

UN Test Report

Name of Sample	Lithium Ion Battery 4NCR18650-1-T1302
Consignor	SANYO Energy(Suzhou) CO.,LTD
Manufacturer	SANYO Energy(Suzhou) CO.,LTD
Test Method	United Nations "Recomenndations on the TRANSPORT OF DANGEROUS GOODS"
Criterion	United Nations "Recomenndations on the TRANSPORT OF DANGEROUS GOODS"
Appearance	Black rectangular parallelepiped
Test Date	T1-T5 2014/10/28-2014/11/7 T6 2013/10/31 T7 2014/10/30-2014/11/10 T8 2011/06/20- 2011/06/27
Test Items	Altitude simulation, Thermal test, Vibration test, Shock test, External short circuit, Overcharged
Conclusion	The sample has passed the items of UN38.3.
Remark	Certification by Similar Cell Model:NCR18650F Certification by Similar Battery Model:4NCR18650T-Z001A Ratio of (4NCR18650-1-T1302)/(4NCR18650T-Z001A) [Wh rating ratio]: 111.7%, [Voltage ratio]: 100%
Consignor Address	No.86 Sunwu Road, Xukou, Wuzhong District, Suzhou City, Jiangsu Province 215164, China

Sanyo Energy(Suzou) Co.,Ltd.

A. Kawamura

Approval

Jenny Hu

Check

Tina Song

Writing

CONFIDENTIAL

Date:December 22,2015

A: Checklist for Judging New Type Cell or not

Confirmation of presence of change in "The element which is given influence"

(Change ⇒ ○、No change ⇒ -)

When there is no change in all items, it is NOT considered to be a New Type Cell.

Model which UN regulation test has completed	NCR18650F
Target model which is not a new type	NCR18650

Check Item	The element which is given influence	Presence of change
Cell dimensions	Are the dimensions of this cell the same as those of the test completion cell?	-
Safety parts and mechanical components	Are the safety parts and mechanical components of this cell the same as those of the test completion cell?	-
Cathode material system	Is cathode material system of this cell the same as that of the test completion cell?	-
Anode material system	Is anode material system of this cell the same as that of the test completion cell?	-
Electrolyte material system	Is electrolyte material system of this cell the same as that of the test completion cell?	-
Wh of cell	Is Wh difference of cell less than 20%?	-
Voltage of cell	Is increase of cell voltage less than 20%?	-
Judgment result	New Type or not	New Not new

Sanyo Energy(Suzou) Co.,Ltd.

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Writing

B: Checklist for Judging New Type Battery or not

Confirmation of presence of change in “The element which is given influence”

(Change ⇒ ○、 No change ⇒ -)

When there is no change in all items, it is NOT considered to be a New Type Battery.

Model which UN regulation test has completed	4NCR18650T-Z001A
Target model which is not a new type	4NCR18650-1-T1302

Test Item (Function)	The element which is given influence	Presence of change
T1: Altitude Simulation (Decompression load)	<ul style="list-style-type: none"> ▪ Crimped part, Gasket (Cell) ▪ Gas Release Vent, Cell Case (Cell) ▪ Pack (Plastic) Case ▪ Holding Member (Insulator, Insulation Tape, Both Sides Tape) ▪ Coating materials 	-
T2: Thermal Shock (Repetition of high temp. and low temp.)	<ul style="list-style-type: none"> ▪ Crimped part, Gasket (Cell) ▪ Gas Release Vent, Cell Case (Cell) ▪ Finished state of Wound Electrodes (Cell) ▪ Pack (Plastic) Case ▪ Holding Member (Insulator, Insulation Tape, Both Sides Tape) ▪ Coating materials 	-
T3: Vibration (Vibration load)	<ul style="list-style-type: none"> ▪ Finished state of Wound Electrodes (Cell) ▪ Electric wiring member ▪ Electronic Parts on a circuit board ▪ Cell Holding Member (Adhesive, Both Sides Tape, Lib of Plastic Case) 	-
T4: Shock (Shock load)	<ul style="list-style-type: none"> ▪ Wiring Member ▪ Electronic Parts on a circuit board ▪ Cell Holding Member (Adhesive, Both Sides Tape, Lib of Plastic Case) ▪ Finished state of Wound Electrodes (Cell) 	-
T5: External Short Circuit (Short current)	<ul style="list-style-type: none"> ▪ Over-voltage Protection ▪ Current Control Device ▪ Safety Device of cell (Cell) ▪ Lead Tab 	-
T6 (Cell): Impact/Crush	<ul style="list-style-type: none"> ▪ Separator (Cell) ▪ Insulation State in a cell (Cell) 	-
T7 (Pack): Overcharge (Charge load)	<ul style="list-style-type: none"> ▪ Overcharge Protection ▪ Thermal Device ▪ Safety Device of cell (Cell) 	-
T8 (Cell): Forced Discharge	<ul style="list-style-type: none"> ▪ Finished state of Wound Electrodes 	-/NA *1
Wh of cell	Is Wh difference of cell less than 20%?	-
Voltage of cell	Is increase of cell voltage less than 20%?	-
Judgment result	New Type or not	New (Not new)

*1 Judgement has not applied if first checking was run under the UN test manual ver. 5 or former.

Sanyo Energy (Suzou) Co., Ltd.

A. Kawasumi

approval

Lenny Hu

Check

Tina Song

Writing

Certificate of UN test for Lithium ion battery

Customer Model : L15S4E01
 Global Code : BJ-A340097AA
 Product Name : 4NCR18650-1-T1302



We declare that this battery passed UN test.

Manual of Tests and Criteria (38.3 Lithium batteries)		Test results	Note	Number of test batteries/cells
No.	Test item			
T 1	Altitude simulation	Pass		First cycle fully charged 4 batteries
T 2	Thermal test	Pass		
T 3	Vibration	Pass		
T 4	Shock	Pass		
T 5	External short circuit	Pass		
T 6	Crush	Pass		First cycle 50% charged 5 cells
T 7	Overcharge	Pass		First cycle, Fully charged 4 batteries After 50 cycles, Fully charged 4 batteries
T 8	Forced discharge	Pass		First cycle, fully discharged 10 cells After 50 cycles, fully discharged 10 cells

*The test data may contain additional test result other than above table.

Lithium ion battery Specification

Item	Nominal value	Note
Watt-hour rating	41 Wh	
Nominal voltage	14.4 V	
Lithium equivalent content	3.48 g	

Above test procedures are compliant to the following manual.

(Manual of Tests and Criteria ST/AC.10/11, PartIII, sub-section 38.3, Rev.5A1 for cell, Rev.5A1 for battery)