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检测报告

TEST REPORT



检科院公众号

报告编号

Report No.

STL/R2507468-2

样品名称

Sample Name

可充电锂离子电池系统

Rechargeable Li-ion Battery System

委托单位

Consignor

上海派智能源股份有限公司

Shanghai PYTES Energy Co., Ltd.

浙江省检验检疫科学技术研究院

Zhejiang Academy of Science and Technology for Inspection and Quarantine



报告编号 No.: STL/R2507468-2
报告日期 Date: 2025-10-16

检 测 报 告 TEST REPORT

样品名称 Name	可充电锂离子电池系统 Rechargeable Li-ion Battery System
型号规格 Type/Model	HV48100 SE / 614.4V 100Ah 61.44kWh
委托单位 Consignor	上海派智能源股份有限公司 Shanghai PYTES Energy Co., Ltd.
地 址 Address	上海市奉贤区金钱公路 3492 号 No.3492 Jinqian Road,Fengxian District,Shanghai,China
制造商 Manufacture	上海派智能源股份有限公司 Shanghai PYTES Energy Co., Ltd.
地 址 Address	上海市奉贤区金钱公路 3492 号 No.3492 Jinqian Road,Fengxian District,Shanghai,China
生产厂 Factory	上海派智能源股份有限公司 Shanghai PYTES Energy Co., Ltd.
地 址 Address	上海市奉贤区金钱公路 3492 号 No.3492 Jinqian Road,Fengxian District,Shanghai,China
样品数量 Quantity	1 个集成电池组 1 assembled battery
样品编号 Sample No.	2507468-1-1
接样日期 Accepted Date	2025-08-04
试验日期 Test Date	2025-09-28 至 2025-09-29
试验依据 Criterion	联合国《试验和标准手册》第八修订版 38.3 节 ST/SG/AC.10/11/Rev.8/Section 38.3
试验结论 Conclusion	经检测，该样品符合联合国《试验和标准手册》第八修订版 38.3 节标准要求。 The sample has passed the test items of UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.8/Section 38.3
备 注 Comment	/

编制：朱晨辉
Compiler:

审核：李雄
Reviewer:

批准：朱晨辉
Approve:





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样品说明及描述 Description and illustration of Samples

样品外观: 良好
Appearance: Good
样品颜色: 银色
Color: Silver
样品形状: 棱柱形
Shape: Prismatic
电池组状态:
Status of battery:

样品编号 Sample No.	型号 Type	能量 Watt-hour	类别 Category	组成结构 Composition
2507468-1-1	HV48100 SE	61.44kWh	Assembled battery	由 12 个锂离子电池模组 HV48100 SE BMU 组成 Consists of 12 Lithium-ion battery modules HV48100 SE BMU

备注:

样品为型号 HV48100 SE 的电池系统, 其额定瓦时为 61.44kWh, 大于 6200Wh。组成电池系统的电池模组型号为 HV48100 SE BMU, 已通过 UN38.3 测试, 报告编号为 STL/R2506731-2。根据 ST/SG/AC.10/11/Rev.8/Section 38.3.3.1(g)条款要求, 电池系统经过验证可防止下列状况, 即无需进行试验:

- (一)过度充电;
- (二)短路;
- (三)电池组之间过度放电。

Note:

The Sample (Type: HV48100 SE) is a battery system. The rated Watt-hour is 61.44kWh, which is larger than 6200Wh. The modules (Type: HV48100 SE BMU) that assembled in the battery system have passed UN38.3 tests (STL/R2506731-2). According to ST/SG/AC.10/11/Rev.8/Section 38.3.3.1(g), the battery system does not need to be tested if it of a type that has been verified as preventing:

- (i) Overcharge;
- (ii) Short circuits;
- (iii) Over discharge between the batteries.

样品照片及标识 Photos of Samples and Labels



外观 (HV48100 SE 电池系统)

Appearance (HV48100 SE battery system)



外观 (HV48100 SE 电池系统)

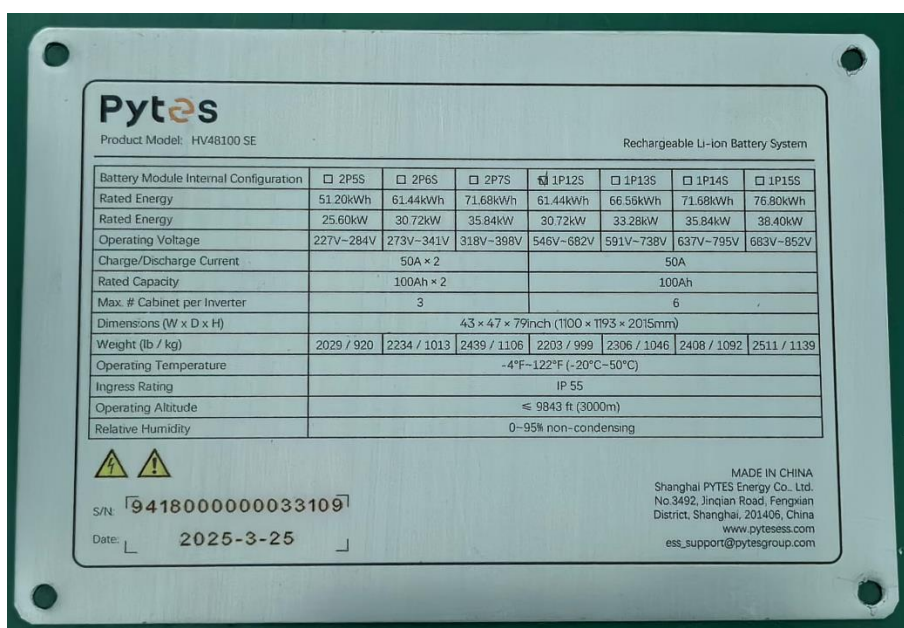
Appearance (HV48100 SE battery system)

样品照片及标识 Photos of Samples and Labels



内部 (HV48100 SE 电池系统)

Interior (HV48100 SE battery system)



铭牌 (HV48100 SE 电池系统)

Label (HV48100 SE battery system)

样品照片及标识 Photos of Samples and Labels

Item	Battery	Power	SysPower	
Over Voltage	: 3650	57600	681600	mV
Over VoltageR	: 3600	56000	672000	mV
High Voltage	: 3600	56800	675240	mV
High VoltageR	: 3450	55000	663960	mV
Low Voltage	: 3100	49760	597120	mV
Low VoltageR	: 3200	51360	616320	mV
Under Voltage	: 2700	44000	537600	mV
Under VoltageR	: 2900	48000	564000	mV
Sleep Voltage	: 2600	40000	498000	mV

保护参数（HV48100 SE 电池系统）

Protection parameter (HV48100 SE battery system)



外观（HV48100 SE BMU 锂离子电池模组）

Appearance (HV48100 SE BMU Lithium-ion battery module)



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检测结果 Test Results

条款 No.	试验项目及试验要求 Test item and requirements	试验结果 Result	判定 Conclusion
38.3.3.1(g)	要求: 对于已通过所有适用试验的若干电池组以电路连接而成的集成电池组, 如在完全充电时所有正极的合计锂含量大于 500g, 或在锂离子电池组的情况下, 如额定的瓦时数超过 6200Wh, 该集成电池组如经过验证属于可防止下列状况, 即无需进行试验 T.1 - T.8 测试项目: (一) 过度充电; (二) 短路; (三) 电池组之间过度放电。 Requirements: When batteries that have passed all applicable tests are electrically connected to form a battery in which the aggregate lithium content of all anodes, when fully charged, is more than 500g, or in the case of a lithium ion battery, with a Watt-hour rating of more than 6200Wh, the assembled battery does not need to be tested if it of a type that has been verified as preventing: (i) Overcharge; (ii) Short circuits; (iii) Over discharge between the batteries.	依据 《ZAIQ-WI(DQ)-523 集成电池组符合 UN38.3.3.1(g)条款验证流程作业指导书》验证, 样品具有防止过度充电、短路、电池组之间过度放电能力。过度充电、电池组之间过度放电详见附表 1-2 和评估表 1-2, 短路详见评估表 3。 According to the verification specified in file ZAIQ-WI(DQ)-523, the sample has the ability to prevent overcharging, short circuiting and over discharging between batteries. Overcharging, excessive discharging between battery packs is detailed in Appendix 1-2 and Evaluation Form 1-2, and short circuits are detailed in Evaluation Form 3.	合格 Passed



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附表 Appendix 1

序号 No.	1	试验项目 Test Item	过充电保护验证 Overcharge protection verification	
样品编号 Sample No.	充电电压 Charge Voltage	充电电流 Charge Current	结束条件 Termination condition	现象 Event
2507468-1-1	849.121V	50A	☒ 试验对象自动终止充电电流 Sample automatically terminates charging current. ☐ 试验对象发出终止充电电流的信号 Sample sends out the signal for terminating charging current.	O
备注: L-泄漏, V-漏气, D-解体, R-破裂, F-起火, O-无泄漏、无排气、无解体、无破裂和无起火 Note: L-Leakage, V-Venting, D-Disassembly, R-rupture, F-Fire, O- no leakage, no venting, no disassembly, no rupture and no fire				

附表 Appendix 2

序号 No.	1	试验项目 Test Item	电池组间过度放电保护验证 Protection verification of over discharge between the batteries	
样品编号 Sample No.	终止放电电流时的电压 Voltage when discharge is terminated		结束条件 Termination condition	现象 Event
2507468-1-1	集成电池组 Assembled battery	电池组/电池 Battery/Cell	☒ 试验对象自动终止放电电流 Sample automatically terminates discharge current.	O
	710.997V	2.724V	☐ 试验对象保护策略发生不可恢复性断路 An unrecoverable open circuit occurred due to the protection strategy of the sample.	
备注：L-泄漏，V-漏气，D-解体，R-破裂，F-起火，O-无泄漏、无排气、无解体、无破裂和无起火 Note: L-Leakage, V-Venting, D-Disassembly, R-rupture, F-Fire, O- no leakage, no venting, no disassembly, no rupture and no fire				



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评估表 Evaluation Form 1

评估项目 Evaluation Item		过充电保护验证 Overcharge protection verification	
序号 No.	类型 Type	保护功能详情 Details of the protection function	佐证资料 Proof materials
1	软件保护（由15个锂离子电池模组组成） Software protection (Consists of 15 Lithium-ion battery module)	样品具有电芯过压保护、电池簇总压过压保护等保护功能，各级保护功能中又分为一级报警、二级报警、三级报警保护等三种等级保护状态。 在过压三级报警保护状态下可控制高压盒直流继电器切断样品充电回路。 The sample has functions such as cell overvoltage protection and battery cluster total overvoltage protection. The functions are divided into three levels: first-level alarm protection, second-level alarm protection and third-level alarm protection. The DC relay in the high voltage box can be controlled to cut off the sample charging circuit in the protection state of third-level overvoltage alarm.	1. 可充电锂离子电池系统产品保护参数 Product protection parameter for Rechargeable Li-ion Battery System 2. 可充电锂离子电池系统电气原理图 Electrical schematic diagram of Rechargeable Li-ion Battery System 3. 高压盒直流接触器 (EVHB250A-12B / DC1000V/250A) 规格书 Specification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A) 4. 高压盒直流接触器 (EVHB250A-12B / DC1000V/250A)UL 认证证书 UL certification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A)
2	软件保护（由12个锂离子电池模组组成） Software protection (Consists of 12 Lithium-ion battery modules)	样品具有电芯过压保护、电池簇总压过压保护等保护功能，各级保护功能中又分为一级报警、二级报警、三级报警保护等三种等级保护状态。 在过压三级报警保护状态下可控制高压盒直流继电器切断样品充电回路。 The sample has functions such as cell overvoltage protection and battery cluster total overvoltage protection. The functions are divided into three levels: first-level alarm protection, second-level alarm protection and third-level alarm protection. The DC relay in the high voltage box can be controlled to cut off the sample charging circuit in the protection state of third-level overvoltage alarm.	1. 可充电锂离子电池系统产品保护参数 Product protection parameter for Rechargeable Li-ion Battery System 2. 可充电锂离子电池系统电气原理图 Electrical schematic diagram of Rechargeable Li-ion Battery System 3. 高压盒直流接触器 (EVHB250A-12B / DC1000V/250A) 规格书 Specification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A) 4. 高压盒直流接触器 (EVHB250A-12B / DC1000V/250A)UL 认证证书 UL certification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A)



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评估项目 Evaluation Item		过充电保护验证 Overcharge protection verification	
序号 No.	类型 Type	保护功能详情 Details of the protection function	佐证资料 Proof materials
评估结论 Evaluation conclusion		测试数据是在电池系统（由 15 个锂离子电池模组组成）上进行，测试结果表明保护功能有效。由于电池系统（由 15 个锂离子电池模组组成）和电池系统（由 12 个锂离子电池模组组成）采用了相同的高压盒和保护策略，因此可以认为电池系统（由 12 个锂离子电池模组组成）同样具有该保护功能。 The test data was obtained on the battery system (consisting of 15 lithium-ion battery modules), and the test results indicated that the protection function was effective. Since the battery system (consisting of 15 lithium-ion battery modules) and the battery system (consisting of 12 lithium-ion battery modules) adopt the same high-voltage box and protection strategy, it can be considered that the battery system (consisting of 12 lithium-ion battery modules) also has this protection function.	



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评估表 Evaluation Form 2

评估项目 Evaluation Item		电池组间过度放电保护验证 Protection verification of over discharge between the batteries	
序号 No.	类型 Type	保护功能详情 Details of the protection function	佐证资料 Proof materials
1	软件保护（由15个锂离子电池模组组成） Software protection (Consists of 15 Lithium-ion battery module)	样品具有电芯过压保护、电池簇总压过压保护等保护功能，各级保护功能中又分为一级报警、二级报警、三级报警保护等三种等级保护状态。在过压三级报警保护状态下可控制高压盒直流继电器切断样品充电回路。 The sample has functions such as cell overvoltage protection and battery cluster total overvoltage protection. The functions are divided into three levels: first-level alarm protection, second-level alarm protection and third-level alarm protection. The DC relay in the high voltage box can be controlled to cut off the sample charging circuit in the protection state of third-level overvoltage alarm.	1. 可充电锂离子电池系统产品保护参数 Product protection parameter for Rechargeable Li-ion Battery System 2. 可充电锂离子电池系统电气原理图 Electrical schematic diagram of Rechargeable Li-ion Battery System 3. 高压盒直流接触器 (EVHB250A-12B / DC1000V/250A) 规格书 Specification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A) 4. 高压盒直流接触器 (EVHB250A-12B / DC1000V/250A) UL 认证证书 UL certification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A)
2	软件保护（由12个锂离子电池模组组成） Software protection (Consists of 12 Lithium-ion battery modules)	样品具有电芯过压保护、电池簇总压过压保护等保护功能，各级保护功能中又分为一级报警、二级报警、三级报警保护等三种等级保护状态。在过压三级报警保护状态下可控制高压盒直流继电器切断样品充电回路。 The sample has functions such as cell overvoltage protection and battery cluster total overvoltage protection. The functions are divided into three levels: first-level alarm protection, second-level alarm protection and third-level alarm protection. The DC relay in the high voltage box can be controlled to cut off the sample charging circuit in the protection state of third-level overvoltage alarm.	1. 可充电锂离子电池系统产品保护参数 Product protection parameter for Rechargeable Li-ion Battery System 2. 可充电锂离子电池系统电气原理图 Electrical schematic diagram of Rechargeable Li-ion Battery System 3. 高压盒直流接触器 (EVHB250A-12B / DC1000V/250A) 规格书 Specification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A) 4. 高压盒直流接触器 (EVHB250A-12B / DC1000V/250A) UL 认证证书 UL certification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A)



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评估项目 Evaluation Item		电池组间过度放电保护验证 Protection verification of over discharge between the batteries	
序号 No.	类型 Type	保护功能详情 Details of the protection function	佐证资料 Proof materials
评估结论 Evaluation conclusion		测试数据是在电池系统（由 15 个锂离子电池模组组成）上进行，测试结果表明保护功能有效。由于电池系统（由 15 个锂离子电池模组组成）和电池系统（由 12 个锂离子电池模组组成）采用了相同的高压盒和保护策略，因此可以认为电池系统（由 12 个锂离子电池模组组成）同样具有该保护功能。 The test data was obtained on the battery system (consisting of 15 lithium-ion battery modules), and the test results indicated that the protection function was effective. Since the battery system (consisting of 15 lithium-ion battery modules) and the battery system (consisting of 12 lithium-ion battery modules) adopt the same high-voltage box and protection strategy, it can be considered that the battery system (consisting of 12 lithium-ion battery modules) also has this protection function.	



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评估表 Evaluation Form 3

评估项目 Evaluation Item		短路保护验证 Short circuit protection verification	
序号 No.	类型 Type	保护功能详情 Details of the protection function	佐证资料 Proof materials
1	硬件保护 Hardware protection	样品具有高压盒熔断器 (RS306-01/DC1000V/160A) 外部短路保护装置, 在外部短路状态下, 保护装置动作, 可切断短路回路。 The sample has an external short-circuit protection device with a high voltage box fuse (RS306-01/DC1000V/160A). In the event of an external short circuit, the protection device will activate and can cut off the short circuit circuit.	1. 可充电锂离子电池系统电气原理图 Electrical schematic diagram of Rechargeable Li-ion Battery System 2. 高压盒熔断器 (RS306-01/DC1000V/160A) 规格书 Specification for High voltage box fuse (RS306-01/DC1000V/160A) 3. 高压盒熔断器 (RS306-01/DC1000V/160A) UL 认证证书 UL certification for High voltage box fuse(RS306-01/DC1000V/160A)
2	软件保护 Software protection	样品具有过流及短路保护功能, 当检测到过流状态时, 可控制高压盒直流继电器切断样品电气回路。 The sample has the function of overcurrent and short circuit protection. When the overcurrent state is detected, the High voltage box DC relay can be controlled to cut off the sample electrical circuit.	1. 可充电锂离子电池系统产品保护参数 Product protection parameter for Rechargeable Li-ion Battery System 2. 可充电锂离子电池系统电气原理图 Electrical schematic diagram of Rechargeable Li-ion Battery System 3. 高压盒正负直流继电器 (EVHB250A-12B / DC1000V/250A) 规格书 Specification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A) 4. 高压盒正负直流继电器 (EVHB250A-12B / DC1000V/250A) UL 认证证书 UL certification for High voltage box positive and negative DC relay (EVHB250A-12B / DC1000V/250A)
评估结论 Evaluation conclusion		样品具有该保护功能 The sample has this protection function.	

报告结束

*** END ***



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浙江省检科院实验室及业务联系方式

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