipulated.
- 2.5 Charging voltage: Does not have to surpass the highest amount which in this

specification book stipulated to decide the voltage.

- 2.6 Charge temperature: The battery must carry on the charge in the ambient temperature scope which this specification book stipulated.
- 2.7 Uses the constant electric current and the constant voltage way charge, the prohibition reverse charges. If the battery positive electrode and the cathode meet instead, can damage the battery .

3. Discharge:

- 3.1 The discharging current does not have to surpass this specification book stipulation the biggest discharging current, the oversized electric current electric discharge can cause the battery capacity play to reduce and to cause the battery heat.
- 3.2 Electric discharge temperature: The battery discharge must carry on in the ambient temperature scope which this specification book stipulated.
- 3.3 Over-discharges: After the short time excessively discharges charges immediately cannot affect the use, but the long time excessively discharges can cause the battery the performance, battery function losing. The battery long-term has not used, has the possibility to be able to be at because of its automatic flashover characteristic certain excessively discharges the condition, for prevented excessively discharges the occurrence, the battery should maintain the certain electric quantity.

4. Disposal:

Regulations vary for different countries. Dispose of in accordance with local regulations.

5. Others

Because batteries utilize a chemical reaction, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, if the various usage conditions such as charge, discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage. If the batteries cannot maintain a charge for long periods of time, even when they are charged correctly, this may indicate it is time to change the battery.

PROPRIETARY INFORMATION: PROPRIETARY OF GLOBTEK, INC. ANY REPRODUCTION DISCLOSURE OR USE OF THIS DRAVING, IN WHOLE OR IN PART, IS HEREBY PROHIBITED EXCEPT AS SPECIFIED IN WRITING BY GLOBTEK, INC.				
REV DESCRIPTION	SALES	RFS	DATE	APPROVED
A INITIAL RELEASE	DR	27515	4/21/2020	DR
B UPDATE GENERAL SPECIFICATION	DR	27529	6/18/2020	DR
C UPDATE LABEL/WRAPPER	DR		7/28/2020	DR
C1 UPDATE LABELWRAPPER WITH CUSTOMER FILE 1009038AR01-VALO_X-Battery_Wrap-OL-0920	DR		9/11/2020	DR
C2 UPDATE LABEL ARTWORK FROM ICR->IMR	DR		10/2/2020	DR
UPDATE LABEL ARTWORK	DR	27570	10/19/2020	DR
C4 UPDATE LABEL FOR UN REPORT REQUIREMENTS	M٢		12.16.20	DR
UPDATE DESCRIPTION 1465 TO 1	Σ	000000	12.23.20	Я
D UPDATE CHARGE CURRENT TO 1.0C(MAXIMUM),TEMPERATURE RANGE TO 0 TO +45°C	DR	27603	2/1/2021	DR
See Page 2 for important battery warranty and usage information.				(
REL	RELEASED			
Bypu	dxc at §):02 am, l	By pudxc at 9:02 am, Feb 02, 2021	1
Foot Note: Globate from the liable for the safety and performance of these power supplies if unauthorized access and repair occurs. End user should consult applicable UL, CSA or EN standards for proper installation instruction. Limitation of USe: Globate product and an end and or and or on the support hazardous environment, nuclear or aircraft applications withour prior written approval from the CEO of Globate Inc.				
-				
	Cell, 13		lie cell,	
467				
161. 2011-784-1000 Fax 2011-784-0111				REV U

SHEET 1 of 7

τ ĕ	PROPICIE LARY INFORMALION: PROPRIETARY OF GLOSTEK, INC. ANY REPRODUCTION DISCLOSURE OR USE OF THIS DPAWING, IN WHOLE OR IN PART, IS HEREBY PROHIBITED EXCEPT AS SPECIFIED IN WRITING BY GLOBTEK, INC.
	By customer signing or accepting this document, they agree to acknowledge and accept the Guidelines and cautions, Safety Notes, and Safety Precautions published on GlobTek's website http://en.globtek.com/safety-cautions.php#.UUD-NRzU_I8
	GlobTek offers a 5-year warranty on workmanship and electrical components assembly on all new battery pack products excluding the battery cells themselves which are covered by the Manufacturer's original warranty at their published warranty period. Please refer to the manufacturer's manufacturer's warranty policy for cells. For GlobTek brand cells, GlobTek provides a 12-month warranty period. Please refer to the manufacturer's manufacturer's warranty policy for cells. For GlobTek brand cells, GlobTek provides a 12-month varranty period. Please refer to the warranty period is based upon the expectation that the battery will deliver 80% of its initial capacity after 300 cycles at low to moderate power loads. High power loads may cause a battery to reach 80% of initial capacity in less than the 12-month warranty period. Li-lon batteries will continue to operate below the 80% capacity threshold; however, the capacity (run time) delivered between charges will continue to decrease.
	The purchaser of GlobTek battery pack products (Customer) agrees that they are a "Sophisticated user" who understands battery technology and that it is their sole responsibility to determine suitability of the product described for their application and to take precautions for protection against any hazards attendant to the handling and use of the product. GlobTek products are only designed for professional use and integration by companies into their products and may not be used by consumers directly. GlobTek provides batteries and battery packs as a component of an end system.
	The acceptance of GlobTek specifications, the information on this page and use of the product(s) described in this or other GlobTek documents indicate that the product was qualified for use (tested and/or sample waiver signed), and the acceptance and binding of the customer to GlobTek terms and conditions, which supersede all other agreements, terms and conditions http://en.globtek.com/terms-and-conditions/
	Lithium Ion batteries are inherently dangerous. Continuous usage or charging without allowing the battery to discharge is a hazard. FIRE HAZARD: This like all Li-Ion battery packs must be regularly discharged and charged. it is not recommended to be kept on permanent full charge and in a full state of charge.
	Customer Approval of Specification:

L - Lithium Ion (3.7V), 900 mAH, C - Cylindrical, 14 650 cell, 1S1P, C - single cell, B - Button, B - Button MODEL NO: 1IMR14/65 PART NO: BL0900CAA651S1PCBT Please approve, sign and send back to GlobTek so we can complete order processing. A delay in receipt of this form will delay delivery schedule. 186 Veterans Drive, Northvale, NJ 07467 Tel. 201-784-1000 Fax 201-784-0111 Authorized Representative Signature: Authorized Representative Name: Company Name: Customer P/N: Quote Number: ww.globtek.com GlobTek; Inc. Date:

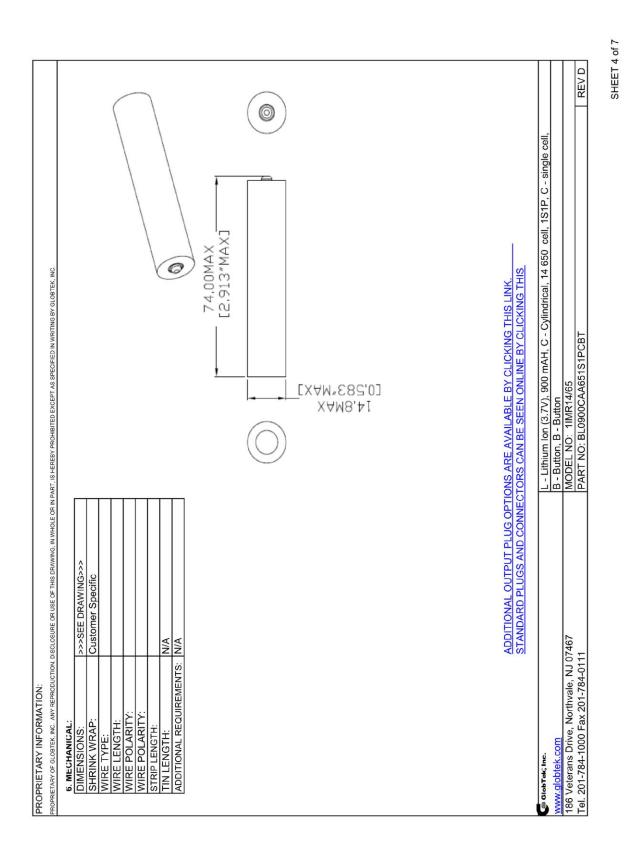
SHEET 2 of 7

REV D

ERY WITH SAFETY CIRCUIT AND	PLASTIC HOUSING	And Hazardous Subschare
CELL:	IMR14650BP095	
	GLOBTEK STANDARD	
NTC:	NA	M so
	N/A	ilianno
SURATION:	1S1P	^c RoHS
	TBD	
ECIFICATION FOR PAC	¢;	
	900 mAh MIN, 950mAh TYPICAL	ENERGY
	3.7V	CALIFY STAR
	3.33Wh	
	CONSTANT CURRENT + CONSTANT VOLTAGE	
MAX. CHARGE VOLTAGE [V]:	4.2V	
	0.5C (standard); 1.0C (maximum)	
	BY CURRENT 95mA or 3hours charge terminate	
E CURRENT:	3A (6A peak load for 500us)	
OFF:		
IN LEKNAL IMPEDANCE:		
	IOM: 4 425 +0 031	
	1011 4:442 BULCZ SEC DEL AZ PERIME 4 325 40 02V/	
(20msec.	(2000) DELAY, RESUME 2.840.05V REMOVE LOAD & CHARGING CURRENT)	
OVER CURRENT DETECTION:	over current betection: 3.54 to 7A (8msec: DELAY) SHORT CURRENT DETECTION: 300us DELAY	
3. AMBIENT CONDITIONS		
TEMPERATURE RANGE:		
CHARGE:	0 TO +45°C	
DISCHARGE:	-20 TO +60°C	
CHARGE RETENTION/STORAGE [%]:	1 YEAR AT -20 TO +20°C >80%	
	3 MONTHS AT -20 TO +45°C >80%	
	1 MONTH AT -20 To +50°C >80%	
HUMIDITY:	60 ±25%RH	
4. ENVIORMENTAL AND SAFETY		
PLEASE FOLLOW GlobTek, Inc. HANDLING	ING AND SAFETY PRECAUTIONS FOR LIION & LIPOlymer.	
5. CELL REGULATORY APPROVALS:		
UL:	Design to meet UL1642	
5 BATTERY PACK APPROVALS:		
RoHS:		
CE Mark:		
TRANSPORTATION		
UL:		
e GlobTek; Inc. www.clobtek.com	L - Lithium Ion (3.7V), 900 mAH, C - Cylindrical, 14 650 cell, 1S1P, C - single cell B - Button B - Button	C - single cell,
406 Voterane Drive Northvole NLO7467		
100 VEUERATIS UTIVE, INUTITIVATE, INJ U/ 407 Tot 204 704 4000 Eous 204 704 44		

PROPRIETARY INFORMATION:

SI®



Page 46 of 67

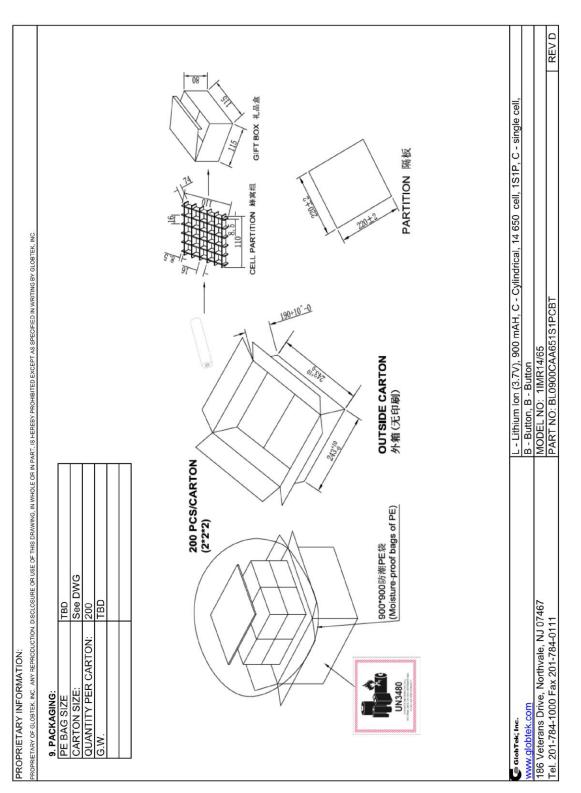
PROPRIETARY INFORMATION: PROPRIETARY OF GLOSTEK, INC. ANY REPRODUCTION, DISCLOSURE OF USE OF	PROPRIETARY INFORMATION: proprietary of globitek, inc. Any reproduction, disclosure or use of this drawing, in whole or in <u>dar</u> t, is hereby prohibited except as specified in writing by globitek, inc.	
7. OUTPUT CONNECTOR: ACTUAL CONNECTOR'S, OVERMOLDS, MAY VARY SLIGHTLY FROM THE PICTURE BELOW	RY SLIGHTLY FROM THE PICTURE BELOW	
	EQUIVALENT Y/N	
	PLUG TYPE	Button Top
	OVER MOLD ORIENTATION	N/A
	PLUG DIMENSIONS	
	BARREL PLUG INTERNAL SPRING CLIP	N/A
	BARREL PLUG LOCKING NOTCH	N/A
	POLARITY	N/A
	ADDITIONAL REQUIREMENTS	N/A
STANDARD P	ADDITIONAL OUTPUT PLUG OPTIONS ARE AVAILABLE BY CLICKING THIS LINK. STANDARD PLUGS AND CONNECTORS CAN BE SEEN ONLINE BY CLICKING THIS	
GiobTek; Inc.	L - Lithium Ion (3.7V), 900 mAH, C - Cylindrical, 14 650 cell, 1S1P, C - single cell P - A.4555 P - B.4655	.1P, C - single cell,
AWW.GIUDTEK.COTT		
186 Veterans Urive, Northvale, NJ 0/46/ Tel 201-784-1000 Eax 201-784-0111	MODEL NO: 11MK14/65 PART NO: RI 0900CAA651S1PCRT	L REV D
181. 201-104-1000 Fax 201-104-0111		

SHEET 5 of 7



Page 48 of 67

SI®



SHEET 7 of 7

SPECIFICATION OF PRODUCT Rechargeable Lithium Ion Battery							
Specification No.	IMR14	650FP095					
Document No.							
Version		0.0					
Prepared By/Date	Checked By/Date	Approved By/Date					
Customer Signature							
Jan,. 2015							



-	14650FP095	Doc. No. :		Version No.: 0.0			
Amendment Records							
Edition	Description	Prepared by	Approved by	Date			
A0	First Edition						

Spec. No. : IMR14650FP095	Doc. No. :	Version No.: 0.0

1. Scope.

This product specification defines the requirements of the rechargeable lithium ion battery to be supplied to the customer by Shenzhen Hibatt Technology Co., Ltd.

2. Description and Model.

2.1 Description	Cylindrical rechargeable lithium ion battery
2.2 Model	IMR14650FP095

3. Product Specification.

No.	ltem	Specification	Condition / Note	
3.01	Nominal Capacity	950mAh	Otd change (diash such	
3.01	Minimum Capacity	900mAh	Std. charge / discharg	
3.02	Nominal Voltage	3.7V		
3.03	Charge mode	CC, CV		
3.04	Charge Voltage	4.2V	Max. Charge Voltage	
3.05	Standard Charge Current	475mA	Refer to 4.1	
3.06	Fast Charge Current	950mA	Refer to 4.3	
3.07	Charge cut-off current	19mA		
3.08	Charge time	1-6h		
3.09	Discharge End Voltage	3.0V		
3.10	Standard Discharge Current	475mA	Refer to 4.2	
3.11	Fast Discharge Current	10 000mA	Refer to 4.3	
3.12	Max. Discharge Current	15 000mA	Peak Current	
3.13	Initial AC Impedance	≤35mΩ	without PTC	
		13.9±0.3mm	Diameter	
3.14	Cell Dimension	65.0±0.5mm	Height	
3.15	Weight	≈21.2g		
3.16	Operation Temperature Range	0~45 ℃	Charge	
3.10	60±25%R.H. Bare Cell	-20~60 ℃	Discharge	
	Storage Temperature	-20 ℃ ~ 50℃	1 month	
3.17	(60±25%R.H.	-20 ℃ ~ 45℃	3 month	
	at the shipment state)	-20 ℃ ~ 20℃	1 year	
		1, Charge: Refer to 4.1		
	Cycle Life	2, Rest time: 10 min	Capacity remaining rate	
3.19	(Temperature:25±5℃)	3, Discharge: Refer to 4.2	≥ 70% (of Cnom in 2.1)	
		4. Rest Time: Between	after 500 cycles	
		Charge and Discharge 10min		

Page 3 of 7

Spec. No. : IMR14650FP095	Doc. No. :	Version No.: 0.0
d= 13.9 ± 0.3mm h= 65.0 ±0.5mm	1	
\bigcirc		
4.Performance Specification		
 4.1 Standard test condition 4.1.1 Standard Charge Unless otherwise specified, "Standard C The cell shall then be charged at constants shall be terminated when the charging of be performed at 25±5℃. 4.1.2 Standard Discharge "Standard Discharge" shall consist of discontinue of the constant of the consta	ant voltage of 4.2V while tapering th current has tapered to 19mA. For te scharging at a constant current of 47	e charge current. Chargin st purposes, charging sha 5mA to 3.0V. Discharging
 4.1 Standard test condition 4.1.1 Standard Charge Unless otherwise specified, "Standard C The cell shall then be charged at constants shall be terminated when the charging of be performed at 25±5℃. 4.1.2 Standard Discharge 	ant voltage of 4.2V while tapering th current has tapered to 19mA. For te scharging at a constant current of 47 erwise noted (such as capacity versu on ent of 1900mA to 4.2V with end current	e charge current. Chargin st purposes, charging sha 5mA to 3.0V. Discharging is temperature). ent of 19mA. Cells shall b
 4.1 Standard test condition 4.1.1 Standard Charge Unless otherwise specified, "Standard C The cell shall then be charged at constants shall be terminated when the charging of the performed at 25±5°C. 4.1.2 Standard Discharge "Standard Discharge "Standard Discharge other the performed at 25±5°C unless oth 4.1.3 Fast Charge / Discharge conditi Cells shall be charged at constant current of 10 000 	ant voltage of 4.2V while tapering th current has tapered to 19mA. For te scharging at a constant current of 47 erwise noted (such as capacity versu on ent of 1900mA to 4.2V with end current	e charge current. Chargin st purposes, charging sha 5mA to 3.0V. Discharging is temperature). ent of 19mA. Cells shall b
 4.1 Standard test condition 4.1.1 Standard Charge Unless otherwise specified, "Standard Content of the cell shall then be charged at constants shall be terminated when the charging of the performed at 25±5°C. 4.1.2 Standard Discharge "Standard Discharge" shall consist of distinct to be performed at 25±5°C unless oth 4.1.3 Fast Charge / Discharge conditien Cells shall be charged at constant current of 10 000000000000000000000000000000000	ant voltage of 4.2V while tapering th current has tapered to 19mA. For te scharging at a constant current of 47 erwise noted (such as capacity versu on ent of 1900mA to 4.2V with end current	e charge current. Chargin st purposes, charging sha 5mA to 3.0V. Discharging is temperature). ent of 19mA. Cells shall b

 Spec. No. : IMR14650FP095
 Doc. No. :
 Version No.: 0.0

ltem	Condition	Specification
4.2.1	Cells shall be charged per 4.1.1 and stored in a	Capacity remaining rate
Storage	temperature-controlled environment at 25±5°C	≥ 90% (of Cnom in 2.1)
Characteristics	for 30 days. After storage, cells shall be	
	discharged per 4.1.2 to obtain the remaining	
	capacity.	
4.2.2	Cells shall be charged per 4.1.1 and stored in a	No leakage,
High Temperature	temperature-controlled environment at 60°C for	Capacity recovery rate
Storage Test	1 week. After storage, cells shall be discharged	≥80% (of Cnom in 2.1)
	per 4.1.2 and cycled per 4.1.1 and 4.1.2 for 3	
	cycles to obtain recovered capacity.	
4.2.3	$65^{\circ}C (8h) \leftarrow 3hrs \rightarrow -20^{\circ}C (8h)$ for 8 cycles	No leakage
Thermal Shock Test	with cells charged per 4.1.1 After test, cells are	Capacity recovery rate
	discharged per 4.1.2 and cycled per 4.1.1 and	≥80% (of Cnom in 2.1)
	4.1.2 for 3 cycles to obtain recovered capacity.	

4.3 Temperature Dependency of Capacity.

Discharge Temperature	-10 ℃	0 °C	23 °C	60 °C
Discharge Capacity	60%	80%	100%	95%

Cells shall be charged per 4.1.1 at 25±5 $^\circ\!\mathrm{C}$ and discharged per 4.1.2 at the following temperatures.

4.4 Mechanical Specification.

ltem	Condition	Specification
4.4.1	Cells charged per 4.1.1 are dropped onto an oak board	No leakage
Drop Test	from 1 meter height for 1 cycle, 2 drops from each cell	No temperature rising
	terminal and 1 drop from side of cell. (Total number of	
	drops =3).	
4.4.2	Cells charged per 4.1.1 are vibrated for 90 minutes per	No leakage
Vibration Test	each of the three mutually perpendicular axes (x, y, z)	
	with total excursion of 0.8mm, frequency of 10Hz to	
	55Hz and sweep of 1Hz change per minute.	

4.5 Safety Specification.

Page 5 of 7



Spec. No. : IM	R14650FP095 Doc. No. :	Version No.: 0.0
Item	Condition	Specification
4.5.1	Cells are discharged per 4.1.2, then charged at	No explosion, No fire
Overcharge Test	constant current of 3 times the max. charge condition	
	and constant voltage of 4.2V while tapering the charge	
	current. Charging is continued for 7 hours (Per	
	UL1642).	
4.5.2	Cells are charged per 4.1.1, and the positive and	No explosion, No fire
External Short -	negative terminal is connected by a 100 m Ω -wire for 1	
Circuiting Test	hour (Per UL1642).	
4,5.3	Cells are discharged at constant current of 0.2C to	No explosion, No fire
Overdischarge	250% of the minimum capacity.	
Test		
4.5.4	Cells are charged per 4.1.1 and heated in a circulating	No explosion, No fire
Heating Test	air oven at a rate of 5°C per minute to 130°C. At 130°C,	
	oven is to remain for 10 minutes before test is	
	discontinued (Per UL1642).	
4.5.5	Cells charged per 4.1.1 are impacted with their	No explosion, No fire
Impact Test	longitudinal axis parallel to the flat surface and	
	perpendicular to the longitudinal axis of the 15.8mm	
	diameter bar (Per UL1642).	
4.5.6	Cells charged per 4.1.1 are crushed with their	No explosion, No fire
Crush Test	longitudinal axis parallel to the flat surface of the	
	crushing apparatus (Per UL1642).	

5. Caution and Prohibition in Handling

Warning for using the lithium ion rechargeable battery. Mishandling of the battery may cause heat, fire and deterioration in performance. Be sure to observe the following.

Caution

1, When using the application equipped with the battery, refer to the user's manual before usage.

2, Please read the specific charger manual before charging.

3, When the cell is not charged after long exposure to the charger, discontinue charging.

4, Battery must be charged at operating temperature range $0 \sim 45^{\circ}$ C.

5, Battery must be discharged at operating temperature(cell surface temperature) range -20 ~ 75 $^\circ$ C.

6, Please check the positive(+) and negative(-) direction before packing.

7, When a lead plate or wire is connected to the cell for packing, check out insulation not to short-circuit.

8, Battery must be stored separately.

Page 6 of 7

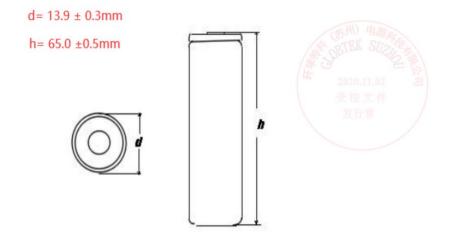
Spec. No. : IMR1	4650FP095	Doc. No. :	Version No.: 0.0
Battery must be st	ored in a dry area	with low temperature for long	-term storage
0, Do not place the	-		-term storage.
		•	nere the protection device can
amaged.			
2, When rust or sme	ell is detected on fi	irst use, please return the pro-	duct to the seller immediately.
3, The battery must			
4, When cell life s	pan shortens after	long usage, please exchange	e to new cells.
		Prohibitions	
, Do not use differer	nt charger. Do not	use cigarette jacks (in cars) fo	or charging.
-		more than maximum charge o	current.
, Do not disassembl		ne battery.	
, Do not throw or ca		ith sharp things. (such as nail	knife, pencil or drill, etc.)
, Do not use with ot			
, Do not solder on b	attery directly.		
, Do not press the b	attery with overloa	ad in manufacturing process, e	especially ultrasonic welding.
, Do not use old and	•		
0, Do not expose th		. ,	
2, Do not put the ba		vave or high pressure containe	er.
	•	ative(-) with conductive mater	rials (such as metal, wire)
		erged in or wetted with water of	
			Page 7 of 7



	Ref. Certif. No.			
IEC SYSTEM FOR MUTUAL RECOGNITI (IECEE) CB SCHEME	ON OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT			
CB TEST CERTIFICATE				
Product	Rechargeable Li-ion Cell			
Name and address of the applicant	GlobTek, Inc. 186 Veterans Dr. Northvale NJ 07647, USA			
Name and address of the manufacturer	GlobTek, Inc. 186 Veterans Dr. Northvale NJ 07647, USA			
Name and address of the factory	Shenzhen Hibatt Technology Co., Ltd 2/F, No.4th, Shenlong West Lane, Longtian Street, Pingshan District, Shenzhen, Guangdong, P.R. China			
Ratings and principal characteristics	3.7V, 950mAh, 3.52Wh			
Trademark (if any)				
Customer's Testing Facility (CTF) Stage used Model / Type Ref.	N/A IMR14650			
Additional information (if necessary may also be reported on page 2)				
A sample of the product was tested and found to be in conformity with	IEC 62133-2:2017 See Test Report for National Differences			
As shown in the Test Report Ref. No. which forms part of this Certificate	CN21KHD5 001			
This CB Test Certificate is issued by the National Certification Body				
	TÜV Rheinland Japan Ltd. Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan Phone + 81 45 914-3888 Fax + 81 45 914-3354 Mail: info@jpn.tuv.com Web : www.tuv.com			
Date: 2021-03-15	Signature: A. Chen			

Disclaimer: This is an electronically released document. The authenticity of this certificate can be verified on the IECEE Website "http://certificates.iecee.org"

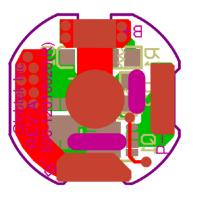
10/061 CB 06/20v9 rk



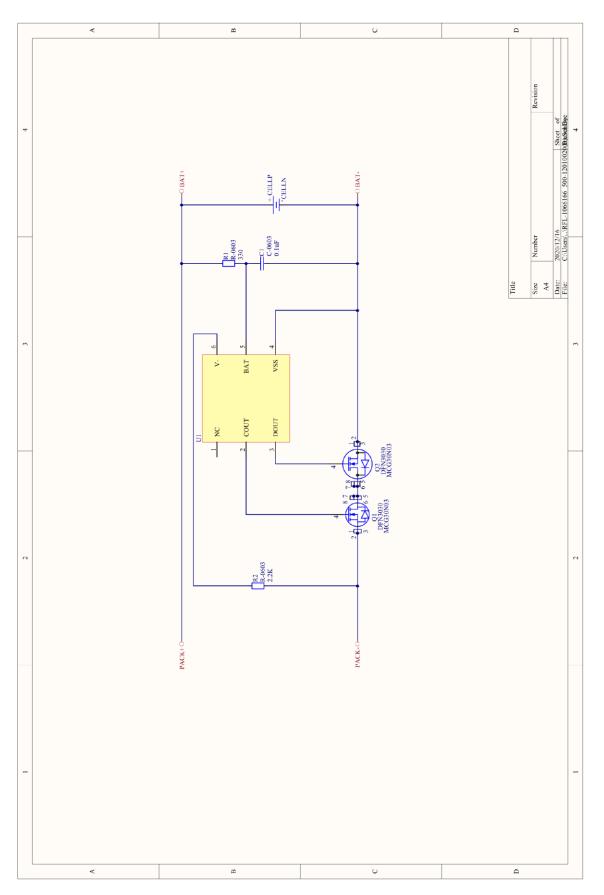
PCB MATERIAL & FLAMMABILITY & YOUR COMPANY LO PCB VENDOR: ADD UL APPROVED MANUFACTURER L Last Updated 2020/7/24 Surface Dispose: HASI Text Color: White

PCB MASK COLOR: GRE Tolerance: +/- 0.1(mm) Flame Class: 94V-0 Surface Dispose: HASL

PN: 500-12010020(R) Material: FR-4 T1.0mm Copper: 1oz. REV:A Text Color: White



SI®



TRF No. IEC62133_2B





Attachment No.3.: US/CAN National Deviations

Country	Canada
IECEE Member NCB	CSA Group
IEC Standard	IEC 62133-2 (Ed 1), dated 2017-02
Corresponding National Standard	CAN/CSA-E62133:13
Regulatory Requirements	N/A

We hereby declare the following against the above IEC Standard: National Differences X

Regulatory Requirements

Special National Conditions $\hfill \Box$

Clause and Sub-clause	Exact wording
1	[Add the following] This Standard covers secondary cells and batteries that are intended to be installed or used in accordance with CSA C22.1, Canadian Electrical Code, Part I.
2	2 Normative references [Add the following] Where reference is made to CSA Group publications, such reference shall be considered to refer to the latest edition and all amendments published to that edition. This Standard refers to the following publications, and the years shown indicate the latest editions available at the time of printing: CSA Group C22.1-12 Canadian Electrical Code, Part I CAN/CSA-C22.2 No. 0-10 General requirements — Canadian Electrical Code, Part II C22.2 No. 0.15-01 (R2012) Adhesive labels CAN/CSA-C22.2 No. 0.17-00 (R2013) Evaluation of properties of polymeric materials C22.2 No. 39-12 Fuseholder assemblies C22.2 No. 127-09 Equipment and lead wires CAN/CSA-C22.2 No. 198.1-06 (R2010) Extruded insulating tubing C22.2 No. 235-04 (R2013) Supplementary protectors Certification Informs, Component Acceptance Service No. 53 (January 2013) Positive temperature coefficient (PTC) thermistors

SI®

3	[Add the following clause]
	3A General requirements General requirements applicable to these products are provided in CAN/CSA-
	C22.2 No. 0.
5	5 General safety considerations
	5.1 General
	[Add the following at the end of Clause 5.1]
	All safety components shall be suitable for use in accordance with the
	applicable CSA Group Standards where available. Examples of such components and subassemblies are as follows:
	a) wiring in accordance with CSA C22.2 No. 127;
	b) insulation tubing in accordance with CAN/CSA-C22.2 No. 198.1;
	c) protection devices such as fuses in accordance with CSA C22.2 No. 235,
	and PTC thermistors in accordance with CSA Component Acceptance Service
	No. 53;
	d) fuseholders in accordance with CSA C22.2 No. 39; and
	e) printed wiring boards and outer plastic enclosures shall be flammability rated a minimum of V-1 in accordance with CAN/CSA-C22.2 No. 0.17.
9	9 Marking
	9.1 Cell marking
	[Add the following after the first paragraph]
	Cell marking shall also include the model or type number.
	Cautions and warnings shall be in English and French in accordance with
	CAN/CSA-C22.2 No. 0. If external labels are used, they shall be a suitable
	type in accordance with CSA C22.2 No. 0.15. 10.2 Battery marking
	[Add the following after the first paragraph]
	Cautions and warnings shall be in English and French in accordance with
	CAN/CSA-C22.2 No. 0. If external labels are used, they shall be a suitable
	type in accordance with CSA C22.2 No. 0.15.

SI®

	UL 62133-2 ATTACHMEN	IT		
Clause	Requirement + Test	Result - Remark	Verdict	
electrolytes –	ATTACHMENT TO TEST REF UL 62133-2:2017 Secondary cells and batteries containing alkal Safety requirements for portable sealed secondary c use in portable applications PART 2: LITHIUM SYSTEM	line or other non-acid ells, and for batteries made fror s –	n them, for	
Differences a	ccording to UL 62133-2 ED.1:2020			
Attachment F	orm No US_ND_UL62133-2			
Attachment C	Driginator: SIQ			
Master Attack	nment 2021-07-05			
1.DV.2 DR	Modification to add the following paragraph to Claus	se 1 (Canada only):	Р	
	This standard deals with the covered components used in accordance with CAN/CSA-C22.2 No.0.		Р	
2.DV.1 DR	Modification to add the following to Clause 2 (Canada	a only:	Р	
	CAN/CSA-C22 No. 0, General Requirements – Canadian Electrical Code, Part II		Р	
2DV.2 D1	Modification to add the following to Clause 2:			
	CAN/CSA-C22 No. 0.17, Evaluation of Properties of Polymeric Materials UL 94, Tests for Flammability of Plastic Materials for Parts in Devices and Appliances	V-0 materials for current carrying parts	Р	
2DV.3 DC	Modification to add the following to Clause 2 (US onl	y):	Р	
	UL 1642, Lithium Batteries		N/A	
5.6.1DV.1 D1	Modification to add the following to Clause 5.6.1		Р	
	For products where no end-product standard requirements exist, printed wiring board and outer moulded battery cases shall be flammability rated a minimum of V-1 in accordance with CAN/CSA-C22 No. 0.17 or UL 94	End product standard exists	P	
	Batteries shall be constructed of:		Р	
	a) Cells meeting the requirements of this standard; or	See LOCC	Р	
	b) Cells in compliance with the requirements of UL 1642		N/A	
9.2DV.1 DR	Modification to add the following after the first paragr	aph of Clause 9.2:	Р	
	A symbol may be used in place of the appropriate caution statement if the significance of the symbol is explained in the instructions.		N/A	
9.2DV.2 DR	Modification to add the following after Clause 9.2DV.	1 (Canada only):	Р	

UL 62133-2 ATTACHMENT				
Clause	Requirement + Test	Result - Remark	Verdict	
	If the appropriate caution statement is provided with text, it shall be in both English and French	See copy of marking plate	Р	
Annex DVF DC	Modification of Annex F to add Clause and replace Table F.1 with Table DVF.1 and make Annex F (normative):		Р	
Annex DVF.DVF.1	The following north American standards in Table DVF.1 replace the referenced IEC standards where applicable and provide additional requirements. For undated references, the latest edition of the referenced document (including any amendments) applies.		Ρ	



Ref. Certif. No.

SI-8787 A1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME			
Product	Rechargeable Li-Ion battery pack		
Name and address of the applicant	GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647, New Jersey, USA		
Name and address of the manufacturer	GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647, New Jersey, USA		
Name and address of the factory	GlobTek (Suzhou) Co., Ltd. Building 4 No. 76, Jinling East Road Suzhou Industrial Park Jiangsu 215021, P.R. China		
Note: When more than one factory, please report on page 2	Additional Information on page 2		
Ratings and principal characteristics	3,7 V; 900 mAh; 3,33 Wh (Max. 950 mAh; 3,52 Wh)		
Trademark / Brand (if any)	GlobTek, Inc.		
Customer's Testing Facility (CTF) Stage used			
Model / Type Ref.	BL0900CAA651S1PCBT; BL0900CAA651S1P*****		
Additional information (if necessary may also be reported on page 2)	This CB certificate replaces CB certificate No.: SI-8787 due to updated test report.		
	Additional Information on page 2		
A sample of the product was tested and found to be in conformity with	IEC 62133-2:2017 + A1:2021		
As shown in the Test Report Ref. No. which forms part of this Certificate	T211-0218/21 A1 (2022-01-25)		
This CB Test Certificate is issued by the National Certification Body			
SIQ Ljubljana, Mašera-Spasićeva ulica 10, SI-1000 Ljubljana, Slovenia T +386 1 4778 100, F +386 1 4778 444, info@siq.si, www.siq.si			
SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number CP-001 in the field of certification of products, processes and services.			
Date: 2022-01-25 Signature: Bojan Pečavar Peicovor Bi-			