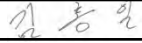
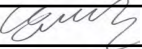



문서번호	QAE-EF02-130522-MOTPKED30	
Prepared	김홍일	
	남익현	
Reviewed	남대호	
	이재승	
Approved	정준용	

SolutionPartner

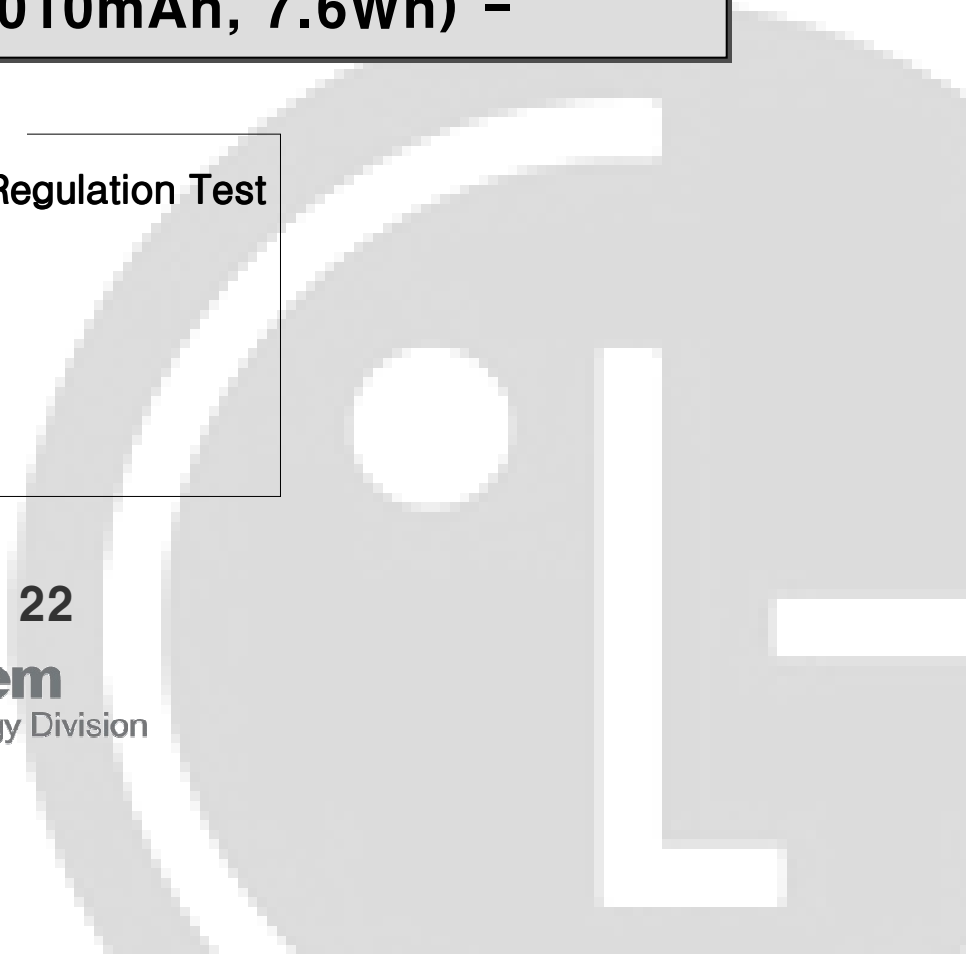
UN Test Report

- ED30 (ICP364981A1, 2010mAh, 7.6Wh) -

목 차

1. UN Transportation Regulation Test
2. Test Procedure
3. Test Equipment
4. T1~T4 Test Result
5. T5~T7 Test Result

2013. 05. 22



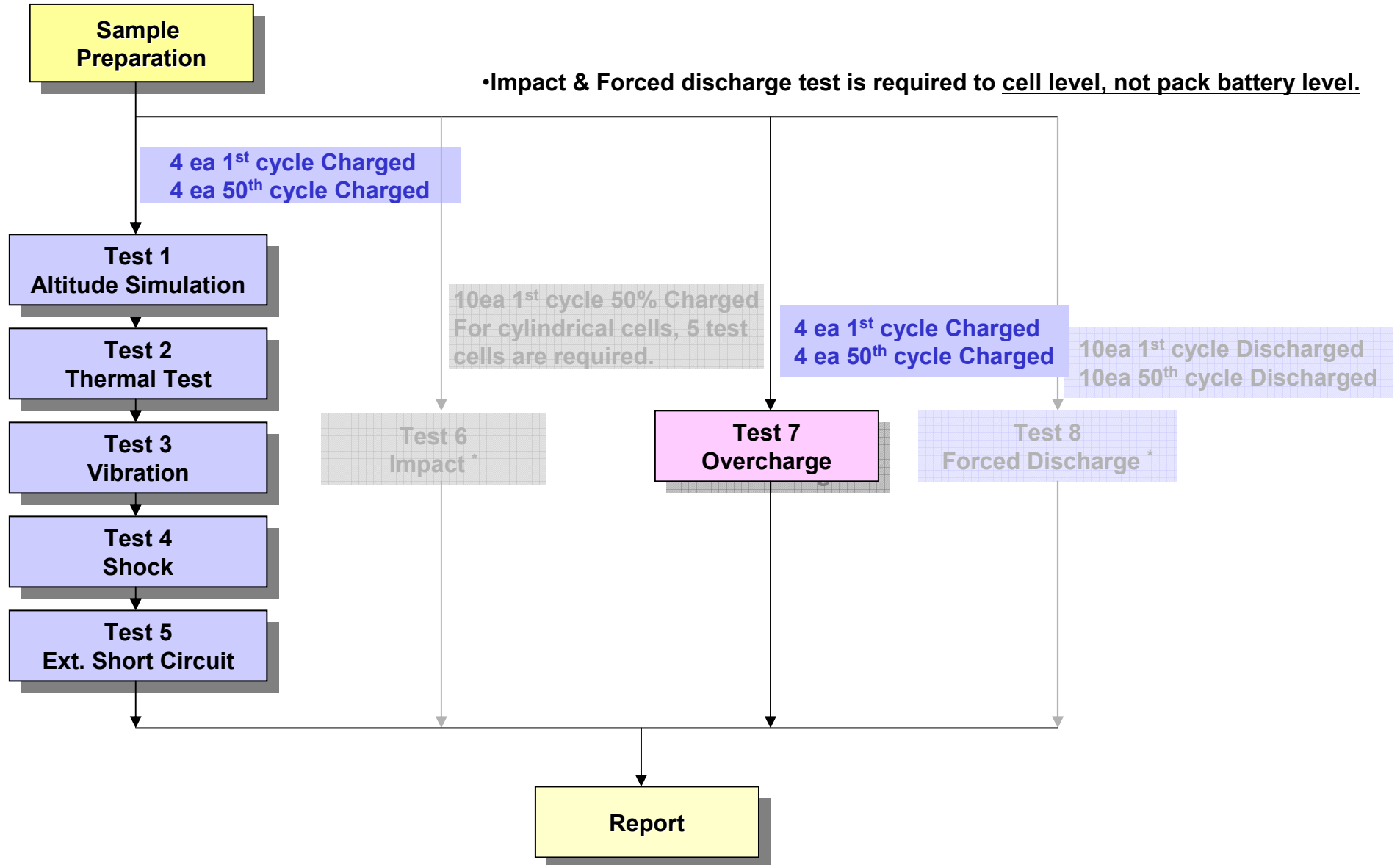
1. UN Transportation Regulation Test

Test	Condition	Requirements
Test 1. Altitude Simulation	Storing at (low pressure) 11.6kPa for 6hr at 20+/-5 °C	<ul style="list-style-type: none"> - Measuring mass before/ after each test (If M>5g, less than 0.1%) - Measuring voltage before/ after each test (more than 90%) - No leakage, no venting, no disassembly, no rupture, no fire
Test 2. Thermal Test	[75±2 °C, 6hr ↔ -40 ± 2 °C, 6hr, interval max. 30min] x 10 cycle Storing at 20±5 °C for 24h	
Test 3. Vibration	[7Hz↔200Hz↔7Hz, in 15min] x 12 times x 3 direction 1) sinusoidal waveform with a logarithmic sweep 2) 7Hz 18Hz (maintaining 1gn) app. 50Hz (until 8gn) 200Hz (maintaining 8gn), 1.6mm total excursion	
Test 4. Shock	Half sine shock (peak acceleration : 150gn, pulse duration : 6msec) x 6 (±x, y, z) direction x 3 cycle	
Test 5. External Short Circuit	100mΩ ext. short-circuit at 55±2 °C 1hr continue after returning at 55±2 °C	<ul style="list-style-type: none"> - No disassembly, no rupture, no fire (after 6 hours) - Temp. monitoring (max. 170 °C)
Test 6. Impact	Only for Cell, not battery.	
Test 7. Overcharge	Current = Manufacturer's recommended max. continuous charge current X 2 Voltage 1.If charge voltage ≤ 18V, V (min.) = 2 x (max. charge voltage) or V (min.) = 22V. 2.If charge voltage > 18V, V (min.) = 1.2 x (max. charge voltage)	<ul style="list-style-type: none"> - No disassembly, no fire (after 7 days)
Test 8. Forced Discharge	Only for Cell, not battery.	<ul style="list-style-type: none"> - No disassembly, no fire (after 7 days)

* Tests through T1-T5 shall be conducted in sequence with the same battery.

* We declare that the above-mentioned test is the result of being checked according to UN Test
(Manual of Test and Criteria ST/SG/AC.10/11/Rev.5)

2. Test Procedure



3-1. T1-T4 Test Result

Before			Altitude (T1)					Thermal (T2)					Vibration (T3)					Shock (T4)				
Pack NO.	OCV	Mass	OCV	Mass	Residual OCV(%)	Mass Loss(%)	Result	OCV	Mass	Residual OCV(%)	Mass Loss(%)	Result	OCV	Mass	Residual OCV(%)	Mass Loss(%)	Result	OCV	Mass	Residual OCV(%)	Mass Loss(%)	Result

A. 1st cycle fully state

Charge	1	4.322	32.695	4.319	32.694	99.93	0.003	Pass	4.258	32.689	98.59	0.015	Pass	4.257	32.686	99.98	0.009	Pass	4.256	32.684	99.98	0.006	Pass
	2	4.322	32.795	4.316	32.792	99.86	0.009	Pass	4.257	32.788	98.63	0.012	Pass	4.255	32.786	99.95	0.006	Pass	4.254	32.785	99.98	0.003	Pass
	3	4.321	32.792	4.313	32.791	99.81	0.003	Pass	4.256	32.788	98.68	0.009	Pass	4.253	32.785	99.93	0.009	Pass	4.252	32.785	99.98	0.000	Pass
	4	4.322	32.766	4.312	32.766	99.77	0.000	Pass	4.249	32.760	98.54	0.018	Pass	4.247	32.758	99.95	0.006	Pass	4.243	32.755	99.91	0.009	Pass
	Ave.	4.322	32.762	4.315	32.761	99.84	0.004	-	4.255	32.756	98.61	0.014	-	4.253	32.754	99.95	0.008	-	4.251	32.752	99.96	0.005	-

B. 50th cycle fully state

Charge	1	4.314	32.689	4.311	32.688	99.93	0.003	Pass	4.247	32.686	98.52	0.006	Pass	4.245	32.686	99.95	0.000	Pass	4.244	32.683	99.98	0.009	Pass
	2	4.312	32.787	4.308	32.786	99.91	0.003	Pass	4.247	32.784	98.58	0.006	Pass	4.246	32.783	99.98	0.003	Pass	4.244	32.781	99.95	0.006	Pass
	3	4.311	32.787	4.306	32.784	99.88	0.009	Pass	4.246	32.782	98.61	0.006	Pass	4.245	32.782	99.98	0.000	Pass	4.243	32.78	99.95	0.006	Pass
	4	4.312	32.699	4.307	32.698	99.88	0.003	Pass	4.246	32.694	98.58	0.012	Pass	4.243	32.691	99.93	0.009	Pass	4.241	32.688	99.95	0.009	Pass
	Ave.	4.312	32.741	4.308	32.739	99.90	0.005	-	4.247	32.737	98.57	0.008	-	4.245	32.736	99.96	0.003	-	4.243	32.733	99.96	0.008	-

Requirement

- Measuring mass before/after each test (If M>5g, less than 0.1%)
- Measuring voltage before/after each test (more than 90%, only charged samples)
- No leakage, no venting, no disassembly, no rupture, no fire

3-2. T5/T7 Test Result

EXT.Short Circuit (T5)				
	Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

A. 1st cycle fully state

Charge	1	4.256	55.89	Pass
	2	4.254	55.45	Pass
	3	4.252	54.32	Pass
	4	4.243	54.84	Pass
	MAX.	4.256	55.89	-

Test Condition
- 100mΩ ext. short-circuit at 55± 2°C

Over Charge (T7)				
	Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

A. 1st cycle fully state

Charge	9	4.323	21.67	Pass
	10	4.322	21.54	Pass
	11	4.321	22.68	Pass
	12	4.323	21.46	Pass
	MAX.	4.323	22.68	-

Test Condition
- Max. Charge Current : 2010mA - CC/CV 2Imax(4020mA) 8.7V cut-off 24Hr

EXT.Short Circuit (T5)				
	Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

B. 50th cycle fully state

Charge	5	4.244	56.76	Pass
	6	4.244	55.88	Pass
	7	4.243	55.71	Pass
	8	4.241	56.19	Pass
	MAX.	4.244	56.76	-

Requirement
- Temperature < 170 (°C) - No disassembly, no rupture, no fire within 6 hours

Over Charge (T7)				
	Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

B. 50th cycle fully state

Charge	13	4.318	23.01	Pass
	14	4.316	22.98	Pass
	15	4.317	21.12	Pass
	16	4.317	21.04	Pass
	MAX.	4.318	23.01	-

Requirement
- No disassembly, no fire within 7 day

3-3. T6 Test Result (ICP364981A1)

Impact (T6)			
Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

A. 1st cycle 50% charged state


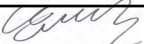

1	3.806	114.53	Pass
2	3.807	104.95	Pass
3	3.808	114.38	Pass
4	3.808	104.35	Pass
5	3.807	103.29	Pass
6	3.806	118.54	Pass
7	3.806	109.78	Pass
8	3.808	108.53	Pass
9	3.807	111.40	Pass
10	3.807	118.97	Pass
MAX.	3.808	118.97	-

Test Condition
- $\Phi=15.8\text{mm}$ bar, 9.1kg mass, $61\pm 2.5\text{cm}$ height

Requirement
- Temperature < 170 (°C) - No disassembly, no rupture, no fire within 6 hours

4. Sample Image



문서번호	QAE-EF02-130522-MOTPKED30	
Prepared	김홍일	
	남익현	
Reviewed	남대호	
	이재승	
Approved	정준용	

SolutionPartner

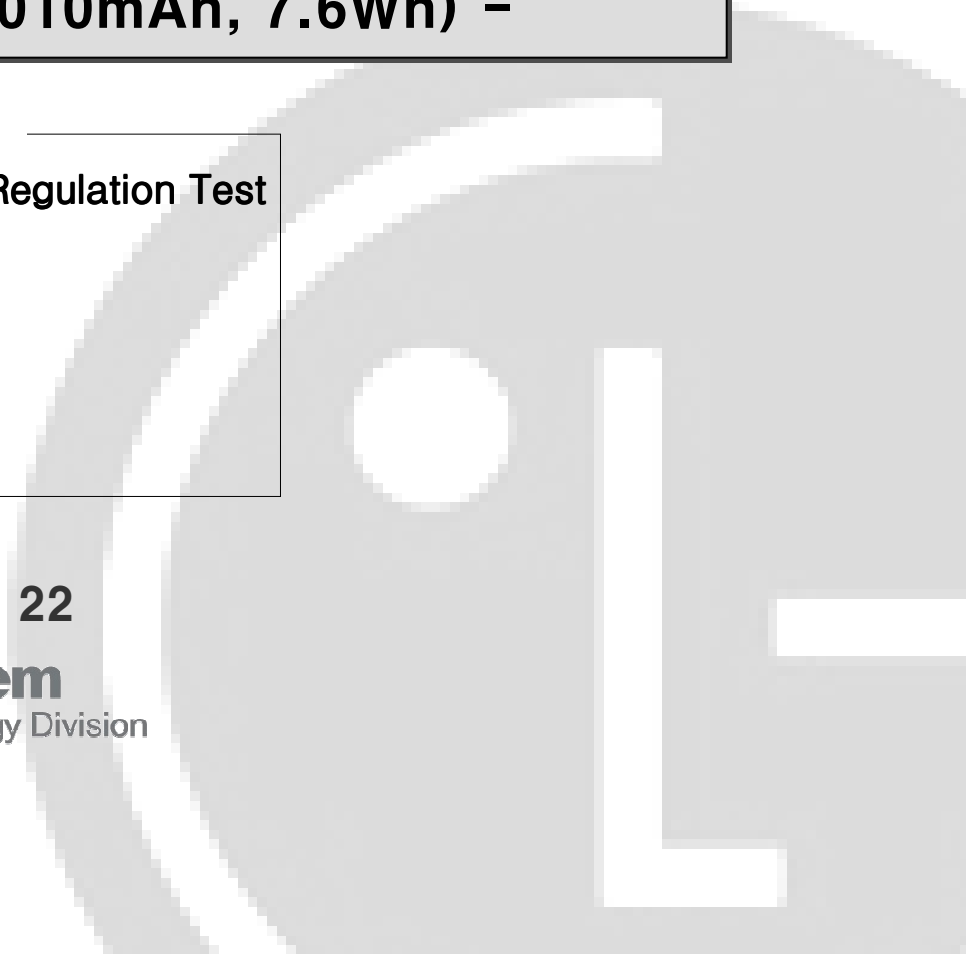
UN Test Report

- ED30 (ICP364981A1, 2010mAh, 7.6Wh) -

목 차

1. UN Transportation Regulation Test
2. Test Procedure
3. Test Equipment
4. T1~T4 Test Result
5. T5~T7 Test Result

2013. 05. 22



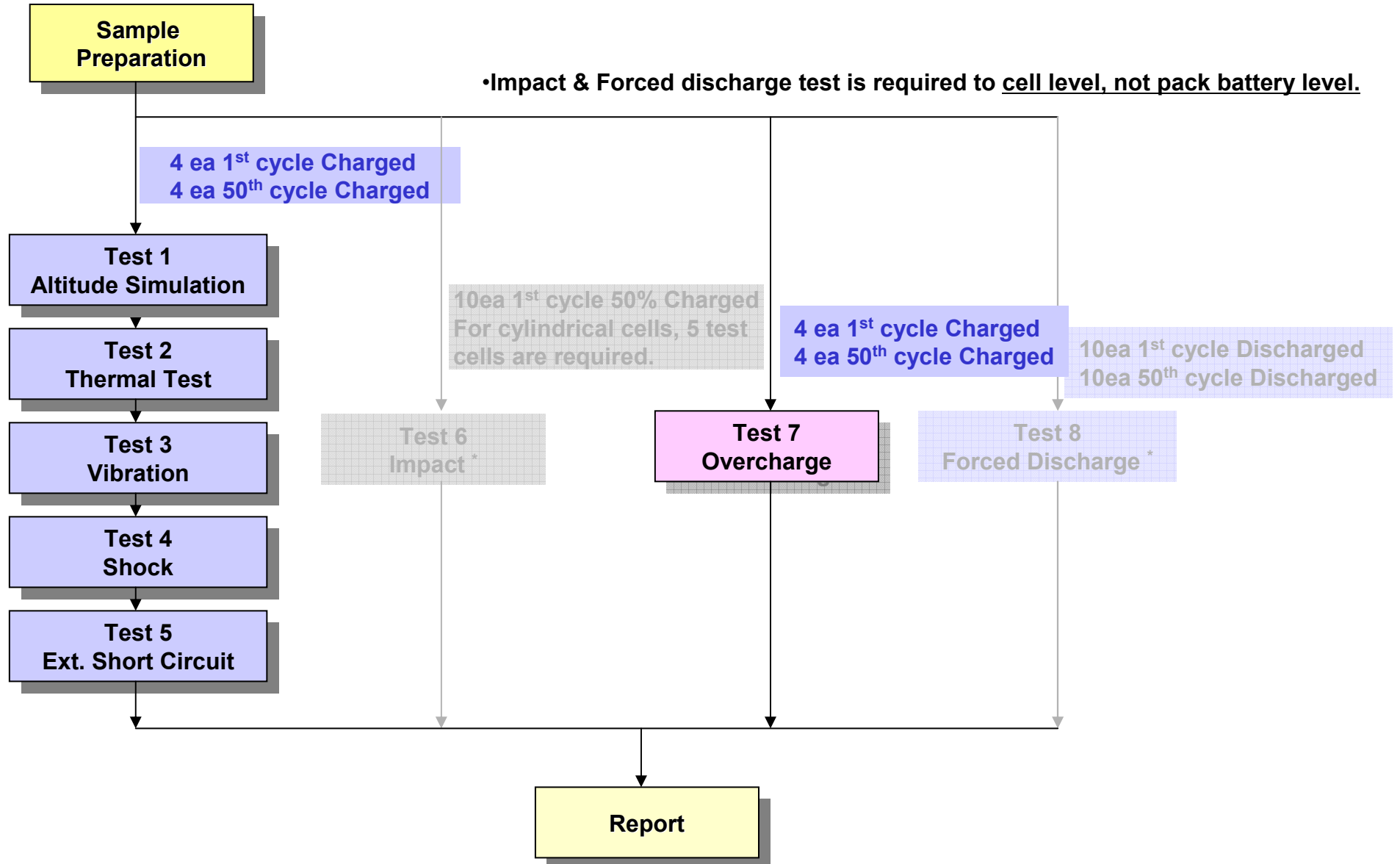
1. UN Transportation Regulation Test

Test	Condition	Requirements
Test 1. Altitude Simulation	Storing at (low pressure)11.6kPa for 6hr at 20+/-5℃	<ul style="list-style-type: none"> - Measuring mass before/ after each test (If M>5g, less than 0.1%) - Measuring voltage before/ after each test (more than 90%) - No leakage, no venting, no disassembly, no rupture, no fire
Test 2. Thermal Test	[75±2℃,6hr ↔ -40±2℃,6hr,interval max. 30min] x 10cycle Storing at 20±5℃ for 24h	
Test 3. Vibration	[7Hz↔200Hz↔7Hz, in 15min] x 12 times x 3 direction 1) sinusoidal waveform with a logarithmic sweep 2) 7Hz 18Hz (maintaining 1gn) app. 50Hz (until 8gn) 200Hz (maintaining 8gn), 1.6mm total excursion	
Test 4. Shock	Half sine shock (peak acceleration : 150gn, pulse duration : 6msec) x 6 (±x, y, z) direction x 3 cycle	
Test 5. External Short Circuit	100mΩ ext. short-circuit at 55±2℃ 1hr continue after returning at 55±2℃	<ul style="list-style-type: none"> - No disassembly, no rupture, no fire (after 6 hours) - Temp. monitoring (max. 170℃)
Test 6. Impact	Only for Cell, not battery.	
Test 7. Overcharge	Current = Manufacturer's recommended max. continuous charge current X 2 Voltage 1.If charge voltage ≤ 18V, V (min.) = 2 x (max. charge voltage) or V (min.) = 22V. 2.If charge voltage > 18V, V (min.) = 1.2 x (max. charge voltage)	<ul style="list-style-type: none"> - No disassembly, no fire (after 7 days)
Test 8. Forced Discharge	Only for Cell, not battery.	<ul style="list-style-type: none"> - No disassembly, no fire (after 7 days)

* Tests through T1-T5 shall be conducted in sequence with the same battery.

* We declare that the above-mentioned test is the result of being checked according to UN Test
(Manual of Test and Criteria ST/SG/AC.10/11/Rev.5)

2. Test Procedure



3-1. T1-T4 Test Result

Before			Altitude (T1)					Thermal (T2)					Vibration (T3)					Shock (T4)				
Pack NO.	OCV	Mass	OCV	Mass	Residual OCV(%)	Mass Loss(%)	Result	OCV	Mass	Residual OCV(%)	Mass Loss(%)	Result	OCV	Mass	Residual OCV(%)	Mass Loss(%)	Result	OCV	Mass	Residual OCV(%)	Mass Loss(%)	Result

A. 1st cycle fully state

Charge	1	4.322	32.695	4.319	32.694	99.93	0.003	Pass	4.258	32.689	98.59	0.015	Pass	4.257	32.686	99.98	0.009	Pass	4.256	32.684	99.98	0.006	Pass
	2	4.322	32.795	4.316	32.792	99.86	0.009	Pass	4.257	32.788	98.63	0.012	Pass	4.255	32.786	99.95	0.006	Pass	4.254	32.785	99.98	0.003	Pass
	3	4.321	32.792	4.313	32.791	99.81	0.003	Pass	4.256	32.788	98.68	0.009	Pass	4.253	32.785	99.93	0.009	Pass	4.252	32.785	99.98	0.000	Pass
	4	4.322	32.766	4.312	32.766	99.77	0.000	Pass	4.249	32.760	98.54	0.018	Pass	4.247	32.758	99.95	0.006	Pass	4.243	32.755	99.91	0.009	Pass
	Ave.	4.322	32.762	4.315	32.761	99.84	0.004	-	4.255	32.756	98.61	0.014	-	4.253	32.754	99.95	0.008	-	4.251	32.752	99.96	0.005	-

B. 50th cycle fully state

Charge	1	4.314	32.689	4.311	32.688	99.93	0.003	Pass	4.247	32.686	98.52	0.006	Pass	4.245	32.686	99.95	0.000	Pass	4.244	32.683	99.98	0.009	Pass
	2	4.312	32.787	4.308	32.786	99.91	0.003	Pass	4.247	32.784	98.58	0.006	Pass	4.246	32.783	99.98	0.003	Pass	4.244	32.781	99.95	0.006	Pass
	3	4.311	32.787	4.306	32.784	99.88	0.009	Pass	4.246	32.782	98.61	0.006	Pass	4.245	32.782	99.98	0.000	Pass	4.243	32.78	99.95	0.006	Pass
	4	4.312	32.699	4.307	32.698	99.88	0.003	Pass	4.246	32.694	98.58	0.012	Pass	4.243	32.691	99.93	0.009	Pass	4.241	32.688	99.95	0.009	Pass
	Ave.	4.312	32.741	4.308	32.739	99.90	0.005	-	4.247	32.737	98.57	0.008	-	4.245	32.736	99.96	0.003	-	4.243	32.733	99.96	0.008	-

Requirement

- Measuring mass before/after each test (If M>5g, less than 0.1%)
- Measuring voltage before/after each test (more than 90%, only charged samples)
- No leakage, no venting, no disassembly, no rupture, no fire

3-2. T5/T7 Test Result

EXT.Short Circuit (T5)				
	Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

A. 1st cycle fully state

Charge	1	4.256	55.89	Pass
	2	4.254	55.45	Pass
	3	4.252	54.32	Pass
	4	4.243	54.84	Pass
	MAX.	4.256	55.89	-

Test Condition
- 100mΩ ext. short-circuit at 55± 2°C

Over Charge (T7)				
	Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

A. 1st cycle fully state

Charge	9	4.323	21.67	Pass
	10	4.322	21.54	Pass
	11	4.321	22.68	Pass
	12	4.323	21.46	Pass
	MAX.	4.323	22.68	-

Test Condition
- Max. Charge Current : 2010mA - CC/CV 2Imax(4020mA) 8.7V cut-off 24Hr

EXT.Short Circuit (T5)				
	Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

B. 50th cycle fully state

Charge	5	4.244	56.76	Pass
	6	4.244	55.88	Pass
	7	4.243	55.71	Pass
	8	4.241	56.19	Pass
	MAX.	4.244	56.76	-

Requirement
- Temperature < 170 (°C) - No disassembly, no rupture, no fire within 6 hours

Over Charge (T7)				
	Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

B. 50th cycle fully state

Charge	13	4.318	23.01	Pass
	14	4.316	22.98	Pass
	15	4.317	21.12	Pass
	16	4.317	21.04	Pass
	MAX.	4.318	23.01	-

Requirement
- No disassembly, no fire within 7 day

3-3. T6 Test Result (ICP364981A1)

Impact (T6)			
Pack NO.	Initial OCV(V)	Max. Temp (°C)	Result

A. 1st cycle 50% charged state

1	3.806	114.53	Pass
2	3.807	104.95	Pass
3	3.808	114.38	Pass
4	3.808	104.35	Pass
5	3.807	103.29	Pass
6	3.806	118.54	Pass
7	3.806	109.78	Pass
8	3.808	108.53	Pass
9	3.807	111.40	Pass
10	3.807	118.97	Pass
MAX.	3.808	118.97	-

Test Condition
- $\Phi=15.8\text{mm}$ bar, 9.1kg mass, $61\pm 2.5\text{cm}$ height

Requirement
- Temperature < 170 (°C) - No disassembly, no rupture, no fire within 6 hours

4. Sample Image





LG Chem Ltd.

LG Twin Tower 20 Yoido-dong
Youngdungpo-gu, Seoul, Korea.

Battery Certification and Evaluation Team

Tel: 82-42-870-6195, Fax: 82-42-863-0182

If any of pages is not legible or has not been received,
please notify our office for re-transmission

May 22, 2013

CERTIFICATE OF COMPLIANCE

The following product has been evaluated according to the 5th revised edition of the **UN Manual of Tests and Criteria**.

We, LG Chem. Ltd hereby certify that this cell meets the requirements of the regulation for transportation of lithium-ion cells and batteries.

Customer Model Name : **ED30**
Cell Model Name : **ICP364981A1 (1P*1S)**
Type of Cell : **Polymer**
Electric power capacity : **7.6Wh**
Document No. : **QAE-EF02-130522-MOTPKED30**

Conducted By: Dae Ho Nam

A handwritten signature in black ink, appearing to read 'Dae Ho Nam'.

Manager

Battery Approval & Evaluation

LG Chem. Ltd

E-mail: kkammy@lgchem.com

Reviewed By: Jun-Yong Jeong

A handwritten signature in black ink, appearing to read 'Jun-Yong Jeong'.

General Manager

Battery Approval & Evaluation

LG Chem. Ltd

E-mail: junyongs@lgchem.com

Test Result

For more information, please refer to Document : QAE-EF02-130522-MOTPKED30

<input type="checkbox"/> Lithium-ion cell	<input checked="" type="checkbox"/> Lithium-ion battery
Cell Model name	ICP364981A1
Nominal voltage	3.8V
Capacity	2010mAh
Electric power capacity	7.6Wh

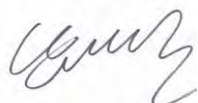
No.	Test Item	Criteria	Result	Remark
Test 1	Altitude simulation	-No leakage, venting, disassembly, rupture and no fire. -Measuring mass before/after each test. (If M>5g, less than 0.1%) -Measuring voltage before/after each test. (more than 90%)	Pass	
Test 2	Thermal test		Pass	
Test 3	Vibration		Pass	
Test 4	Shock		Pass	
Test 5	External short circuit	-No disassembly, rupture and fire within six hours of this test. -Max. temperature should not exceed 170℃.	Pass	
Test 6	Impact		Pass	Cell only
Test 7	Overcharge	-No disassembly and fire within seven days of the test.	Pass	Battery only
Test 8	Forced discharge		Pass	Cell only

Tests through T1-T5 shall be conducted in sequence with the same battery.

We declare that the above-mentioned test is the result of being checked according to UN38.3. We certify that this cell is proved to meet the requirements of each applicable test in the UN38.3

Conducted By: Dae Ho Nam

Reviewed By: Jun-Yong Jeong




Manager

General Manager

Battery Approval & Evaluation

Battery Approval & Evaluation

LG Chem. Ltd

LG Chem. Ltd

E-mail: kkammy@lgchem.com

E-mail: junyongs@lgchem.com

SEW

秘 CONFIDENTIAL

Sony Electronics (Wuxi) Co., Ltd.

No.27, Changjiang Road, New District, Wuxi, Jiangsu Province, 214028 P.R.C.
Phone: 86-510-8523-9120 / Fax: 86-510-8523-8505

リチウムイオン電池認証書
Lithium-ion rechargeable (polymer) cell or battery Certification

No: SEW-CB1467

Date:2014-6-30

1. 単電池/single cell single cell battery
組電池/battery(pack) (セル構成/composition of cell : 1P1S)
2. 機種名/customer model name : ED30 Sony model name : LIS1571MRPC
3. 顧客名/customer : Motorola
4. 国連勧告テスト結果/Test results of the UN Recommendations on the Transport of Dangerous Goods

国連勧告テスト及び判定基準 (38.3 リチウム電池)		テスト結果/ test results	備考/remarks
NO	テスト項目 test item		
T1	高度シミュレーション/Altitude simulation	OK	
T2	温度試験/Thermal test	OK	
T3	振動/Vibration	OK	
T4	衝撃/Shock	OK	
T5	外部短絡/External short circuit	OK	
T6	衝突 (Impact) /圧壊 (Crush)	OK	
T7	過充電/Overcharge	OK	single cell は対象外
T8	強制放電/Forced discharge	OK	

試験実施日/Tested Date : 2014/06/20~2014/06/30

梱包試験実施日/Tested Date for Package : 2014/06/12~2014/06/15

5. 定格/rated

項目/item	規格値/specification	備考/remarks
公称電圧/nominal voltage	3.8V	
定格容量/rated capacity	2010mAh	
ワート時定格値(Wh) /Watt-hour rating	7.6Wh	単電池 \leq 20Wh 組電池 \leq 100Wh cells \leq 20Wh batteries \leq 100Wh

上記テスト結果は国連勧告試験(UN Manual of Tests and Criteria 5th revised edition Amendment 1, Part III, sub-section 38.3)に従い確認した結果であることを証明いたします。

We, Sony Electronics (Wuxi) Co., Ltd., hereby certify that above results are confirmed in accordance with the Manual of Tests and Criteria of the UN Recommendations on the Transport of Dangerous Goods, 5th revised edition Amendment 1,Part III, sub-section 38.3.

Weiwei Tang /Senior Manager
Quality Assurance Department
Sony Electronics (Wuxi) Co., Ltd.

国联劝告 结果 1



Test Result of UN Recommendations Part 1

机种名/Sony Model Name	LIS1571MRPC		
cell使用/Cell Model Name	US374980H2	构成/Configuration	1P 1S
试验场所/Test Company	索尼电子(无锡)有限公司		
地址/Address	中国江苏省无锡市新区长江路27号	电话/Tel	86-18068308951
试验室/Test Room	SEW国联劝告试验室	试验期间/Test Dates	2014.6.20-2014.6.30
判定基准/Criterion	UN Manual of Tests and Criteria Rev5, Part III, sub-section 38.3		

试验名称/Test Name		T1: 高度模拟试验 Altitude Simulation				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.129	4.310	34.128	4.307	0.00%	99.9%	N
2		34.093	4.305	34.092	4.302	0.00%	99.9%	N
3		34.065	4.307	34.066	4.303	0.00%	99.9%	N
4		34.116	4.305	34.117	4.302	0.00%	99.9%	N
5		34.104	4.310	34.106	4.306	-0.01%	99.9%	N
6		34.097	4.306	34.096	4.301	0.00%	99.9%	N
7		34.087	4.305	34.086	4.303	0.00%	100.0%	N
8		34.118	4.306	34.119	4.302	0.00%	99.9%	N
9		34.102	4.310	34.103	4.306	0.00%	99.9%	N
10		34.117	4.302	34.118	4.298	0.00%	99.9%	N

试验名称/Test Name		T2: 温度试验 Thermal				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.128	4.307	34.127	4.242	0.00%	98.5%	N
2		34.092	4.302	34.094	4.243	-0.01%	98.6%	N
3		34.066	4.303	34.064	4.241	0.01%	98.6%	N
4		34.117	4.302	34.117	4.241	0.00%	98.6%	N
5		34.106	4.306	34.104	4.238	0.01%	98.4%	N
6		34.096	4.301	34.096	4.242	0.00%	98.6%	N
7		34.086	4.303	34.090	4.241	-0.01%	98.6%	N
8		34.119	4.302	34.117	4.242	0.01%	98.6%	N
9		34.103	4.306	34.100	4.242	0.01%	98.5%	N
10		34.118	4.298	34.114	4.238	0.01%	98.6%	N

试验名称/Test Name		T3: 振动试验 Vibration				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.127	4.242	34.126	4.236	0.00%	99.9%	N
2		34.094	4.243	34.093	4.238	0.00%	99.9%	N
3		34.064	4.241	34.065	4.237	0.00%	99.9%	N
4		34.117	4.241	34.116	4.235	0.00%	99.9%	N
5		34.104	4.238	34.105	4.232	0.00%	99.9%	N
6		34.096	4.242	34.095	4.235	0.00%	99.8%	N
7		34.090	4.241	34.091	4.234	0.00%	99.8%	N
8		34.117	4.242	34.118	4.236	0.00%	99.9%	N
9		34.100	4.242	34.100	4.237	0.00%	99.9%	N
10		34.114	4.238	34.115	4.232	0.00%	99.9%	N

现象/Occurrence	破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 排气:V <Venting> 渗漏:L <Leakage> 无异常:N <No rupture, No fire, No disassembly, No venting, No leakage>
---------------	--



国联劝告试验 结果 2

Test Result of UN Recommendations Part 2

No: SEW-CB1467
DATE: 2014.6.30
PAGE: 3 of 5 Page

试验名称/Test Name		T4: 冲击试验 Shock						
番号 No.	电池状态 Conditions	试验前/Before		试验后/After		质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.126	4.236	34.128	4.235	-0.01%	100.0%	N
2		34.093	4.238	34.092	4.236	0.00%	100.0%	N
3		34.065	4.237	34.066	4.234	0.00%	99.9%	N
4		34.116	4.235	34.117	4.233	0.00%	100.0%	N
5		34.105	4.232	34.106	4.230	0.00%	100.0%	N
6		34.095	4.235	34.096	4.233	0.00%	100.0%	N
7		34.091	4.234	34.086	4.232	0.01%	100.0%	N
8		34.118	4.236	34.119	4.234	0.00%	100.0%	N
9		34.100	4.237	34.103	4.235	-0.01%	100.0%	N
10		34.115	4.232	34.118	4.231	-0.01%	100.0%	N
现象/Occurrence		破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 排气:V <Venting> 渗漏:L <Leakage> 无异常:N <No rupture, No fire, No disassembly, No venting, No leakage>						
试验名称/Test Name		T5: 外短路试验 External Short Circuit						
番号 No.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/O ccurrence	番号 N o.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/O ccurrence	
1	初回满充电/ First cycle, fully charged	55.9°C	N	6	初回满充电/ First cycle, fully charged	55.9°C	N	
2		56.5°C	N	7		55.6°C	N	
3		56.3°C	N	8		55.6°C	N	
4		56.8°C	N	9		55.6°C	N	
5		56.7°C	N	10		55.6°C	N	
现象/Occurrence		破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 无异常:N <No rupture, No fire, No disassembly>						
试验名称/Test Name		T6: 撞击(impact)/挤压(crush) 试验						
番号 No.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/Occurrence					
1	初回	<160°C	N					
2	50%充电	<160°C	N					
3	(宽面)/	<160°C	N					
4	First cycle,	<160°C	N					
5	50% charged (wide surface)	<160°C	N					
现象/Occurrence		解体: D <Disassembly> 起火: F <Fire> 无异常: N <No fire, No disassembly>						
试验名称/Test Name		T7: 过充电试验 Overcharge						
番号 No.	电池状态 Conditions	现象确认/Occurrence		番号 No.	电池状态 Conditions	现象确认/Occurrence		
1	初回满充电/ First cycle, fully charged	N		5	50次循环后 满充电/ After 50 cycles, fully charged	N		
2		N		6		N		
3		N		7		N		
4		N		8		N		
现象/Occurrence		起火:F <Fire> 解体:D <Disassembly> 无异常:N <No fire, No disassembly>						

* Temperature Measurement by Thermolabel

秘 CONFIDENTIAL

国联劝告试验 结果 3

Test Result of UN Recommendations Part 3

No.: SEW-CB1467

DATE: 2014.6.30

PAGE: 4 of 5 Page

试验名称 /Test Name		T8: 强制放电 Forced Discharge			
番号 N	电池状态 Conditions	现象确认 /Occurrence	番号 N	电池状态 Conditions	现象确认 /Occurrence
1	初次循环 完全放电 / First cycle, fully discharged	N	11	50次循环后 完全放电 / After 50 cycles, fully discharged	N
2		N	12		N
3		N	13		N
4		N	14		N
5		N	15		N
6		N	16		N
7		N	17		N
8		N	18		N
9		N	19		N
10		N	20		N
现象 / Occurrence		起火:F <Fire> 解体:D <Disassembly> 无异常:N <No fire, No disassembly>			

秘 CONFIDENTIAL

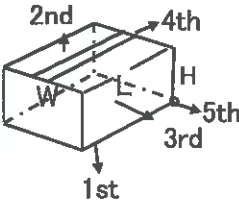
国連勧告試験 梱包結果

Test Result of UN Recommendations for Package

No : SEW-CB1467
 DATE 2014.6.30
 PAGE 5 of 5 Page

試験場所/ Test Company	索尼电子(无锡)有限公司			
住所/ Address	中国江苏省无锡市新区长江路27号		電話/ Tel	86-18068308951
試験室/ Test Room	SEW国联劝告试验室	試験期間/ Test Dates	2014.6.12-2014.6.15	試験番号/ Test N
機種名/ Sony Model Name	LIS1571MRPC		梱包入り数/ Quantity	200 pcs
使用セル/ Cell Model Name	US374980H2	構成/ Configuration	1P1S	梱包製造所/ Package Factor
包装等級/ Packing Group	等級 II /Packing Group Number II			
寸法・質量 / Dimensions and Gross Weight	長辺/Length (L)	短辺 /Wide (W)	高さ/Height (H)	質量/Gross Weight (kg)
	400 mm	300 mm	160 mm	10.0 kg

■ 落下試験/Drop Test

試験設備	HORAD PD-315		
試験条件/ Test condition	落下高さ /Drop height	1. 2m	試験結果 /Occurrence
落下姿勢(方向)/ Five (one for each drop) 	1回目の落下試験	底面を水平に/ flat on the bottom	著しい破損なし/No Leakage, No damege liable to affect safety during
	2回目の落下試験	天面を水平に / flat on the top	著しい破損なし/No Leakage, No damege liable to affect safety during
	3回目の落下試験	長側面を水平に/ flat on the long side	著しい破損なし/No Leakage, No damege liable to affect safety during
	4回目の落下試験	短側面を水平に/ flat on the short side	著しい破損なし/No Leakage, No damege liable to affect safety during
	5回目の落下試験	コーナー(角)※/ on a corner	著しい破損なし/No Leakage, No damege liable to affect safety during
	※コーナー: 容器が最も破損を受ける方向を選択		
判定基準/ Criterion	外装容器及び袋の場合、外装容器の最も外側の層に輸送中の安全を脅かすようないかなる破損が生じてはならない。		判定/ Judgment
			合格/OK

■ 積み重ね試験/Stacking Test

試験条件/Test condition	No	試験結果 /Occurrence
試験荷重値/Weight Load	185 kg	1 漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
		2 漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
		3 漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
判定基準/ Criterion	試供品は漏洩があつてはならない。試供品は、輸送の安全性を損なうような劣化、又はその強度を減じたり、又は輸送物の積み重ねを不安定にするような歪みが生じてはならない。	
	判定/ Judgment	合格/OK


 Weiwei Tang / Senior Manager
 Quality Assurance Department
 Sony Electronics (Wuxi) Co., Ltd.
 品保-P检-022(3)

総合判定
合格/OK

1. 2m落下試験写真／1. 2mDrop Test Photo

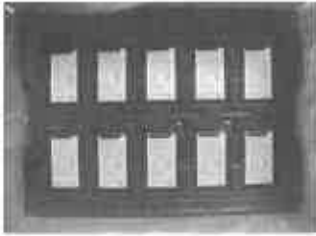
リチウムイオン電池／lithium-ion cell or battery

ソニー機種名／Sony model name: _____ LIS1571MRPC

Before



After



積み重ね試験写真 // Stacking Test Photo

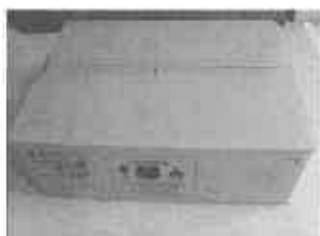
リチウムイオン電池 / lithium-ion cell or battery

ソニー機種名 / Sony model name: LIS1571MRPC

Before



After



SEW



Sony Electronics (Wuxi) Co., Ltd.

No.27, Changjiang Road, New District, Wuxi, Jiangsu Province, 214028 P.R.C.
Phone: 86-510-8523-9120 / Fax: 86-510-8523-8505

リチウムイオン電池認証書
Lithium-ion rechargeable (polymer) cell or battery Certification

No: SEW-CB1467
Date:2014-6-30

1. ■単電池/□single cell ■single cell battery
□組電池/battery(pack) (セル構成/composition of cell : 1P1S)
2. 機種名/customer model name : ED30 Sony model name : LIS1571MRPC
3. 顧客名/customer : Motorola
4. 国連勧告テスト結果/Test results of the UN Recommendations on the Transport of Dangerous Goods

国連勧告テスト及び判定基準 (38.3 リチウム電池)		テスト結果/ test results	備考/remarks
NO	テスト項目 test item		
T1	高度シミュレーション/Altitude simulation	OK	
T2	温度試験/Thermal test	OK	
T3	振動/Vibration	OK	
T4	衝撃/Shock	OK	
T5	外部短絡/External short circuit	OK	
T6	衝突 (Impact) /圧壊 (Crush)	OK	
T7	過充電/Overcharge	OK	single cell は対象外
T8	強制放電/Forced discharge	OK	


試験実施日/Tested Date : 2014/06/20~2014/06/30
梱包試験実施日/Tested Date for Package : 2014/06/12~2014/06/15

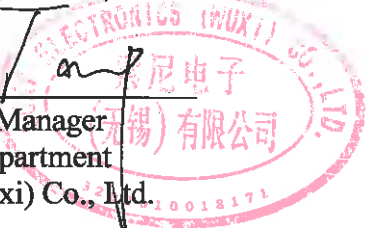
5. 定格/rated

項目/item	規格値/specification	備考/remarks
公称電圧/nominal voltage	3.8V	
定格容量/rated capacity	2010mAh	
ワート時定格値(Wh) /Watt-hour rating	7.6Wh	単電池 ≤ 20Wh 組電池 ≤ 100Wh cells ≤ 20Wh batteries ≤ 100Wh

上記テスト結果は国連勧告試験(UN Manual of Tests and Criteria 5th revised edition Amendment 1, Part III, sub-section 38.3)に従い確認した結果であることを証明いたします。

We, Sony Electronics (Wuxi) Co., Ltd., hereby certify that above results are confirmed in accordance with the Manual of Tests and Criteria of the UN Recommendations on the Transport of Dangerous Goods, 5th revised edition Amendment 1, Part III, sub-section 38.3.


Weiwei Tang /Senior Manager
Quality Assurance Department
Sony Electronics (Wuxi) Co., Ltd.





国联劝告 结果 1

Test Result of UN Recommendations Part 1

No: SEW-CB1467

DATE: 2014.6.30

PAGE: 2 of 5 Page

机种名/Sony Model Name	LIS1571MRPC		
cell使用/Cell Model Name	US374980H2	构成/Configuration	1P 1S
试验场所/Test Company	索尼电子(无锡)有限公司		
地址/Address	中国江苏省无锡市新区长江路27号	电话/Tel	86-18068308951
试验室/Test Room	SEW国联劝告试验室	试验期间/Test Dates	2014.6.20-2014.6.30
判定基准/Criterion	UN Manual of Tests and Criteria Rev5, Part III, sub-section 38.3		

试验名称/Test Name		T1: 高度模拟试验 Altitude Simulation				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.129	4.310	34.128	4.307	0.00%	99.9%	N
2		34.093	4.305	34.092	4.302	0.00%	99.9%	N
3		34.065	4.307	34.066	4.303	0.00%	99.9%	N
4		34.116	4.305	34.117	4.302	0.00%	99.9%	N
5		34.104	4.310	34.106	4.306	-0.01%	99.9%	N
6		34.097	4.306	34.096	4.301	0.00%	99.9%	N
7		34.087	4.305	34.086	4.303	0.00%	100.0%	N
8		34.118	4.306	34.119	4.302	0.00%	99.9%	N
9		34.102	4.310	34.103	4.306	0.00%	99.9%	N
10		34.117	4.302	34.118	4.298	0.00%	99.9%	N

试验名称/Test Name		T2: 温度试验 Thermal				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.128	4.307	34.127	4.242	0.00%	98.5%	N
2		34.092	4.302	34.094	4.243	-0.01%	98.6%	N
3		34.066	4.303	34.064	4.241	0.01%	98.6%	N
4		34.117	4.302	34.117	4.241	0.00%	98.6%	N
5		34.106	4.306	34.104	4.238	0.01%	98.4%	N
6		34.096	4.301	34.096	4.242	0.00%	98.6%	N
7		34.086	4.303	34.090	4.241	-0.01%	98.6%	N
8		34.119	4.302	34.117	4.242	0.01%	98.6%	N
9		34.103	4.306	34.100	4.242	0.01%	98.5%	N
10		34.118	4.298	34.114	4.238	0.01%	98.6%	N

试验名称/Test Name		T3: 振动试验 Vibration				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.127	4.242	34.126	4.236	0.00%	99.9%	N
2		34.094	4.243	34.093	4.238	0.00%	99.9%	N
3		34.064	4.241	34.065	4.237	0.00%	99.9%	N
4		34.117	4.241	34.116	4.235	0.00%	99.9%	N
5		34.104	4.238	34.105	4.232	0.00%	99.9%	N
6		34.096	4.242	34.095	4.235	0.00%	99.8%	N
7		34.090	4.241	34.091	4.234	0.00%	99.8%	N
8		34.117	4.242	34.118	4.236	0.00%	99.9%	N
9		34.100	4.242	34.100	4.237	0.00%	99.9%	N
10		34.114	4.238	34.115	4.232	0.00%	99.9%	N

现象/Occurrence	破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 排气:V <Venting> 渗漏:L <Leakage> 无异常:N <No rupture, No fire, No disassembly, No venting, No leakage>
---------------	--



国联劝告试验 结果 2

Test Result of UN Recommendations Part 2

No: SEW-CB1467
DATE: 2014.6.30
PAGE: 3 of 5 Page

试验名称/Test Name		T4: 冲击试验 Shock						
番号 No.	电池状态 Conditions	试验前/Before		试验后/After		质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.126	4.236	34.128	4.235	-0.01%	100.0%	N
2		34.093	4.238	34.092	4.236	0.00%	100.0%	N
3		34.065	4.237	34.066	4.234	0.00%	99.9%	N
4		34.116	4.235	34.117	4.233	0.00%	100.0%	N
5		34.105	4.232	34.106	4.230	0.00%	100.0%	N
6		34.095	4.235	34.096	4.233	0.00%	100.0%	N
7		34.091	4.234	34.086	4.232	0.01%	100.0%	N
8		34.118	4.236	34.119	4.234	0.00%	100.0%	N
9		34.100	4.237	34.103	4.235	-0.01%	100.0%	N
10		34.115	4.232	34.118	4.231	-0.01%	100.0%	N
现象/Occurrence		破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 排气:V <Venting> 渗漏:L <Leakage> 无异常:N <No rupture, No fire, No disassembly, No venting, No leakage>						
试验名称/Test Name		T5: 外短路试验 External Short Circuit						
番号 No.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/O ccurrence	番号 N o.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/O ccurrence	
1	初回满充电/ First cycle, fully charged	55.9°C	N	6	初回满充电/ First cycle, fully charged	55.9°C	N	
2		56.5°C	N	7		55.6°C	N	
3		56.3°C	N	8		55.6°C	N	
4		56.8°C	N	9		55.6°C	N	
5		56.7°C	N	10		55.6°C	N	
现象/Occurrence		破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 无异常:N <No rupture, No fire, No disassembly>						
试验名称/Test Name		T6: 撞击(impact)/挤压(crush) 试验						
番号 No.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/Occurrence					
1	初回	<160°C	N					
2	50%充电	<160°C	N					
3	(宽面)/	<160°C	N					
4	First cycle,	<160°C	N					
5	50% charged (wide surface)	<160°C	N					
现象/Occurrence		解体: D <Disassembly> 起火: F <Fire> 无异常: N <No fire, No disassembly>						
试验名称/Test Name		T7: 过充电试验 Overcharge						
番号 No.	电池状态 Conditions	现象确认/Occurrence		番号 No.	电池状态 Conditions	现象确认/Occurrence		
1	初回满充电/ First cycle, fully charged	N		5	50次循环后 满充电/ After 50 cycles, fully charged	N		
2		N		6		N		
3		N		7		N		
4		N		8		N		
现象/Occurrence		起火:F <Fire> 解体:D <Disassembly> 无异常:N <No fire, No disassembly>						

* Temperature Measurement by Thermolabel

秘 CONFIDENTIAL

国联劝告试验 结果 3

Test Result of UN Recommendations Part 3

No.: SEW-CB1467

DATE: 2014.6.30

PAGE: 4 of 5 Page

试验名称 /Test Name		T8: 强制放电 Forced Discharge			
番号 N	电池状态 Conditions	现象确认 /Occurrence	番号 N	电池状态 Conditions	现象确认 /Occurrence
1	初次循环 完全放电 / First cycle, fully discharged	N	11	50次循环后 完全放电 / After 50 cycles, fully discharged	N
2		N	12		N
3		N	13		N
4		N	14		N
5		N	15		N
6		N	16		N
7		N	17		N
8		N	18		N
9		N	19		N
10		N	20		N
现象 / Occurrence		起火:F <Fire> 解体:D <Disassembly> 无异常:N <No fire, No disassembly>			

秘 CONFIDENTIAL

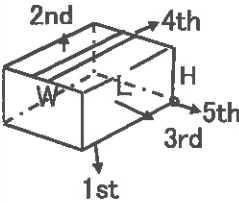
国連勧告試験 梱包結果

Test Result of UN Recommendations for Package

No : SEW-CB1467
 DATE 2014.6.30
 PAGE 5 of 5 Page

試験場所/ Test Company	索尼电子(无锡)有限公司			
住所/ Address	中国江苏省无锡市新区长江路27号		電話/ Tel	86-18068308951
試験室/ Test Room	SEW国联劝告试验室	試験期間/ Test Dates	2014.6.12-2014.6.15	試験番号/ Test N
機種名/ Sony Model Name	LIS1571MRPC		梱包入り数/ Quantity	200 pcs
使用セル/ Cell Model Name	US374980H2	構成/ Configuration	1P1S	梱包製造所/ Package Factor
包装等級/ Packing Group	等級 II /Packing Group Number II			
寸法・質量 / Dimensions and Gross Weight	長辺/Length (L)	短辺 /Wide (W)	高さ/Height (H)	質量/Gross Weight (kg)
	400 mm	300 mm	160 mm	10.0 kg

■ 落下試験/Drop Test

試験設備	HORAD PD-315		
試験条件/ Test condition	落下高さ /Drop height	1. 2m	試験結果 /Occurrence
落下姿勢(方向) / Five (one for each drop) 	1回目の落下試験	底面を水平に/ flat on the bottom	著しい破損なし/No Leakage, No damege liable to affect safety during
	2回目の落下試験	天面を水平に / flat on the top	著しい破損なし/No Leakage, No damege liable to affect safety during
	3回目の落下試験	長側面を水平に/ flat on the long side	著しい破損なし/No Leakage, No damege liable to affect safety during
	4回目の落下試験	短側面を水平に/ flat on the short side	著しい破損なし/No Leakage, No damege liable to affect safety during
	5回目の落下試験	コーナー(角)※/ on a corner	著しい破損なし/No Leakage, No damege liable to affect safety during
	※コーナー: 容器が最も破損を受ける方向を選択		
判定基準/ Criterion	外装容器及び袋の場合、外装容器の最も外側の層に輸送中の安全を脅かすようないかなる破損が生じてはならない。		判定/ Judgment
			合格/OK

■ 積み重ね試験/Stacking Test

試験条件/Test condition	No	試験結果 /Occurrence
試験荷重値/Weight Load	185 kg	1 漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
	2	漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
	3	漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
判定基準/ Criterion	試供品は漏洩があつてはならない。試供品は、輸送の安全性を損なうような劣化、又はその強度を減じたり、又は輸送物の積み重ねを不安定にするような歪みが生じてはならない。	
		判定/ Judgment
		合格/OK


 Weiwei Tang / Senior Manager
 Quality Assurance Department
 Sony Electronics (Wuxi) Co., Ltd.
 品保-P检-022(3)

総合判定
合格/OK

1. 2m落下試験写真／1. 2mDrop Test Photo

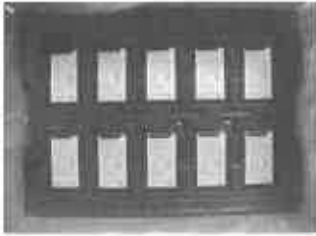
リチウムイオン電池／lithium-ion cell or battery

ソニー機種名／Sony model name: _____ LIS1571MRPC

Before



After



積み重ね試験写真 // Stacking Test Photo

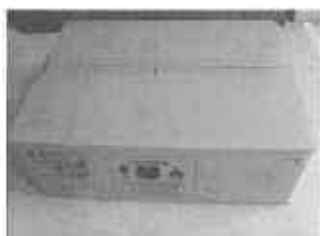
リチウムイオン電池 / lithium-ion cell or battery

ソニー機種名 / Sony model name: LIS1571MRPC

Before



After



Sony Electronics (Wuxi) Co., Ltd.

No.27, Changjiang Road, New District, Wuxi, Jiangsu Province, 214028 P.R.C.

Phone: 86-510-8523-9120 / Fax: 86-510-8523-8505

リチウムイオン電池認証書

Lithium-ion rechargeable (polymer) cell or battery Certification

No: SEW-CB1467

Date: 2014-6-30

1. ■単電池/□single cell ■single cell battery
□組電池/battery(pack) (セル構成/composition of cell : 1P1S)
2. 機種名/customer model name : ED30 Sony model name : LIS1571MRPC
3. 顧客名/customer : Motorola
4. 国連勧告テスト結果/Test results of the UN Recommendations on the Transport of Dangerous Goods

国連勧告テスト及び判定基準 (38.3 リチウム電池)		テスト結果/ test results	備考/remarks
NO	テスト項目 test item		
T1	高度シミュレーション/Altitude simulation	OK	
T2	温度試験/Thermal test	OK	
T3	振動/Vibration	OK	
T4	衝撃/Shock	OK	
T5	外部短絡/External short circuit	OK	
T6	衝突 (Impact) /圧壊 (Crush)	OK	
T7	過充電/Overcharge	OK	single cell は対象外
T8	強制放電/Forced discharge	OK	

試験実施日/Tested Date : 2014/06/20~2014/06/30


梱包試験実施日/Tested Date for Package : 2014/06/12~2014/06/15

5. 定格/rated

項目/item	規格値/specification	備考/remarks
公称電圧/nominal voltage	3.8V	
定格容量/rated capacity	2010mAh	
ワート時定格値(Wh) /Watt-hour rating	7.6Wh	単電池 ≤ 20Wh 組電池 ≤ 100Wh cells ≤ 20Wh batteries ≤ 100Wh

上記テスト結果は国連勧告試験(UN Manual of Tests and Criteria 5th revised edition Amendment 1, Part III, sub-section 38.3)に従い確認した結果であることを証明いたします。

We, Sony Electronics (Wuxi) Co., Ltd., hereby certify that above results are confirmed in accordance with the Manual of Tests and Criteria of the UN Recommendations on the Transport of Dangerous Goods, 5th revised edition Amendment 1, Part III, sub-section 38.3.


Weiwei Tang /Senior Manager
Quality Assurance Department
Sony Electronics (Wuxi) Co., Ltd.

国联劝告 结果 1



Test Result of UN Recommendations Part 1

机种名/Sony Model Name	LIS1571MRPC		
cell使用/Cell Model Name	US374980H2	构成/Configuration	1P 1S
试验场所/Test Company	索尼电子(无锡)有限公司		
地址/Address	中国江苏省无锡市新区长江路27号	电话/Tel	86-18068308951
试验室/Test Room	SEW国联劝告试验室	试验期间/Test Dates	2014.6.20-2014.6.30
判定基准/Criterion	UN Manual of Tests and Criteria Rev5, Part III, sub-section 38.3		

试验名称/Test Name		T1: 高度模拟试验 Altitude Simulation				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.129	4.310	34.128	4.307	0.00%	99.9%	N
2		34.093	4.305	34.092	4.302	0.00%	99.9%	N
3		34.065	4.307	34.066	4.303	0.00%	99.9%	N
4		34.116	4.305	34.117	4.302	0.00%	99.9%	N
5		34.104	4.310	34.106	4.306	-0.01%	99.9%	N
6		34.097	4.306	34.096	4.301	0.00%	99.9%	N
7		34.087	4.305	34.086	4.303	0.00%	100.0%	N
8		34.118	4.306	34.119	4.302	0.00%	99.9%	N
9		34.102	4.310	34.103	4.306	0.00%	99.9%	N
10		34.117	4.302	34.118	4.298	0.00%	99.9%	N

试验名称/Test Name		T2: 温度试验 Thermal				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.128	4.307	34.127	4.242	0.00%	98.5%	N
2		34.092	4.302	34.094	4.243	-0.01%	98.6%	N
3		34.066	4.303	34.064	4.241	0.01%	98.6%	N
4		34.117	4.302	34.117	4.241	0.00%	98.6%	N
5		34.106	4.306	34.104	4.238	0.01%	98.4%	N
6		34.096	4.301	34.096	4.242	0.00%	98.6%	N
7		34.086	4.303	34.090	4.241	-0.01%	98.6%	N
8		34.119	4.302	34.117	4.242	0.01%	98.6%	N
9		34.103	4.306	34.100	4.242	0.01%	98.5%	N
10		34.118	4.298	34.114	4.238	0.01%	98.6%	N

试验名称/Test Name		T3: 振动试验 Vibration				质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
番号 No.	电池状态 Conditions	试验前/Before		试验后/After				
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.127	4.242	34.126	4.236	0.00%	99.9%	N
2		34.094	4.243	34.093	4.238	0.00%	99.9%	N
3		34.064	4.241	34.065	4.237	0.00%	99.9%	N
4		34.117	4.241	34.116	4.235	0.00%	99.9%	N
5		34.104	4.238	34.105	4.232	0.00%	99.9%	N
6		34.096	4.242	34.095	4.235	0.00%	99.8%	N
7		34.090	4.241	34.091	4.234	0.00%	99.8%	N
8		34.117	4.242	34.118	4.236	0.00%	99.9%	N
9		34.100	4.242	34.100	4.237	0.00%	99.9%	N
10		34.114	4.238	34.115	4.232	0.00%	99.9%	N

现象/Occurrence	破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 排气:V <Venting> 渗漏:L <Leakage> 无异常:N <No rupture, No fire, No disassembly, No venting, No leakage>
---------------	--



国联劝告试验 结果 2

Test Result of UN Recommendations Part 2

No: SEW-CB1467
DATE: 2014.6.30
PAGE: 3 of 5 Page

试验名称/Test Name		T4: 冲击试验 Shock						
番号 No.	电池状态 Conditions	试验前/Before		试验后/After		质量减少率/ Mass Loss (0.1%以下)	OCV维持率/ Residual OCV (90%以上)	现象确认/ Occurrence
		Mass(g)	OCV (V)	Mass(g)	OCV (V)			
1	初回满充电/ First cycle, fully charged	34.126	4.236	34.128	4.235	-0.01%	100.0%	N
2		34.093	4.238	34.092	4.236	0.00%	100.0%	N
3		34.065	4.237	34.066	4.234	0.00%	99.9%	N
4		34.116	4.235	34.117	4.233	0.00%	100.0%	N
5		34.105	4.232	34.106	4.230	0.00%	100.0%	N
6		34.095	4.235	34.096	4.233	0.00%	100.0%	N
7		34.091	4.234	34.086	4.232	0.01%	100.0%	N
8		34.118	4.236	34.119	4.234	0.00%	100.0%	N
9		34.100	4.237	34.103	4.235	-0.01%	100.0%	N
10		34.115	4.232	34.118	4.231	-0.01%	100.0%	N
现象/Occurrence		破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 排气:V <Venting> 渗漏:L <Leakage> 无异常:N <No rupture, No fire, No disassembly, No venting, No leakage>						
试验名称/Test Name		T5: 外短路试验 External Short Circuit						
番号 No.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/O ccurrence	番号 No.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/O ccurrence	
1	初回满充电/ First cycle, fully charged	55.9°C	N	6	初回满充电/ First cycle, fully charged	55.9°C	N	
2		56.5°C	N	7		55.6°C	N	
3		56.3°C	N	8		55.6°C	N	
4		56.8°C	N	9		55.6°C	N	
5		56.7°C	N	10		55.6°C	N	
现象/Occurrence		破裂:R <Rupture> 起火:F <Fire> 解体:D <Disassembly> 无异常:N <No rupture, No fire, No disassembly>						
试验名称/Test Name		T6: 撞击(impact)/挤压(crush) 试验						
番号 No.	电池状态 Conditions	最大表面温度/Max. Surface Temperature (°C) 170°C	现象确认/Occurrence					
1	初回	<160°C	N					
2	50%充电	<160°C	N					
3	(宽面)/	<160°C	N					
4	First cycle,	<160°C	N					
5	50% charged (wide surface)	<160°C	N					
现象/Occurrence		解体: D <Disassembly> 起火: F <Fire> 无异常: N <No fire, No disassembly>						
试验名称/Test Name		T7: 过充电试验 Overcharge						
番号 No.	电池状态 Conditions	现象确认/Occurrence		番号 No.	电池状态 Conditions	现象确认/Occurrence		
1	初回满充电/ First cycle, fully charged	N		5	50次循环后 满充电/ After 50 cycles, fully charged	N		
2		N		6		N		
3		N		7		N		
4		N		8		N		
现象/Occurrence		起火:F <Fire> 解体:D <Disassembly> 无异常:N <No fire, No disassembly>						

* Temperature Measurement by Thermolabel

秘 CONFIDENTIAL

国联劝告试验 结果 3

Test Result of UN Recommendations Part 3

No.: SEW-CB1467

DATE: 2014.6.30

PAGE: 4 of 5 Page

试验名称 /Test Name		T8: 强制放电 Forced Discharge			
番号 N	电池状态 Conditions	现象确认 /Occurrence	番号 N	电池状态 Conditions	现象确认 /Occurrence
1	初次循环 完全放电 / First cycle, fully discharged	N	11	50次循环后 完全放电 / After 50 cycles, fully discharged	N
2		N	12		N
3		N	13		N
4		N	14		N
5		N	15		N
6		N	16		N
7		N	17		N
8		N	18		N
9		N	19		N
10		N	20		N
现象 / Occurrence		起火:F <Fire> 解体:D <Disassembly> 无异常:N <No fire, No disassembly>			

秘 CONFIDENTIAL

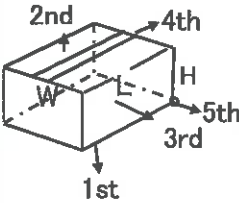
国連勧告試験 梱包結果

Test Result of UN Recommendations for Package

No : SEW-CB1467
 DATE 2014.6.30
 PAGE 5 of 5 Page

試験場所/ Test Company	索尼电子(无锡)有限公司				
住所/ Address	中国江苏省无锡市新区长江路27号		電話/ Tel	86-18068308951	
試験室/ Test Room	SEW国联劝告试验室	試験期間/ Test Dates	2014.6.12-2014.6.15	試験番号/ Test N	SEW-CB1467
機種名/ Sony Model Name	LIS1571MRPC		梱包入り数/ Quantity	200 pcs	
使用セル/ Cell Model Name	US374980H2	構成/ Configuration	1P1S	梱包製造所/ Package Factor	SEW
包装等級/ Packing Group	等級 II /Packing Group Number II				
寸法・質量 / Dimensions and Gross Weight	長辺/Length (L)	短辺 /Wide (W)	高さ/Height (H)	質量/Gross Weight (kg)	
	400 mm	300 mm	160 mm	10.0 kg	

■ 落下試験/Drop Test

試験設備	HORAD PD-315		
試験条件/ Test condition	落下高さ /Drop height	1. 2m	試験結果 /Occurrence
落下姿勢(方向)/ Five (one for each drop) 	1回目の落下試験	底面を水平に/ flat on the bottom	著しい破損なし/No Leakage, No damege liable to affect safety during
	2回目の落下試験	天面を水平に / flat on the top	著しい破損なし/No Leakage, No damege liable to affect safety during
	3回目の落下試験	長側面を水平に/ flat on the long side	著しい破損なし/No Leakage, No damege liable to affect safety during
	4回目の落下試験	短側面を水平に/ flat on the short side	著しい破損なし/No Leakage, No damege liable to affect safety during
	5回目の落下試験	コーナー(角)※/ on a corner	著しい破損なし/No Leakage, No damege liable to affect safety during
	※コーナー: 容器が最も破損を受ける方向を選択		
判定基準/ Criterion	外装容器及び袋の場合、外装容器の最も外側の層に輸送中の安全を脅かすようないかなる破損が生じてはならない。		判定/ Judgment 合格/OK

■ 積み重ね試験/Stacking Test

試験条件/Test condition	No	試験結果 /Occurrence
試験荷重値/Weight Load 185 kg	1	漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
	2	漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
	3	漏洩・破損・歪みなし/No leakage, No distortion, No deterioration
判定基準/ Criterion	試供品は漏洩があってはならない。試供品は、輸送の安全性を損なうような劣化、又はその強度を減じたり、又は輸送物の積み重ねを不安定にするような歪みが生じてはならない。	
	判定/ Judgment	合格/OK


 Weiwei Tang / Senior Manager
 Quality Assurance Department
 Sony Electronics (Wuxi) Co., Ltd.
 品保-P检-022(3)



総合判定
合格/OK

1. 2m落下試験写真／1. 2mDrop Test Photo

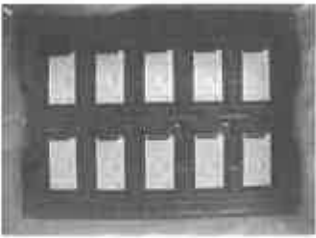
リチウムイオン電池／lithium-ion cell or battery

ソニー機種名／Sony model name: _____ LIS1571MRPC

Before



After



積み重ね試験写真 // Stacking Test Photo

リチウムイオン電池 / lithium-ion cell or battery

ソニー機種名 / Sony model name: LIS1571MRPC

Before



After

