

NO.1113100150

# 检验报告

# Test Report

样品名称:

鋰離子電池組 Luggie 25.2V 216Wh

Name of Sample:

委托单位:

自遊實股份有限公司

Consignor:

FREERIDER CORP.



Shanghai Research Institute of Chemical Industry Testing Centre

## 上海化工研究院检测中心 检验报告

## SRICI Testing Centre Test Report

NO. 1113100150

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样品名称	中文 Chinese		鋰離子電池組 Lug	gie 25.2V 216Wh									
Name of Sample	英文 English		/										
样品编号 Sample No.		1113100150											
委托单位 Consignor		自遊實股份有限公司 FREERIDER CORP.											
生产单位 Manufacturer		新普科技股份有限公司 SIMPLO TECHNOLOGY CO., LTD											
检验方法 Test method		联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.5/Amend.1 38.3 UNITED NATIONS "Recommendations on the TRANSPORT DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.5/Amend.1 38.3											
判定标准 Criterion		联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.5/Amend.1 38.3 UNITED NATIONS "Recommendations on the TRANSPORT C DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.5/Amend.1 38.3											
样品外观 Appearance		B1:	黑色塑胶外壳 ack Plastics cement	t shell									
样品接受日期 Accepted Date	201	3-10-31	检测起迄日期 Test Date	2013-11-22 ~ 2013-12-03									
检测项目 Test Items		Vibra	振动;外短路 tion,External short	t circuit									
检验结论 Conclusion	ST/SG/AC.10/ External sho	11/Rev. 5/Amend. 1 38. 3	标准要求。The samp NATIONS "Recommenda										
备注 Comment	可充电锂电池	组Rechargeable Lithiu		上海化入									
委托单位地址 Consignor Address		/ .	- (3)	即政编码》 为Pilit Sode									

批准

Checker:

编制 Compiler:

Approver: 职务 Title:

副总工程师(Vice chief engineer)

# 上海化工研究院检测中心 检验报告 SRICI Testing Centre Test Report

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序号 No.	检验项目名称 Name of Test Items	标准要求 Standard re Clause Nun		or The	检测结果 Test Resu			备注 Remark
1	振动 Vibration	联合国《关于危险货册》ST/SG/AC. 10/11, UN Manual of Tests ST/SG/AC. 10/11/Rev.	/Rev. 5/Amend. and Criteria 5/Amend. 1 38	1 38.3 试验 T.3 Section 3.3 Test T.3	见附表 1 See Appendix 1	合格 Passed	d	/
2	外短路 External short circuit	联合国《关于危险货 册》ST/SG/AC. 10/11/ UN Manual of Tests ST/SG/AC. 10/11/Rev.	Rev. 5/Amend. and Criteria	1 38.3 试验 T.5 Section	见附表 2 See Appendix 2	合格 Passed	i	/
3	以下空白	This space intention	onally left b	lank				
4					-			7
5								
6								
7								
8								
Tes	验环境条件 It Environment Condition	Aı			-24℃;环境湿度 C-24℃;Ambien		6 ·	
分包	包检验情况 -	检验项目 Test Item			/		***	
Subco	Subcontracted Test 分包实验室 Condition Subcontracted		名称 / Name		/	邮编 Post Code	/	
		Laboratory	地址 Address		/	电话 Tel	/	

### 上海化工研究院检测中心 检验报告-附表1

# SRICI Testing Centre Test Report—Appendix 1

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1			振动 Vibration	1			
样品状态	试验育	Before			质量损失	剩余电压	其他
Sample Status	质量 Mass /g	开路电压 OCV /V	质量 Mass /g	开路电压 OCV /V	Mass Loss	Residual OCV /%	现象 Other Event
1CYC完全充电 1CYC Fully charged	1832. 50	28. 77	1832. 00	28. 71	0.03	99. 79	0
1CYC完全充电 1CYC Fully charged	1830. 47	28. 78	1830. 01	28. 73	0.03	99. 83	0
ICYC完全充电 ICYC Fully charged	1832. 03	28. 77	1831. 55	28. 72	0.03	99. 83	0
1CYC完全充电 1CYC Fully charged	1832. 40	28. 77	1831. 70	28. 73	0.04	99.86	0
50CYC完全充电 50CYC Fully charged	1832. 20	28. 76	1831. 78	28. 71	0.02	99. 83	O <sub>z</sub>
50CYC完全充电 50CYC Fully charged	1831. 55	28. 78	1831. 10	28. 72	0.02	99. 79	0
50CYC完全充电 50CYC Fully charged	1831. 20	28. 77	1830. 73	28. 72	0.03	99. 83	0
50CYC完全充电 50CYC Fully charged	1831. 03	28. 78	1830. 57	28. 73	0.03	99. 83	0
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	样品状态 Sample Status  1CYC完全充电 1CYC Fully charged 50CYC Fully charged	Name of	Name of Test Items	Name of Test Items			

备注: L-泄漏 V-漏气 D-解体 R-破裂 F-起火 0-无泄漏、无漏气、无解体、无破裂、无起火。 Note: L-Leakage V-Venting D-Disassembly R-Rupture F-Fire O-No Leakage,No Venting, No Disassembly,No Rupture & No Fire.

## 上海化工研究院检测中心 检验报告-附表2

# SRICI Testing Centre Test Report—Appendix 2

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序号 No	2	检验项目名称 Name of Test Items	外短路 External short circuit
样品编号 Sample No.	<u> </u>	样品表面最高温度 Max. External Temperature /℃	其他现象 Other Event
001	1CYC完全充电 1CYC Fully charged	55. 1	0
002	1CYC完全充电 1CYC Fully charged	54. 8	0
003	1CYC完全充电 1CYC Fully charged	54. 7	0
004	1CYC完全充电 1CYC Fully charged	54. 4	0
005	50CYC完全充电 50CYC Fully charged	54. 1	0
006	50CYC完全充电 50CYC Fully charged	54. 8	0
007	50CYC完全充电 50CYC Fully charged	54. 0	0
008	50CYC完全充电 50CYC Fully charged	54. 9	0
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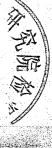
备注: D-解体 R-破裂 F-起火 O-无解体、无起火、无破裂。

Note: D-Disassembly R-Ruptur F-Fire O-No Disassembly, No Fire & No Rupture.

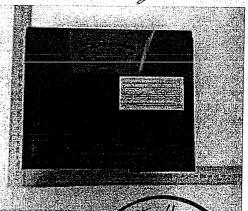
### 上海化工研究院检测中心 检验报告-附图 SRICI Testing Centre Test Report—Appendix NO. 1113100150

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Luggie Series LiCoNiMn battery module P/N:PA04-A701-C RATING: 25.2V == 216Wh











# **UN38.3 Test Report**

## Recommendations on the TRANSPORT OF DANGEROUS GOODS

(Manual of Tests and Criteria, Fifth revised edition, Amend 1)

**Customer: Freerider** 

**Model: Luggie** 

Rating: 25.2V, 216Wh

Approved By	Checked By	Prepared By
Szmh	Bettywn	Gibson Un

#### SIMPLO TECHNOLOGY CO., LTD.

ADD: No.471, Sec. 2, Pa Teh Rd., Hu Kou, Hsin Chu, Hsien 303 Taiwan

TEL: +886-3-5695920 FAX: +886-3-5695931



ADD: No.2 Dong Nan Road, Changshu, Jingsu Province. China

TEL: +86-512-52302255 FAX: +86-512-52302277

#### SIMPLO ELECTRONICS (CHONGQING), LTD.

ADD: No.2 Zongbao Avenue, Shapingba Distnct, Chongqing, China

TEL: +86-23-61718899 FAX: +86-23-61210488

#### SIMPLO ELECTRONICS (SHANGHAI), LTD.

ADD: No.28, Sanzhuang Road., Songjiang Export Processing Zone, Shanghai

TEL: +86-21-57748286 FAX: +86-21-57748285









#### 1. Purpose of the Test:

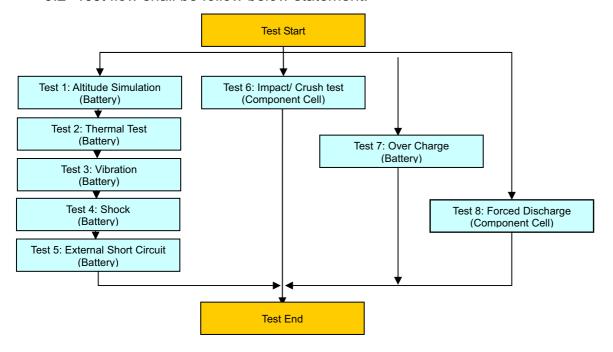
To test each component cell/battery is of the type proved to meet the requirements in the Recommendations on the TRANSPORT OF DANGEROUS GOODS. Manual of Tests and Criteria, Fifth revised edition, Amend 1.

#### 2. Test Quantity:

- Four batteries, at first cycle, in fully charged states. (for T.1~T.5 & T.7 test)
- Four batteries, after fifty cycles ending in fully charged states. (for T.1~T.5 & T.7 test)
- 2.3 Five component cells, at first cycle at 50% of the design rated capacity. (for T.6 test)
- Ten component cells, at first cycle in fully discharge states. (for T.8 test) 2.4
- 2.5 Ten component cells, after fifty cycles ending in fully discharged states. (for T.8 test)

#### 3. Test procedure:

- 3.1 All detail related test procedure shall be follow TRANSPORT OF DANGEROUS GOODS, Manual of Tests and Criteria, Fifth revised edition, Amend 1, Section 38.3.
- 3.2 Test flow shall be follow below statement.





#### 4. Test Result:

#### 4.1 T.1 ~T.4 Test results: Pass

- 4.1.1 All batteries could meet the requirement, mass loss less than 0.1% and voltage drop less than 10% after the test.
- 4.1.2 No leakage, no venting, no disassembly, no rupture and no fire.

#### 4.2 T.5 Test result: Pass

- 4.2.1 All batteries could meet the requirement, external temperature did not exceed 170°C.
- 4.2.2 All batteries were no disassembly, no rupture and no fire during the test and within six hours after the test.

#### 4.3 T.6 Test results: Pass

- 4.3.1 All component cells could meet the requirement, external temperature did not exceed 170°C.
- 4.3.2 All component cells were no disassembly and no fire during the test and within six hours after the test.

#### 4.4 T.7 Test result: Pass

4.4.1 All batteries could meet no disassembly and no fire during the test and within seven days after the test.

#### 4.5 T.8 Test result: Pass

4.5.1 All component cells could meet no disassembly and no fire during the test and within seven days after the test.



#### 5. Test Equipment:

SMP SIMPLO TECHNOLOGY CO., LTD. Revised date: 2013-10-14

Address: No. 471, Sec.2, Pa Teh Rd., Hu Kou, Hsin Chu Hsien 303 Taiwan Date TEL: +886-3-5695920; FAX: +886-3-5695931 Project No.: Luggie 7S4P

Test Instruments Reference List Date:2013-10-14

Particle   Part   Par				l est Insti	struments Reference List								
Pretest	Jsed		Instrument Name	Туре	Range Used	Manufacturer			Remarks				
V. M., M., 1951         Learning         7.16C         0-18V 0-8A         SMP         2013/32/8         2014/32/8           V. M., 1952         Learning         7.16C         0-18V 0-8A         SMP         2013/32/8         2014/32/2           W. M., 2013         Learning         7.16C         0-18V 0-8A         SMP         2013/32/8         2014/32/8           V. M., 512         Learning         L.76GR         0-60V 0-60A         SMP         2013/32/8         2014/32/8           V. M., 512         Learning         L.76GR         0-60V 0-60A         SMP         2013/32/8         2014/32/8           V. M., 512         Learning         L.76GR         0-60V 0-60A         SMP         2013/32/8         2014/32/8           V. M., 520         Learning         L.76GR         0-60V 0-60A         SMP         2013/32/8         2014/32/8           V. M., 521         Learning         L.76GR         0-60V 0-60A         SMP         2013/32/8         2014/32/8           V. M., 522         M. S.						-	Date_cast	Date_Hext					
V ML-792   Learning	v		Leaming	715C	0~18V 0~8A	SMP	2013/3/28	2014/3/28					
ML-793   Learning   716C   0-18V 0-8A   SMP   2013/3/22   2014/3/29	v												
ML-794   Learning	-												
V. M.L-510 Learning         L.750R         O−-90V O−-90A         SMP         2013/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2014/9/28   2													
V         M. ±012         Learning         L.750R         0~50V 0~50A         SMP         2013/3/28         2014/3/28           V         M.±012         Learning         L.750R         0~50V 0~50A         SMP         2013/3/28         2014/3/28           V         M.±02         All Stude         L.750R         0~50V 0~50A         SMP         2013/3/28         2014/3/28           V         M.±022         All Stude         V. M.±027         M.H. SMD         All SMD         2014/3/28           V         M.±022         All Stude         SVT-120         Kps:30~90         HSIN JIANG         2013/3/31         2014/3/31           V         M.±027         M.H. SMD         M.H. SMD         All SMD         All SMD         All SMD           V         M.±027         M.H. SMD         M.H. SMD         All SMD         All SMD         All SMD           V         M.±028         M.T. SMD         M.T. SMD         All SMD         All SMD         All SMD           V         M.E. SMD         Obstance         All SMD         All SMD         All SMD         All SMD           V         M.E. SMD         All SMD         All SMD         All SMD         All SMD         All SMD           V	v												
V. ML-520   Learning   1,750R   0-90V 0-90A   SMP   2013/3/28   2014/3/28     V. ML-520   Learning   1,750R   0-90V 0-90A   SMP   2013/3/28   2014/3/28     V. ML-520   Allitude   V. ML-521   Multimeter   HF 34401A   Note 1   Agilent   2013/3/8   2014/3/81     V. ML-527   Multimeter   HF 34401A   Note 1   Agilent   2013/3/8   2014/3/81     V. ML-528   E/FE   MTW-30K   3070-006leg   Centre   2012/10/18   2013/10/18     V. ML-527   Multimeter   HF 34401A   Note 1   Agilent   2013/3/8   2014/3/81     V. ML-528   V. ML-529   V. ML-529													
V M.	•												
M.   Section   M.   M.   M.   M.   M.   M.   M.   M													
M. M. Sole   Allfude   SVT-120   Kps:30-90   HSIN JIANG   2013/6/31   2014/6/31	٧.			L/SUR	D~00V D~00A	SIVIE	2013/3/26	20 14/3/28					
V         M S22         Asthude         SVT-120         Kps:30-900         HSIN_JIANG         2013/2/8         2014/2/8           V         M S23         ⊞ ∓PF         MTW-30K         30°0 006/1g         Aglient         2013/2/8         2014/2/8           V         M S23         ⊞ ∓PF         MTW-30K         30°0 006/1g         CENTER         2013/2/13         2014/2/8           V         M S23         ⊞ ∓PF         MTW-30K         30°0 006/1g         CENTER         2013/2/13         2014/2/18           V         M S23         Thermal Test         The Test of Mullimeter         P 3401/3         note 1         Aglient         2013/2/18         2014/2/18           V         M S23         ⊞ ∓PF         MTW-30K         30°0 006/1g         Ring Design         2013/2/18         2014/2/18           V         M S23         MTW-30K         30°0 006/1g         Ring Design         2013/2/19         2014/2/18           V         M S23         MTW-30K         30°0 006/1g         Ring Design         2012/2/19         2014/2/18           V         M S23         MTW-30K         30°0 006/1g         Ring Design         2012/19/17         2013/2/19         2014/2/18           V         M S2					K20 00	LICINI HANG	2042/0/24	2014/0/24					
V ML-257   Multimeter													
V         M. H823         ■ FFR         MTW-30K         30°0.005Kg         CENTER         2013/2013         2014/2013           V         M. L. 780         Thermal Test         CRIST-080-06-AWT, 140 to 120°C         GF         2013/2013         2014/2018           V         M. L. 780         Thermal Shock         GTST-080-06-AWT, 140 to 120°C         GF         2013/2013         2014/2018           V         M. L. 230         Thermal Shock         GTST-080-06-AWT, 140 to 120°C         GF         2013/2013         2014/2018           V         M. L. 231         The Temperary Transport of the Market of t													
V ML-780						Agilent							
T. 2 Thermal Test													
V ML-759	v			313	15~35 °C; 30~80 %RH	CENTER	2012/10/18	2013/10/18					
V ML-257   Multimeter   HP 34401A   note 1   Agillent   2013/9/8   2014/9/8   V ML-257   T.3 Vibration   VD-935-EM   GD-935-EM   GD-935													
V ML-233													
V. M. L.233         Vibration         ICD-0636-EM- 30062X-50N80         F.5-2000Hz (a) 0.2-20G         King Design         2012/10/17 (2013/10/17 (2013/10/17 (2013/10/17 (2013/10/17 (2013/10/17 (2013/10/17 (2013/10/17 (2013/10/18 (2013/16)))))         V. ML.257         Multimeter         H 934401A         note 1         Agilent         2013/26 (2013/26 (2013/26))         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26)         2013/26 (2013/26) <th< td=""><td></td><td></td><td></td><td></td><td></td><td>Agilent</td><td></td><td></td><td></td></th<>						Agilent							
V ML-233	^			MTW-30K	30*0.005Kg		2013/8/31	2014/8/31					
V ML-237 Vioration 300F2K-30N80 G:0.2-20G Ring Besign 2012/1017 / 2013/1017 / V ML-523		T.3 Vibrat	ion			•	•	•	•				
V ML-552   Data logger   313   16-36 ℃; 30-90 96RH   CENTER   2013/10/18   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8   2014/9/8	v	ML-233	Vibration			King Design	2012/10/17	2013/10/17					
V   ML-523   EFFF				300F2K-30IN60	G.U.2~2UG	A - 7	20401010	0044/0/0					
V         ML-892         Data logger         313         16-36 ℃; 30-80 %RH         CENTER         2012/10/18         2013/10/18           T.4 Shook         V         ML-056         Shock         OP-1200-26         G:10-600G         King Design         2012/10/17         2013/10/17         2013/10/17         2013/10/17         2013/10/17         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2014/3/8         2013/3/8         2013/3/8         2014/3/8         2013/3/8         2013/3/8					note 1	Agilent							
T.4 Shook						l							
V ML-050   Shock   DP-1200-25   G:10-600G   King Design   2012/10/17   2013/10/17   V ML-057   Multimeter   HP 34401A   note 1   Agillent   2013/3/9   2014/3/8   V ML-551   Data logger   313   15-35 °C; 30-90 %RH   CENTER   2012/10/18   2013/10/18   T.5   External Short Circuit   External Sh	V		Data logger	313	15~35 °C; 30~80 %RH	CENTER	2012/10/18	2013/10/18					
V ML-257   Multimeter													
V   ML-523	v				G:10~600G	King Design							
V         ML-551         Data logger         313         16~36 °C; 30~80 %RH         CENTER         2012/10/18         2013/10/18           T.5 External Short Circuit         V         ML-534         mΩ Hitester         3840         1mΩ ~ 30kΩ         HIOKI         2012/10/15 (2013/10/15)           V         ML-550         Data logger         313         16~36 °C; 30~80 %RH         CENTER         2012/10/15 (2013/10/25)           ML-459         Data Acquisition         MX100~E-1D         1-100 Vdc, -60 to 150°C Yokogawa         2012/10/25 (2013/10/25)           V         ML-501         Data Acquisition         MX100~E-1D         1-100 Vdc, -60 to 150°C Yokogawa         2012/10/25 (2013/10/25)           V         ML-501         Data logger         313         16~36 °C; 30~80 %RH         CENTER         2012/10/25 (2013/10/25)           V         ML-553         Crush Tester         BCT-01         50mplo         2012/10/25 (2013/10/25)           V         ML-459         Data Acquisition         MX100~E-1D         1-100 Vdc, -60 to 150°C Yokogawa         2012/10/25 (2013/10/25)           V         ML-450         Data Acquisition         MX100~E-1D         1-100 Vdc, -60 to 150°C Yokogawa         2012/10/25 (2013/10/25)           V         ML-481         Frogrammable DC         DS10014	v	ML-257	Multimeter	HP 34401A	note 1	Agilent	2013/3/8	2014/3/8					
V ML-53	<	ML-523	電子秤	MTW-30K	30*0.005Kg		2013/8/31	2014/8/31					
V ML-534   mΩ Hitester   3540   1mΩ ~ 30kΩ   HIOKI   2012/10/15   2013/10/15   V ML-550   Data logger   313   15~35 °C; 30~80 %RH   CENTER   2012/10/18   2013/10/18   ML-450   Data Acquisition   MX100-E-1D   1-100 Vdc, -60 to 150°C   Yokogaswa   2012/10/25   2013/10/25   V ML-61   Data Acquisition   MX100-E-1D   1-100 Vdc, -60 to 150°C   Yokogaswa   2012/10/25   2013/10/25   V ML-51   Oven   9031   30~80 °C   Yokogaswa   2012/10/25   2013/10/25   V ML-550   Data logger   313   15~35 °C; 30~90 %RH   CENTER   2012/10/25   2013/10/25   V ML-550   Data logger   313   15~35 °C; 30~90 %RH   CENTER   2012/10/18   2013/10/18   V ML-550   Data Acquisition   MX100-E-1D   1-100 Vdc, -60 to 150°C   Yokogaswa   2012/10/25   2013/10/25   V ML-53   Crush Tester   BCT-01   Simplo   2012/10/25   2013/10/25   V ML-451   Data Acquisition   MX100-E-1D   1-100 Vdc, -60 to 150°C   Yokogaswa   2012/10/25   2013/10/25   V ML-481   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-483   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-484   Source   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-485   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-486   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-487   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-488   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-488   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-488   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-489   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-489   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-489   Programmable DC   DS10014   1-100Vdc, 0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V ML-489   Pro	v	ML-551	Data logger	313	15~35 °C; 30~80 %RH	CENTER	2012/10/18	2013/10/18					
V         ML-534         mΩ Hitester         3540         1mΩ - 30kΩ         HIOKI         2013/10/18 2013/10/18           V         ML-550         Data logger         313         15~35 °C; 30~80 %RR L         CENTER         2012/10/18 2013/10/18           ML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -60 to 150°C Yokogawa         2012/10/25 2013/10/25           V         ML-450         Data Acquisition         MX100-E-1D         1-100 Vdc, -60 to 150°C Yokogawa         2012/10/25 2013/10/25           V         ML-551         Oven         9031         30~80°C         YEOW LONG         2012/10/25 2013/10/25           V         ML-550         Data logger         313         15~35°C; 30~80 %RH         CENTER         2012/10/25 2013/10/25           V         ML-551         Obta Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150°C Yokogawa         2012/10/25 2013/10/25           V         ML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150°C Yokogawa         2012/10/25 2013/10/25           V         ML-481         Programmable DC         DS10014         1-100 Vdc, -50 to 150°C Yokogawa         2012/10/25 2013/10/25           V         ML-482         Programmable DC         DS10014         1-100 Vdc, -0.3-14.4A         MOTECH		T.5 Extern				•	•	•	•				
V         ML-550         Data logger         313         15~36°C; 30~90 %RH         CENTER         2012/10/18         2013/10/18         2013/10/18           ML-460         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150°C         Yekogawa         2012/10/25         2013/10/25           V         ML-510         Over 0         9031         30~80°C         Yekow Long         2012/10/25         2013/10/25         2013/10/25           V         ML-551         Over 1         9031         30~80°C         Yekow Long         2012/10/25         2013/10/25         2013/10/25           V         ML-550         Osta logger         313         15~36°C; 30~90 %RH         CENTER         2012/10/25         2013/10/25           V         ML-553         Crush Tester         BCT-01         1-100 Vdc, -50 to 150°C         Yekogawa         2012/10/25         2013/10/25           V         ML-453         Programmable DC         DS10014         1-100 Vdc, -0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-483         Programmable DC         DS10014         1-100 Vdc, -0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-484         Programmable DC         DS10014         1-100	v			3540	1mO ~ 30kO	HIOKI	2012/10/15	2013/10/15					
MIL-459													
Mili-480   Data Acquisition   MX100-E-ID   1-100 Vdc, -60 to 150°C   Vokogawa   2012/10/25   2013/10/25	~												
Mil-521   Owen   9031   30-90 ©   YEOW LONG   2012/10/25   2013/10/25													
T.S. Impact ( Component cell ) Crush   V. ML-550   Data logger   313   15-35°C; 30-80 %RH   CENTER   2012/10/18   2013/10/18   V. ML-555   Data logger   313   15-35°C; 30-80 %RH   CENTER   2012/10/26   2013/10/25   V. ML-450   Data Acquisition   MX100-E-1D   1-100 Vdc, -60 to 150°C   Yokogawa   2012/10/25   2013/10/25   V. ML-450   Data Acquisition   MX100-E-1D   1-100 Vdc, -60 to 150°C   Yokogawa   2012/10/25   2013/10/25   V. ML-450   Data Acquisition   MX100-E-1D   1-100 Vdc, -0.3-14.4A   MOTECH   2013/6/27   2014/6/27   V. ML-481   Stories   Source   Source													
V         ML-550         Data logger         313         15~35°C; 30~80 %RH         CENTER         2012/10/18         2013/10/18           V         ML-550         Crush Tester         BCT-01         Simplo         2012/10/26         2013/10/25         2013/10/25           V         ML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -60 to 150°C         Yokogawa         2012/10/26         2013/10/25           V         ML-451         Frogrammable DC         DS10014         1-100 Vdc, -60 to 150°C         Yokogawa         2012/10/26         2013/10/25           V         ML-482         Frogrammable DC         DS10014         1-100 Vdc, -0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-483         Frogrammable DC         DS10014         1-100 Vdc, -0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-485         Frogrammable DC         DS10014         1-100 Vdc, -0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-486         Programmable DC         DS10014         1-100 Vdc, -0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-487         Programmable DC         DS6024         1-60 Vdc, -0.3-24A	v				30~80 ℃	YEOW LONG	2012/10/25	2013/10/25					
ML-553													
ML-459   Data Acquisition					15~35 °C; 30~80 %RH								
T.7 Overcharge			Crush Tester										
V         ML-481         Programmable DC Source         DS10014         1-100Vdo, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-482         Programmable DC Source         DS10014         1-100Vdo, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-483         Programmable DC Source         DS10014         1-100Vdo, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-484         Programmable DC Source         DS10014         1-100Vdo, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-486         Programmable DC Source         DS10014         1-100Vdo, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           ML-486         Programmable DC Source         DS10014         1-100Vdo, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           ML-487         Programmable DC Source         DS6024         1-60 Vdo, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-488         Programmable DC Source         DS6024         1-60 Vdo, 0.3-24A         MOTECH         2013/6/27         2014/6/27           V         ML-50         Data logger         313         15-35 °C; 30-80 %R         CENTER <t< td=""><td>v</td><td></td><td></td><td>MX100-E-1D</td><td>1-100 Vdc, -50 to 150°C</td><td>Yokogawa</td><td>2012/10/25</td><td>2013/10/25</td><td></td></t<>	v			MX100-E-1D	1-100 Vdc, -50 to 150°C	Yokogawa	2012/10/25	2013/10/25					
V ML481		T.7 Over											
V         ML-482         Programmable DC Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-483         Programmable DC Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-484         Programmable DC Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-486         Programmable DC Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           ML-487         Programmable DC Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           ML-487         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-488         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-490         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           V ML-550         Data logger         313         15~35 °C; 30~80 %RH         CENTER         2012/10/25         2013/1	v	ML-481		DS10014	1-100Vdc, 0.3-14.4A	MOTECH	2013/6/27	2014/6/27					
Value	_												
ML-484   Source	v	ML-482		DS10014	1-100Vdc, 0.3-14.4A	MOTECH	2013/6/27	2014/6/27					
Source		MI -492	Programmable DC	DS10014	1-100\/do 0.3-14.44	MOTECH	2012/8/27	2014/8/27					
V         ML-484         Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-485         Programmable DC Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-486         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-487         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-488         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-489         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-490         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           V ML-550         Data logger         313         15~36 °C; 30~89 %RH         CENTER         2012/10/18         2013/10/18           V ML-450         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150°C         Yokogawa         2012/10/25         2013/10/25	•	IVIL-100		5510514	1-100040, 0.5-14.42	WOTEGIT	2013/0/27	2014/0/2/					
V         ML-485         Programmable DC Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           V         ML-486         Programmable DC Source         DS10014         1-100Vdc, 0.3-14.4A         MOTECH         2013/6/27         2014/6/27           ML-487         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-488         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-489         Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           ML-490         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           V         ML-490         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/6/27         2014/6/27           V         ML-450         Data logger         313         15~36 °C; 30~80 %RH         CENTER         2012/10/18         2013/10/18           V         ML-450         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150°C         Yokogawa         2012/10/25 2013/10/25 <td>v</td> <td>ML-484</td> <td></td> <td>DS10014</td> <td>1-100Vdc, 0.3-14.4A</td> <td>MOTECH</td> <td>2013/6/27</td> <td>2014/6/27</td> <td></td>	v	ML-484		DS10014	1-100Vdc, 0.3-14.4A	MOTECH	2013/6/27	2014/6/27					
Source				D040044			0040/0/07	00440007					
ML-486	v	ML-485		DS10014	1-100Vdc, 0.3-14.4A	MOTECH	2013/6/27	2014/0/2/					
ML-487   Source   DS6024   1-60 Vdc, 0.3-24A   MOTECH   2013/6/27   2014/6/27	v	ML-486		DS10014	1-100Vdc, 0.3-14.4A	MOTECH	2013/6/27	2014/6/27					
ML-488         Programmable DC Source         DS6024         1-80 Vdc, 0.3-24A         MOTECH         2013/8/27         2014/8/27           ML-489         Programmable DC Source         DS6024         1-80 Vdc, 0.3-24A         MOTECH         2013/8/27         2014/8/27           ML-490         Programmable DC Source         DS6024         1-60 Vdc, 0.3-24A         MOTECH         2013/8/27         2014/8/27           V ML-550         Data logger         313         15-35 °C; 30~89 %RH         CENTER         2012/10/18 2013/10/18           V ML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150 °C         Yokogawa         2012/10/25 2013/10/25           V ML-460         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150 °C         Yokogawa         2012/10/25 2013/10/25           V ML-132         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V ML-133         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-192         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-289         Electronic Load         3311C         60V,55A, 300W         P		ML-487		DS6024	1-60 Vdc, 0.3-24A	MOTECH	2013/6/27	2014/6/27					
ML-489		ML-488	Programmable DC	DS8024	1-60 Vdc. 0.3-24A	MOTECH	2013/6/27	2014/6/27					
ML-490   Source													
ML-490   Source   DS6024   1-60 Vdc, 0.3-24A   MOTECH   2013/6/27   2014/6/27		ML-489	Source	DS6024	1-60 Vdc, 0.3-24A	MOTECH	2013/6/27	2014/6/27					
ML-459   Data Acquisition   MX100-E-1D   1-100 Vdc, -50 to 150°C   Yokogawa   2012/10/25   2013/10/25   VML-450   Data Acquisition   MX100-E-1D   1-100 Vdc, -50 to 150°C   Yokogawa   2012/10/25   2013/10/25   VML-132   Electronic Load   3311C   60V,55A, 300W   Prodigit   2013/3/7   2014/3/7   VML-133   Electronic Load   3311C   60V,55A, 300W   Prodigit   2013/3/7   2014/3/7   2014/3/7   VML-136   Electronic Load   3311C   60V,55A, 300W   Prodigit   2013/3/7   2014/3/7   VML-192   Electronic Load   3311C   60V,55A, 300W   Prodigit   2013/3/7   2014/3/7   VML-192   Electronic Load   3311C   60V,55A, 300W   Prodigit   2013/3/7   2014/3/7   VML-259   Electronic Load   3311C   60V,55A, 300W   Prodigit   2013/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/3/7   2014/				DS8024									
V         ML-460         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150°C         Yokogawa         2012/10/25         2013/10/25           T.8         Forced discharge ( Component cell )         Total Component cell ( Component cell )         Prodigit         2013/3/7         2014/3/7           V         ML-132         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-136         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-192         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-269         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-269         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-269         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-269         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           <	v												
T.8 Forced discharge ( Component cell )           V ML-132         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V ML-133         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-136         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-192         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-289         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           VML-550         Data logger         313         15~36 ℃; 30~80 %RH         CENTER         2012/10/18         2013/10/18           VML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -60 to 150 ℃         Yokogawa         2012/10/25 2013/10/25									<b>-</b>				
V         ML-132         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-133         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-136         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-192         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-289         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-550         Data logger         313         15~36 ℃; 30~80 %RH         CENTER         2012/10/18         2013/10/18           ML-459         Data Acquisition         MX100-E-1D         1-100 Vdo, -60 to 150 ℃         Yokogawa         2012/10/25 2013/10/25	v		Data Acquisition		1-100 Vac, -cu to 150°C	TOKogawa	2012/10/25	2013/10/25					
V         ML-133         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-136         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-192         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-289         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V ML-550         Data logger         313         15~36 ℃; 30~80 %RH         CENTER         2012/10/18         2013/10/18           ML-459         Data Acquisition         MX100-E-1D         1-100 Vdo, -60 to 150 ℃         Yokogawa         2012/10/25 2013/10/25													
ML-136         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-192         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-269         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-550         Data logger         313         15~35°C; 30~80 %RH         CENTER         2012/10/18         2013/10/18           ML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150°C         Yokogawa         2012/10/25         2013/10/25					60V,55A, 300W								
ML-192         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-269         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-550         Data logger         313         15~35 ℃; 30~80 %RH         CENTER         2012/10/18         2013/10/18           ML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150 ℃ Vdc, gaswa         2012/10/25 2013/10/25	V												
ML-192         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           ML-299         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-550         Data logger         313         15~35 ℃; 30~80 %RH         CENTER         2012/10/18 2013/10/18           ML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150 ℃ Vdc, gaswa         2012/10/25 2013/10/25		ML-136											
ML-289         Electronic Load         3311C         60V,55A, 300W         Prodigit         2013/3/7         2014/3/7           V         ML-550         Data logger         313         15~35 ℃; 30~80 %RH         CENTER         2012/10/18         2013/10/18           ML-459         Data Acquisition         MX100-E-1D         1-100 Vdo, -60 to 150 ℃         Yokogawa         2012/10/25         2013/10/25		ML-192	Electronic Load	3311C		Prodigit	2013/3/7	2014/3/7	l				
V         ML-550         Data logger         313         15~35 °C; 30~80 %RH         CENTER         2012/10/18 2013/10/18           ML-459         Data Acquisition         MX100-E-1D         1-100 Vdc, -50 to 150 °C         Yokogawa         2012/10/25 2013/10/25			Electronic Load	3311C	60V,55A, 300W		2013/3/7	2014/3/7					
ML-459 Data Acquisition MX100-E-1D 1-100 Vdo, -50 to 150°C Yokogawa 2012/10/25 2013/10/25		WIL-208							1				
	~		Data logger	313	15~35 C. 35~60 WELL								
	v	ML-550											
	v	ML-550 ML-459	Data Acquisition	MX100-E-1D	1-100 Vdc, -50 to 150°C	Yokogawa	2012/10/25	2013/10/25					

Note 1: DC Voltage: 0.1-1000V; AC Voltage: 0.5-700V at 60Hz, 1kHz; Resistance:  $10\Omega$ -10M $\Omega$ ; DC Current: 0.1mA-3A; AC Current: 0.01-3A at 60Hz, 0.01-1A, at 1kHz.

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Control No.:SFRU1310001

新普科技股份有限公司 新世電子(常熟)有限公司 新普科技(重慶)有限公司 兆普電子(上海)有限公司 Control Number: SFRU1310001

UN 38.3 Test Datasheet

50 Cycle, 0% charged

11C~20 C

### 6. T.1~T8 detail reports:

25Cycle, Fully charged

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Custome	er: Freerider	Model name: Lug	jgie 7S4P	•	Test duration:081513~100	913	P13 Reviewer:Esmond					
Test Sar	Test Sample identification:											
			Battery		Component Cell							
Used	Sample No.	Sample state	Used	Sample No.	Sample state	Used	Sample No.	Sample state				
V	01~04	1 Cycle, Fully charged	V	05~08	50 Cycle, Fully charged	V	21C~25 C	1 Cycle, 50% charged				
		1 Cycle, Fully charged			50 Cycle, Fully charged	V	01C~10 C	1 Cycle, 0% charged				

25Cycle, Fully charged

T.1 Altitud	Finsh time:8/15/2013 21 : 40						rc	Operator :Gibson	Reviewer:	Esmond	
		Sample N	lo.: 01					Sample N	lo.: 02		
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	D	Mass (g)	1825	1825	Mass loss %	0.00%	Р
OCV (V)	28.94	28.88	Remained OCV%	Remained OCV% 99.79%		OCV (V)	28.94	28.88	Remained OCV%	99.79%	
		Sample N	lo.: 03					Sample N	lo.: 04		
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	Р	Mass (g)	1825	1825	Mass loss %	0.00%	Р
OCV (V)	28.92	28.87	Remained OCV%	99.83%		OCV (V)	28.94	28.88	Remained OCV%	99.79%	
		Sample N	lo.: 05					Sample N	lo.: 06		
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	ь.	Mass (g)	1825	1825	Mass loss %	0.00%	Р
OCV (V)	28.95	28.89	Remained OCV%	99.79%	-	OCV (V)	28.95	28.89	Remained OCV%	99.79%	r
		Sample N	lo.: 07					Sample N	o.: 08		
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	Р	Mass (g)	1820	1820	Mass loss %	0.00%	Р
OCV (V)	28.94	28.88	Remained OCV%	99.79%			28.94	28.88	Remained OCV%	99.79%	1% P

T.2 Therm	Finsh time:8/21/2013 08: 40					temp.:24.9	rc	Operator :Gibson	Reviewer:E	smond	
		Sample N	lo.: 01					Sample N	lo.: 02		
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	Р	Mass (g)	1825	1825	Mass loss %	0.00%	Р
OCV (V)	28.88	28.54	Remained OCV%	98.82%	-	OCV (V)	28.88	28.55	Remained OCV%	98.86%	
		Sample I	No.: 03					Sample N	lo.: 04		
	Before	After	variation Res		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	ь	Mass (g)	1825	1825	Mass loss %	0.00%	Р
OCV (V)	28.87	28.54	Remained OCV%			OCV (V)	28.88	28.54	Remained OCV%	98.82%	r
		Sample N	lo.: 05					Sample N	o.: 06		
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	P	Mass (g)	1825	1825	Mass loss %	0.00%	P
OCV (V)	28.89	28.55	Remained OCV%	98.82%		OCV (V)	28.89	28.54	Remained OCV%	98.79%	
		Sample N	lo.: 07					Sample N	o.: 08		
	Before	After	variation	n Results			Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	P	Mass (g)	1820	1820	Mass loss %	0.00%	Р
OCV (V)	28.88	28.55	Remained OCV%	98.86%	•	OCV (V)	28.88	28.54	Remained OCV%	98.82%	

000 (0)	20.00	20.00	rtemamea oo i ii	30.0076		000 (0)	20.00	20.04	rtemamea oo 77	30.02.70	
T.3 Vibrat	Finsh time:8/28/2013 19:10					temp.:25.0	rc	Operator :Gibson	Reviewer:	Esmond	
		Sample N	No.: 01					Sample N	lo.: 02		
	Before After variation Results						Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%		Mass (g)	1825	1825	Mass loss %	0.00%	Р
OCV (V)	28.52	28.51	Remained OCV%	99.96%		OCV (V)	28.53	28.52	Remained OCV%	99.96%	
		Sample N	o.: 03					Sample N	lo.: 04		
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%		Mass (g)	1825	1825	Mass loss %	0.00%	Р
OCV (V)	28.52	28.50	Remained OCV%	99.93%	Ρ	OCV (V)	28.51	28.50	Remained OCV%	99.96%	P
		Sample N	No.: 05					o.: 06			
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	Р	Mass (g)	1825	1825	Mass loss %	0.00%	Р
OCV (V)	28.51	28.50	Remained OCV%	99.96%		OCV (V)	28.49	28.48	Remained OCV%	99.96%	
		Sample I	No.: 07					Sample N	o.: 08		
	Before	After	variation		Results		Before	After	variation		Results
Mass (g)	1825	1825	Mass loss %	0.00%	Р	Mass (g)	1820	1820	Mass loss %	0.00%	Р
OCV (V)	28.49	28.48	Remained OCV%	99.96%		OCV (V)	28.48	28.47	Remained OCV%	99.96%	

T.4 Shock	:		Start time: 8/29/201 Finsh time: 8/29/201		Ambient	temp.:24.7	rc	Operator :Gibson	Reviewer:Esmond	
		Sample P	lo.: 01					Sample N	o.: 02	
	Before	After	variation		Results		Before	After	variation	Results
Mass (g)	1825	1825	Mass loss %	0.00%	D	Mass (g)	1825	1825	Mass loss % 0.00%	Р
OCV (V)	28.46	28.46	Remained OCV%	100.00%		OCV (V)	28.47	28.47	Remained OCV% 100.00%	
		Sample h	lo.: 03				Sample N	o.: 04		
	Before	After	variation		Results		Before	After	variation	Results
Mass (g)	1825	1825	Mass loss %	0.00%	Р	Mass (g)	1825	1825	Mass loss % 0.00%	Р
OCV (V)	28.47	28.47	Remained OCV%	100.00%	P	OCV (V)	28.46	28.46	Remained OCV% 100.00%	P
		Sample h	lo.: 05					Sample N	o.: 06	
	Before	After	variation		Results		Before	After	variation	Results
Mass (g)	1825	1825	Mass loss %	0.00%	р	Mass (g)	1825	1825	Mass loss % 0.00%	Р
OCV (V)	28.47	28.47	Remained OCV%	100.00%	P	OCV (V)	28.46	28.46	Remained OCV% 100.00%	P
		Sample I	lo.: 07					Sample N	o.: 08	
	Before	After	variation		Results		Before	After	variation	Results
Mass (g)	1825	1825	Mass loss %	0.00%	Р	Mass (g)	1820	1820	Mass loss % 0.00%	Р
OCV (V)	28.47	28.47	Remained OCV%	100.00%		OCV (V)	28.46	28.46	Remained OCV% 100.00%	

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						SI	MPLO	TECHNOLO	GY CO., L'	TD.					
T.5 External Short	Circuit			e: 9/3/201 ne:9/16/201		Δ	bient	temp.:24.3	1	rc	Operator	:Gibson		Reviewer	:Esmond
	Sample No.:01	Sample	No.:02	Sample	No.:03	Sample No	.:04	Sample	No.:05	Sample	No.:06	Sample	e No.:7	Sample	No.:08
Resistance	3.9	3	.9	3.	.9	3.9		3	.9	3	.9	3.	.9	3	.9
(<100mΩ) OCV before test/ after short circuit(V)	28.36 0	28.37	0	28.36 0		28.37	0	28.37	0	28.37	0	28.36	0	28.36	0
Max Temp. ( < 170℃)	56.2	5	5.7	56	5.1	56.0		55	5.7	5	5.9	55	i.8	56	5.1
Results	Р		P		P	Р			P		P	F	•		•
☐ Impact-Cylindric	mpact (Component cell)  Start time: 10/7/2013 09: Finsh time:10/7/2013 16: mpact-Cylindrical cells greater than 20mm in diameter rush- Prismatic, pouch, coin/button cells and cylindrical cells not more				3 16:30	Am		temp.:24.5	i	υ	Operator	:Gibson		Reviewer	:Esmond
_ crash rrishland	Sample No.:		Sample No.: 22 C			Sample			San	nple No.:	24 C	Sam	ple No.:	25 C	I
OCV before test(V)	3.667			3.668		3	.668			3.668					
Max Temp. ( < 170℃ )	104.3			98.3		9	97.2			93.9			97.8		
Results	Р			Р			P P			Р			Р		
T.7 Overcharge				e: 9/24/201 ne:10/8/201		Am	bient	temp.:26.0		τ	Operator	:Gibson		Reviewer	:Esmond
	Sample No.: 01	Sample	No.: 02	Sample	No.: 03	Sample No.	: 04	Sample	No.: 05 Sample No.: 06		No.: 06	Sample No.: 07		Sample	No.: 08
OCV before test(V)	28.04	28	.03	28	.01	28.01		28	.01	28	.04	28.	.02	28	.01
Results	Р		P		P	Р			P		Р	F	,		•
T.8 Forced disch	arge ( Component o	cell )		e: 10/3/201 ne:10/9/201			ıbient	temp.:24.8	1	rc	Operator	:Gibson		Reviewer	:Esmond
	Sample No.:	01 C	Sam	ple No.:	02 C	Sample l	No.:	03 C	Sam	ple No.:	04 C	Sam	ple No.:	05 C	
OCV before test(V)	3.46			3.46		3	.46			3.45			3.45		
Results	Р			Р			Р			P			Р		
	Sample No.:	06 C	Sam	ple No.:	07 C	Sample	No.:	08 C	Sam	ple No.:	09 C	Sam	ple No.:	10 C	
OCV before test(V)	3.45			3.45		3	3.45			3.46			3.45		
Results	P			P			Р			P			P		
	Sample No.:	11 C	Sam	ple No.:	12 C	Sample	No.:	13 C	Sam	ple No.:	14 C	Sam	ple No.:	15 C	
				1						1			1		

3.46

3.45

Sample No.:

3,45

Sample No.:

3.45

3.46

Sample No.:

OCV before test(V)

Results

OCV before test(V)

Results

3.46

Sample No.:

3.46

3.46

Sample No.:



#### 7. Test Sample



