

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.....	211000552SHA-001
Date of issue.....	2022-07-06, Amendment 1, 2024-12-02
Total number of pages	12 pages
Name of Testing Laboratory preparing the Report	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
Applicant's name	SHANGHAI SUNSEEKER ROBOTIC TECHNOLOGY CO., LTD
Address.....	3 Floor,226 Gaoji Rd., Sijing Town, Songjiang District, Shanghai, China
Test specification:	
Standard	IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021
Test procedure	Testing
Non-standard test method	N/A
Test Report Form No.	IEC62133_2A
Test Report Form(s) Originator	DEKRA
Master TRF	Dated 2017-08-10
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Test item description..... :	Li-ion Battery Pack	
Trade Mark..... :		
Manufacturer :	Zhejiang sunseeker industrial Co.ltd 988. jinde Rd jiangdong industrial Park jinhua Zhejiang	
Model/Type reference :	LBF2025, LBF205	
Ratings :	LBF2025: 20V Max 18VDC, 2.5Ah, 45Wh LBF205: 20V Max 18VDC, 5.0Ah, 90Wh	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ Testing Laboratory:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.	
Testing location/ address..... :	Building No.86, 1198 Qinzhou Road (North), 20033 Shanghai, China	
Tested by (name, function, signature)..... :	Michael Zheng	<i>Michael Zheng</i>
Approved by (name, function, signature)... :	Liping Chen	<i>Liping Chen</i>
Testing procedure: CTF Stage 1:		
Testing location/ address..... :		
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) . :		
Approved by (name, function, 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)... :		
Supervised by (name, function, signature) :		

List of Attachments (including a total number of pages in each attachment):		
No.	Content	Page
1	Photos of product	9-12
Summary of testing: The results indicate that the specimen complies with standard "IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021".		
Tests performed (name of test and test clause): None		Testing location: Intertek Testing Services (Shanghai FTZ) Co., Ltd. Building No.86, 1198 Qinzhou Road (North), 20033 Shanghai, China
Summary of compliance with National Differences (List of countries addressed): Group differences for CENELEC countries are considered. The product fulfils the requirements of EN 62133-2:2017+A1:2021.		

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.

LBF2025



LBF205



Note: 1, The manufacture date is presented in YYMMLBFXXXXXXXXXXXX, YY denotes year, MM denotes month. e.g. 2203LBFXXXXXXXXXXXX denotes manufacture date is March 2022.

Test item particulars.....:	
Classification of installation and use.....:	Battery packs for special final products
Supply Connection	---
Recommend charging method declared by the manufacturer	CC/CV: 1.1A/20.5V for LBF2025, 3A/20.5V for LBF205
Discharge current (0,2 It A)	0.5A for LBF2025 1.0A for LBF205
Specified final voltage.....:	14V
Upper limit charging voltage per cell.....:	4.25V
Maximum charging current	3A for LBF2025, 5A for LBF205
Charging temperature upper limit	55°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	2021-10-12
Date (s) of performance of tests	2022-06-09 to 2022-06-14
General remarks:	
“(See Enclosure #)” refers to additional information appended to the report. “(See appended table)” refers to a table appended to the report. Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer’s Declaration per sub-clause 4.2.5 of IEC60060-02:	
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 the General product information section.	
Name and address of factory (ies) : Same as manufacturer	
General product information and other remarks:	
The product covered by this report is Li-ion Rechargeable battery Pack, model no. are LBF2025 and LBF205. LBF2025 battery packs equipped with 5 cells in series, cell model no. INR18650-25R. LBF205 battery packs equipped with 5 series connected cellblocks of 2 cells in parallel, cell model no. INR18650-25R. LBF2025 and LBF205 have the same PCB layout and circuit. The battery pack has no case, suitable case/enclosure should be evaluated in end-use.	

Amendment 1:

The original Test Report Ref. No. 211000552SHA-001 dated on 2022-07-06 was modified on 2024-12-02 to include the following additions:

1. Updated the standard to IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021.
2. Added the new photo of model LBF205 with new connector.
3. Updated the label.
4. Added the new trade mark.
5. Updated the cell information in table Critical components information.

After review, no test was considered necessary in this report.

Clauses Concerned.....: TABLE: Critical components information
Attachment 1 Photos of product

TABLE: Critical components information						P
Object / part No.	Manufacturer / trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Cell	SAMSUNG SDI CO LTD	INR18650-25++	3.6V, 2500mAh	IEC 62133-2	CB/NL-85139	
Fixing frame of cells	Ningbo Yujiang Special Rubber Belts Co Ltd	PA6 F27G2V0A0 (E495657)	V-0, 65°C, Thickness min:1.5mm	IEC 62133-2	Tested with appliance	
PCB	SICHUAN HAIYING ELECTRONIC TECHNOLOGY CO LTD	HY-2 (E351718)	DS, V-0, 130 °C Min. thickness: 1.5mm	IEC 62133-2	Tested with appliance	
Alt. PCB	Interchangeable	Interchangeable	DS, V-0, 130 °C Min. thickness: 1.5mm	IEC 62133-2	Tested with appliance UL approved	
Wire	HONG KONG DONG TIAN TONG LI ELECTRICITY CO LTD	3266 (E254854)	18AWG, 125°C, 300V	IEC 62133-2	Tested with appliance	
Wire	Interchangeable	Interchangeable	Min. 18AWG, 125°C, 300V	IEC 62133-2	Tested with appliance UL approved	
IC(U1)	Powtech	AF10Q20	QFN-20, supply voltage: -0.5 - 40V, operating temperature: -40~85 °C	IEC 62133-2	Tested with appliance	
Alt. IC (U1)	Powtech	M929	QFN-24, supply voltage: -0.5 - 40V, operating temperature: -40~85 °C	IEC 62133-2	Tested with appliance	
IC (U2)	Cmsemicon	CMS8M3510	SSOP24, VDS: -0.3~5.8V, Topr: -40~105°C	IEC 62133-2	Tested with appliance	
Alt. IC (U2)	Cmsemicon	CMS8M1010	SSOP24, VDS: -0.3~5.8V, Topr: -40~105°C	IEC 62133-2	Tested with appliance	
Alt. IC (U2)	Cmsemicon	CMS8S6990	SSOP24, VDS: -0.3~5.8V, Topr: -40~105°C	IEC 62133-2	Tested with appliance	
Fuse (F1)	DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD	4772200200 (E300003)	32V, 20A	IEC 62133-2	Tested with appliance	

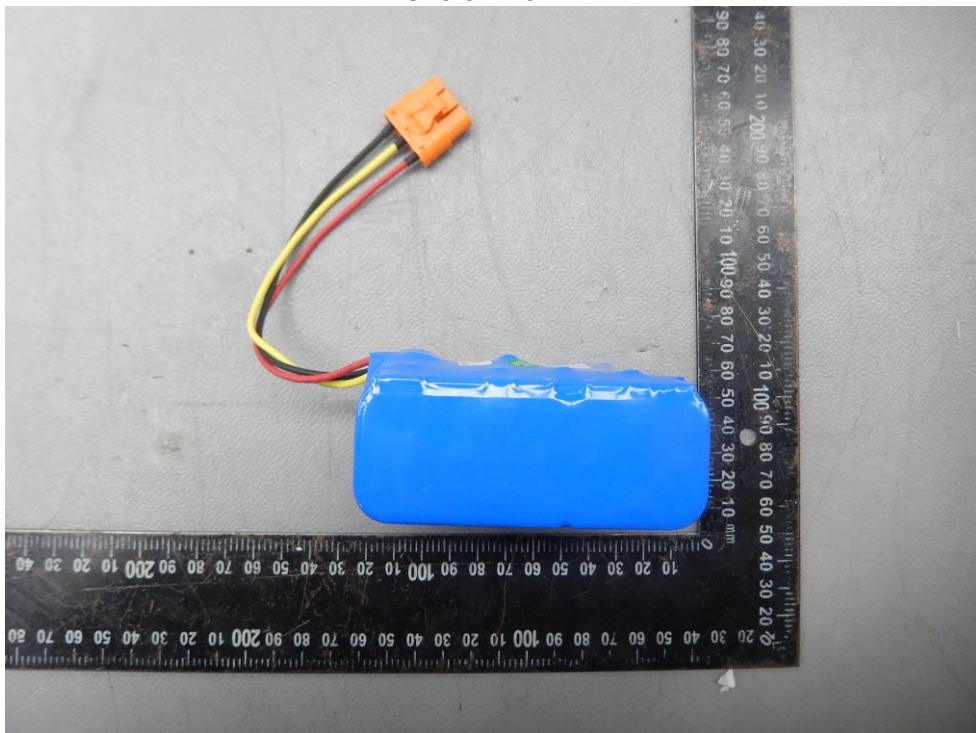
Fuse (F2 for LBF2025)	Zhejiang Sunseeker	2A Nickel fuse	Nickel, Min. thickness: 0.25mm, size: 10*6mm, min. width: 2.8mm, aperture: 1.2mm	IEC 62133-2	Tested with appliance
Fuse (F2 for LBF205)	Zhejiang Sunseeker	4A Nickel fuse	Nickel, Min. thickness: 0.3mm, size: 10*6mm, aperture: 4mm	IEC 62133-2	Tested with appliance
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

Attachment 1: Photos of product

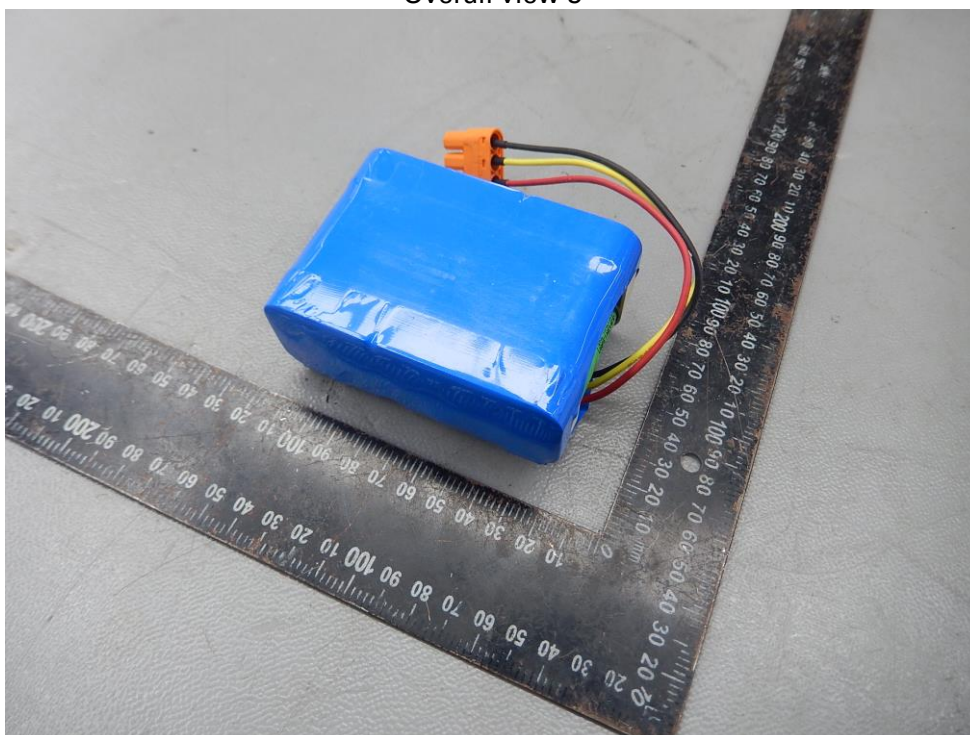
Overall view 1



Overall view 2



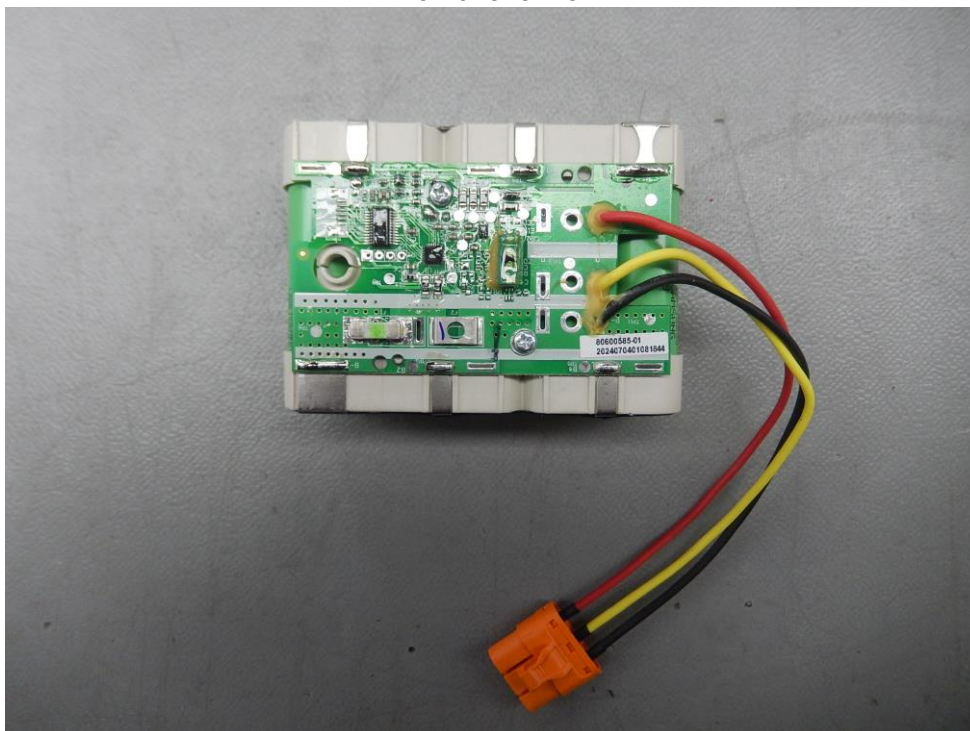
Overall view 3



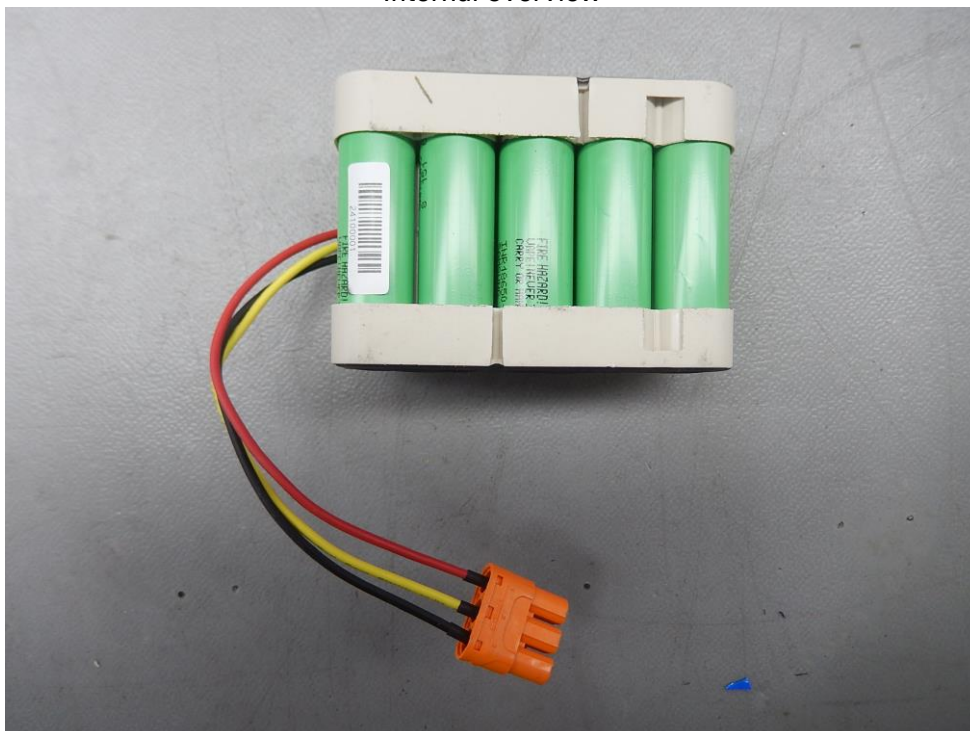
Overall view 4



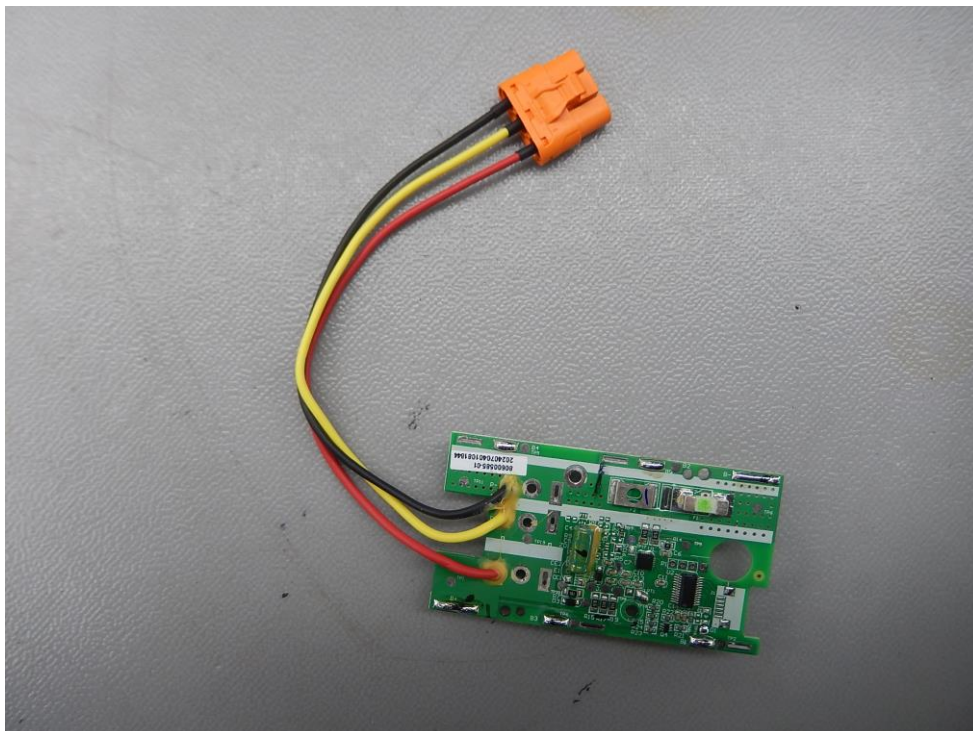
Internal overview



Internal overview



PCBA



PCBA

