



<b>Prüfbericht-Nr.:</b> <i>Test Report No.:</i>	<b>50102584 001</b>	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	<b>238100194</b>	<b>Seite 1 von 15</b> <i>Page 1 of 15</i>	
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	<b>N/A</b>	<b>Auftragsdatum:</b> <i>Order date:</i>	<b>Oct. 26, 2018</b>		
<b>Auftraggeber:</b> <i>Client:</i>	<b>FELCO SA</b> RUE DES MELEZES 4, 2206 LES GENEVEYS-SUR-COFFRANE, Switzerland				
<b>Prüfgegenstand:</b> <i>Test item:</i>	<b>Rechargeable Li-ion Battery</b>				
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	<b>880/195-CA030044</b>				
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	<b>Service of UN 38.3 test report</b>				
<b>Prüfgrundlage:</b> <i>Test specification:</i>	<b>United Nations Recommendations on the Transport of Dangerous Goods</b> – Manual of Tests and Criteria, Sixth revised edition + Amendment 1, – Part III, Section 38.3 Lithium metal and lithium ion batteries				
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	See following pages				
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	A000865704-001 to -031 A000890421-001 to -008				
<b>Prüfzeitraum:</b> <i>Testing period:</i>	See following pages				
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	See following pages				
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland Taiwan Ltd.				
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass				
<b>geprüft von / tested by:</b>		<b>kontrolliert von / reviewed by:</b>			
4/16/2019		4/16/2019			
<b>X</b> 		<b>X</b> 			
Project Engineer Signed by: Paul LM Lin		Reviewer Signed by: Bruce C.C. Tsai			
<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>	<b>Unterschrift</b> <i>Signature</i>
<b>Sonstiges / Other:</b>					
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>			<b>Prüfmuster vollständig und unbeschädigt</b> <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested					
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>					

<b>Test item description</b> .....	Rechargeable Li-ion Battery
<b>Trade Mark</b> .....	FELCO
<b>Manufacturer</b> .....	Same as applicant
<b>Model/Type reference</b> .....	880/195-CA030044
<b>Ratings</b> .....	36 Vdc, 2700 mAh, 97.2 Wh

**List of Attachments (including a total number of pages in each attachment):**

- Photo Documentation

Total number of pages in each attachment is indicated in each individual attachment.

<b>Summary of testing:</b>	
<p><b>Tests performed (name of test and test clause):</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> 38.3.4.1 Test T.1: Altitude simulation</li> <li><input checked="" type="checkbox"/> 38.3.4.2 Test T.2: Thermal Test</li> <li><input checked="" type="checkbox"/> 38.3.4.3 Test T.3: Vibration</li> <li><input checked="" type="checkbox"/> 38.3.4.4 Test T.4: Shock</li> <li><input checked="" type="checkbox"/> 38.3.4.5 Test T.5: External short circuit</li> <li><input type="checkbox"/> 38.3.4.6 Test T-6: Impact / crush</li> <li><input checked="" type="checkbox"/> 38.3.4.7 Test T-7: Overcharge</li> <li><input type="checkbox"/> 38.3.4.8 Test T-8: Forced discharge</li> </ul>	<p><b>Testing location:</b></p> <p>All tests as described in Test Case and Measurement Sections were performed at the laboratory described as below:</p> <p>TÜV Rheinland Taiwan Ltd., Taichung Branch No. 9, Ln. 36, Sec. 3, Minsheng Road, Daya District, Taichung City 428, Taiwan Chinese Taipei</p>

<b>Test item particulars</b> .....	<input type="checkbox"/> Lithium ion	<input type="checkbox"/> Lithium polymer	<input type="checkbox"/> Lithium metal
	<input type="checkbox"/> Large cell	<input type="checkbox"/> Small cell	
	<input type="checkbox"/> Large battery	<input checked="" type="checkbox"/> Small battery	
	<input type="checkbox"/> Single cell battery	<input type="checkbox"/> Multi-cell battery	
	<input type="checkbox"/> Battery assembly		
<b>Weight of cell or battery</b> .....			
<b>Lithium equivalent content</b> .....	<input checked="" type="checkbox"/> ≤ 500 g	<input type="checkbox"/> more than 500 g	
<b>Nominal energy</b> .....	<input checked="" type="checkbox"/> ≤ 6200 Wh	<input type="checkbox"/> more than 6200 Wh	
<b>Number of series connected cells</b> .....	See General product information for details		
<b>EODV</b> .....	See General product information for details		
<b>Possible test case verdicts:</b>			
- test case does not apply to the test object.....	: N/A		
- test object does meet the requirement .....	: P (Pass)		
- test object does not meet the requirement.....	: F (Fail)		
<b>Testing</b> .....			
<b>Date of receipt of test item</b> .....	: Oct. 26, 2018		
<b>Date (s) of performance of tests</b> .....	: Mar. 18, 2019 – Apr. 08, 2019		
<b>General remarks:</b>			
The test results presented in this report relate only to the object tested.			
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.			
"(See Enclosure #)" refers to additional information appended to the report.			
"(See appended table)" refers to a table appended to the report.			
<b>Throughout this report a point is used as the decimal separator.</b>			
Where statement of conformity is provided in this test report, if not otherwise indicated, "accuracy method" described in IEC GUIDE 115 has been taken to address uncertainty of measurement.			
Abbreviations used in the report:			
ND: No disassembly	NT:	No excessive temperature rise, the external case temperature of the test cell or battery does not exceed 170°C	
NE: No explosion	NV:	No venting	
NF: No fire	NC:	The open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure.	
NL: No leakage and no mass loss			
NM: No			
NR: No rupture			

**General product information:**

The equipment under test (EUT) is a Rechargeable Li-ion Battery which is constructed with 10 series, 1 parallel cells.

**Product specification:**

Item:	Specification
Cell's arrangement:	10S1P
Rated capacity (mAh):	2700
Nominal voltage (Vdc):	36
Maximum charge current (mA):	1350
Maximum charge voltage (Vdc):	42
Discharge cutoff voltage (Vdc):	27
Maximum discharge current (A):	10
Discharge current (0,2 It A) (mA)	540
Upper limit charging voltage per cell (Vdc):	4.25
Operation temperature upper limit (°C):	40
Operation temperature lower limit (°C):	0

<b>Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>38.3.3</b>	<b>TEST METHODS AND REQUIREMENTS</b>		P
	Pre-discharge and pre-cycling	See supplementary information in following appended tables for details.	P
<b>38.3.4</b>	<b>Procedure</b>		P
38.3.4.1	Test T-1: Altitude		P
	Cells or batteries are stored at a pressure of 11.6 kPa or less for at least 6 h at ambient temperature ( $20 \pm 5$ °C).	Test according to required.	P
	Results: no mass loss, no leakage, no venting, no disassembly, no rupture and no fire during this test. The open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure.	See appended Table T.1 NL, NV, ND, NR, NE, NF, NC.	P
38.3.4.2	Test T-2: Thermal cycling		P
	Cells or batteries previously subjected to altitude test.		P
	Cells or batteries are stored for at least 6 h at a test temperature of $72 \pm 2$ °C, followed by storage for at least 6 h at a test temperature of $-40 \pm 2$ °C. Maximum time for transfer is 30 minutes. This procedure is executed 10 times.		P
	For large cells or batteries the duration of exposure to the test temperatures is at least 12 h instead of 6 h.		N/A
	Storage for at least 24 h at ambient temperature ( $20 \pm 5$ °C).	Test according to required.	P
	Results: no mass loss, no leakage, no venting, no disassembly, no rupture and no fire during this test. The open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure.	See appended Table T.2 NL, NV, ND, NR, NE, NF, NC.	P
38.3.4.3	Test T-3: Vibration		P
	Cells or batteries previously subjected to thermal cycling test		P
	Cells or batteries are subjected to sinusoidal waveform of vibration with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes.		P
	Cycle is repeated 12 times for a total of 3 h for each of three mutually perpendicular mounting positions. One of the directions is perpendicular to the terminal face.		P

<b>Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	Results: no mass loss, no leakage, no venting, no disassembly, no rupture and no fire during this test. The open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure.	See appended Table T.3 NL, NV, ND, NR, NE, NF, NC.	P
38.3.4.4	Test T-4: Shock		P
	Cells or batteries previously subjected to vibration test.		P
	Each cell or battery is subjected to three shocks in each direction of three mutually perpendicular mounting positions of the cell or battery for a total of 18 shocks. For each shock, the parameters are according to the specified table.	Test according to required.	P
	Results: no mass loss, no leakage, no venting, no disassembly, no rupture and no fire during this test. The open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure.	See appended Table T.4 NL, NV, ND, NR, NE, NF, NC.	P
38.3.4.5	Test T-5: External short-circuit		P
	Cells or batteries previously subjected to shock test.		P
	Each cell or battery is stabilized at an external case temperature of $57 \pm 4$ °C. This period of time depends on the size and design of the cell or battery and is assessed and documented. If this assessment is not feasible, the exposure time shall be at least 6 hours for small cells and small batteries, and 12 hours for large cells and large batteries.		P
	Then the cell or battery at $57 \pm 4$ °C is subjected to a short-circuit condition with a total external resistance of less than 0.1 ohm. Short-circuit condition is continued for at least 1 h after the cell or battery external case temperature has returned to $57 \pm 4$ °C.	Test according to required.	P
	The temperature of large multicell batteries decreased by half of the maximum temperature increase.		N/A
	The short circuit and cooling down phases is conducted at least at ambient temperature.		P
	The test sample is observed for a further 6 h.	Test according to required.	P
	Results: The external temperature dose not exceed 170 °C, no rupture, no disassembly and no fire during this test and within the 6 h of observation.	See appended Table T.5 NT, ND, NR, NE, NF.	P
38.3.4.6	Test T-6: Impact / crush	Not applicable.	N/A

Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3			
Clause	Requirement + Test	Result - Remark	Verdict
	The test is conducted using test cells or component cells that have not been previously subjected to other transport tests.		N/A
	Each test cell or component cell shall be subjected to one impact / crush only.		N/A
	Cylindrical cells not less than 18.0 mm in diameter is tested with impact test procedure. <i>NOTE: Diameter here refers to the design parameter (for example the diameter of 18 650 cells is 18.0 mm).</i>		N/A
	Test cell or component cell is placed on a flat smooth surface. A stainless steel bar with a diameter of 15.8 mm ± 0.1 mm and a length of at least 60 mm or of the longest dimension of the cell, whichever is greater, is placed across the centre of the test sample. A mass of 9.1 kg ± 0.1 kg is dropped from a height of 61 cm ± 2.5 cm at the intersection of the bar and the test sample using a vertical sliding track or channel. The vertical track is oriented 90 degrees from the horizontal supporting surface.		N/A
	The test sample is impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the steel bar lying across the centre of the test sample.		N/A
	Prismatic, pouch, coin/button cells and cylindrical cells less than 18.0 mm in diameter is tested with crush test procedure. <i>NOTE: Diameter here refers to the design parameter (for example the diameter of 18 650 cells is 18.0 mm).</i>		N/A
	A cell or component cell is crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1,5 cm/s at the first point of contact.		N/A
	A prismatic or pouch cell shall be crushed by applying the force to the widest side. A button/coin cell shall be crushed by applying the force on its flat surfaces. For cylindrical cells, the crush force shall be applied perpendicular to the longitudinal axis.		N/A
	The crushing is to be continued until one of the three conditions below is reached: - the applied force reaches 13 kN ± 0.78 kN; - the voltage of the cell drops by at least 100 mV; - the cell is deformed by 50 % or more of its original thickness. As soon as one of the above conditions has been obtained, the pressure shall be released.		N/A

<b>Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	The test sample is observed for a further 6 h.		N/A
	Results: The external temperature dose not exceed 170 °C, no disassembly and no fire during this test and within the 6 h of observation.	See appended Table T.6 NT, ND, NE, NF.	N/A
38.3.4.7	Test T-7: Overcharge		P
	The charge current of the rechargeable battery or the single cell rechargeable battery is twice the manufacturer's recommended maximum continuous charge current.	See below	P
	The manufacturer's recommended charge voltage is not more than 18 V, the minimum voltage of the test is the lesser of two times the maximum charge voltage of the battery or 22 V.	Compliance checked.	P
	The manufacturer's recommended charge voltage is more than 18 V. The voltage of the test is not less than 1.2 times the maximum charge voltage.		N/A
	The test is conducted at ambient temperature. The charging condition is maintained for at least 24 h.	Compliance checked.	P
	The test sample is observed for a further 7 days.	See below	P
	Results: no disassembly and no fire during this test and within the 7 days of observation.	See appended Table T.7 ND, NE, NF.	
38.3.4.8	Test T-8: Forced discharge	Not applicable.	N/A
	Each cell is forced discharged at ambient temperature by connecting it in series with a 12 V direct current power supply at an initial current equal to the maximum continuous discharge current specified by the manufacturer. Time interval for discharging equals to rated capacity divided by the initial test current.		N/A
	The test sample is observed for a further 7 days.		N/A
	Results: no disassembly and no fire during this test, nor within the 7 days of observation.	See appended Table T.8 ND, NE, NF.	N/A



Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3			
Clause	Requirement + Test	Result - Remark	Verdict

T.1		TABLE: Altitude						P
Sample No.	Precondition	Open circuit voltage before test (V)	Mass before test (g)	Open circuit voltage after test (V)	Mass after test (g)	Mass loss (%)	Mass loss limit (%)	Results
1	A	41.5	786.3	41.5	786.3	0	0.1	P
2	A	41.5	786.0	41.5	786.0	0	0.1	P
3	A	41.5	786.0	41.5	786.0	0	0.1	P
4	A	42.0	786.0	42.0	786.0	0	0.1	P
5	B	42.0	787.3	42.0	787.3	0	0.1	P
6	B	42.0	786.5	42.0	786.5	0	0.1	P
7	B	41.5	785.4	41.5	785.4	0	0.1	P
8	B	41.5	786.0	41.5	786.0	0	0.1	P

Supplementary information:

1. Precondition:

A = test sample at first cycle, in fully charged states.

B = test sample after 25 cycle, in fully charged states

T.2		TABLE: Thermal cycling						P
Sample No.	Precondition	Open circuit voltage before test (V)	Mass before test (g)	Open circuit voltage after test (V)	Mass after test (g)	Mass loss (%)	Mass loss limit (%)	Results
1	A	41.5	786.3	40.5	785.9	0	0.1	P
2	A	41.5	785.2	40.5	784.5	0	0.1	P
3	A	41.5	785.6	40.5	785.4	0	0.1	P
4	A	42.0	786.0	40.7	785.3	0	0.1	P
5	B	42.0	786.3	40.7	786.0	0	0.1	P
6	B	42.0	786.5	40.7	786.4	0	0.1	P
7	B	41.5	785.4	40.5	784.8	0	0.1	P
8	B	41.5	786.0	40.7	785.6	0	0.1	P

**Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3**

Clause	Requirement + Test	Result - Remark	Verdict
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Supplementary information:

1. Precondition:

A = test sample at first cycle, in fully charged states.

B = test sample after 25 cycle, in fully charged states

T.3 TABLE: Vibration								P
Sample No.	Precondition	Open circuit voltage before test (V)	Mass before test (g)	Open circuit voltage after test (V)	Mass after test (g)	Mass loss (%)	Mass loss limit (%)	Results
1	A	40.5	785.9	40.3	785.7	0	0.1	P
2	A	40.5	784.5	40.3	784.1	0	0.1	P
3	A	40.5	785.4	40.3	785.4	0	0.1	P
4	A	40.7	785.3	40.5	785.2	0	0.1	P
5	B	40.7	786.0	40.5	786.0	0	0.1	P
6	B	40.7	786.4	40.5	786.2	0	0.1	P
7	B	40.5	784.8	40.3	784.8	0	0.1	P
8	B	40.7	785.6	40.5	785.5	0	0.1	P

Supplementary information:

1. Precondition:

A = test sample at first cycle, in fully charged states.

B = test sample after 25 cycle, in fully charged states

2. Test condition:.

Frequency range		Amplitudes (a: acceleration, s: displacement)	Duration of logarithmic sweep cycle (7 Hz – 200 Hz – 7 Hz)	Axis	Number of cycles
From	To				
$f_1 = 7 \text{ Hz}$	$f_2$	$a_1 = 1 \text{ gn}$	15 min	X	12
$f_2$	$f_3$	$s = 0.8 \text{ mm}$		Y	12
$f_3$	$f_4 = 200 \text{ Hz}$	$a_2$		Z	12
and back to $f_1 = 7 \text{ Hz}$				Total	36
Key:					
	Type:	$f_2$	$f_3$	$a_2$	
<input checked="" type="checkbox"/>	Cell & small battery	18 Hz	50 Hz	8 gn	
<input type="checkbox"/>	Large battery	18 Hz	25 Hz	1 gn	

Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3			
Clause	Requirement + Test	Result - Remark	Verdict

T.4		TABLE: Shock						P
Sample No.	Precondition	Open circuit voltage before test (V)	Mass before test (g)	Open circuit voltage after test (V)	Mass after test (g)	Mass loss (%)	Mass loss limit (%)	Results
1	A	40.3	785.7	39.8	785.7	0	0.1	P
2	A	40.3	784.1	39.8	784.1	0	0.1	P
3	A	40.3	785.4	39.8	785.4	0	0.1	P
4	A	40.5	785.2	40.0	785.2	0	0.1	P
5	B	40.5	786.0	40.1	786.0	0	0.1	P
6	B	40.5	786.2	40.1	786.0	0	0.1	P
7	B	40.3	784.8	39.9	784.8	0	0.1	P
8	B	40.5	785.5	40.0	785.5	0	0.1	P

Supplementary information:

1. Precondition:

A = test sample at first cycle, in fully charged states.

B = test sample after 25 cycle, in fully charged states

2. Test condition:

Type	Minimum peak acceleration	Pulse duration
<input type="checkbox"/> All cells	<input checked="" type="checkbox"/> 150 gn or	6 ms
<input type="checkbox"/> Large cells	<input type="checkbox"/> 50 gn	11 ms
<input checked="" type="checkbox"/> Small batteries	<input type="checkbox"/> 150 gn or	6 ms
	<input type="checkbox"/> ____ gn , result of formula as below: $Acceleration(g_n) = \sqrt{\left(\frac{100850}{mass^*}\right)}$	
<input type="checkbox"/> Large batteries	<input type="checkbox"/> 50 gn or	11 ms
	<input type="checkbox"/> ____ gn , result of formula as below: $Acceleration(g_n) = \sqrt{\left(\frac{30000}{mass^*}\right)}$	

T.5	TABLE: External short-circuit	P
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**Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3**

Clause	Requirement + Test	Result - Remark	Verdict
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Sample No.	Precondition	Open circuit voltage before test (V)	Open circuit voltage after test (V)	Maximum case temperature (°C)	Total external resistance (mΩ)	Results
1	A	39.8	0.46	57.7	75.4	P
2	A	39.8	0.45	57.0	75.8	P
3	A	39.8	0.45	58.5	73.9	P
4	A	40.0	0.46	58.3	69.3	P
5	B	40.1	0.47	57.6	75.4	P
6	B	40.1	0.46	57.8	75.8	P
7	B	39.9	0.47	59.4	73.9	P
8	B	40.0	0.47	58.4	69.3	P

Supplementary information:

1. Precondition:

A = test sample at first cycle, in fully charged states.

B = test sample after 25 cycle, in fully charged states

2. Prior to short circuit condition, the case temperature of cell is reached to a steady state temperature of 60 °C, and this condition is continued for additional 2 hours.

3. Then the short circuit and cooling down phases was conducted at ambient temperature of 25 °C.

T.6a	<b>TABLE: Impact</b>				N/A
Sample No.	Precondition	Open circuit voltage before test (V)	Maximum case temperature (°C)	Results	
1	A				
2	A				
3	A				
4	A				
5	A				
6	B				
7	B				
8	B				
9	B				
10	B				

**Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3**

Clause	Requirement + Test	Result - Remark	Verdict
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Supplementary information:

1. Shape of cell: Cylindrical (diameter is not less than 18.0 mm)
2. Precondition:
  - A = test sample at first cycle, at 50% charged states.
  - B = test sample after 25 cycle, at 50% charged states.

T.6b		TABLE: Crush						N/A
Sample No.	Precondition	Open circuit voltage before test (V)	Voltage drop of the cell (mV)	Applied force (kN)	Thickness before test (mm)	Thickness after test (mm)	Maximum case temperature (°C)	Results
1	A							
2	A							
3	A							
4	A							
5	A							
6	B							
7	B							
8	B							
9	B							
10	B							

Supplementary information:

1. Shape of cell:  Cylindrical (diameter less than 18.0 mm),  Prismatic,  Pouch
2. Precondition:
  - A = test sample at first cycle, at 50% charged states.
  - B = test sample after 25 cycle, at 50% charged states.

T.7		TABLE: Overcharge				P
Sample No.	Precondition	Open circuit voltage before test (V)	Maximum charging current (A)	Maximum charging voltage (V)	Total charging time (h)	Results
1	A	42.0	2.7	50.4	24	P
2	A	42.0	2.7	50.4	24	P
3	A	41.9	2.7	50.4	24	P
4	A	42.0	2.7	50.4	24	P

Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3						
Clause	Requirement + Test			Result - Remark		Verdict
5	B	41.9	2.7	50.4	24	P
6	B	41.9	2.7	50.4	24	P
7	B	42.0	2.7	50.4	24	P
8	B	42.0	2.7	50.4	24	P
Supplementary information:						
1. Precondition:						
A = test sample at first cycle, in fully charged states.						
B = test sample after 25 cycle, in fully charged states						

T.8	TABLE: Forced discharge				N/A
Sample No.	Precondition	Open circuit voltage before test (V)	Measured reverse charging current (mA)	Total time for reversed charging application (min)	Results
1	A				
2	A				
3	A				
4	A				
5	A				
6	A				
7	A				
8	A				
9	A				
10	A				
11	B				
12	B				
13	B				
14	B				
15	B				
16	B				
17	B				
18	B				
19	B				
20	B				

<b>Recommendations on the Transport of Dangerous Goods, Part III – Section 38.3</b>			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

1. Precondition:

A = test sample at first cycle, in fully discharged states.

B = test sample after 50 cycle, in fully discharged states

2. Test condition:

- Test voltage: 12V,

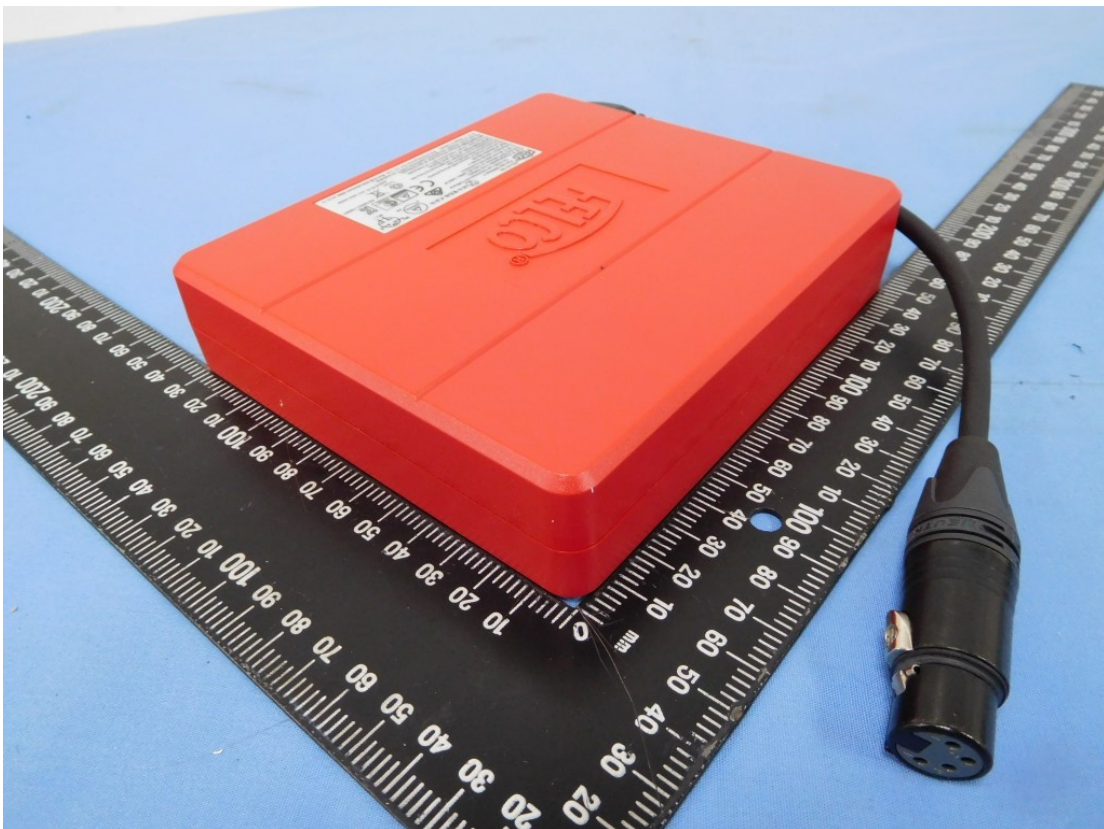
- Initial supply current = maximum continuous discharge current = \_\_\_\_\_ mA

- Time interval (h) = rated capacity divided by the initial test current = \_\_\_\_\_ h

- End of Test report -

Product: Rechargeable Li-Ion Battery

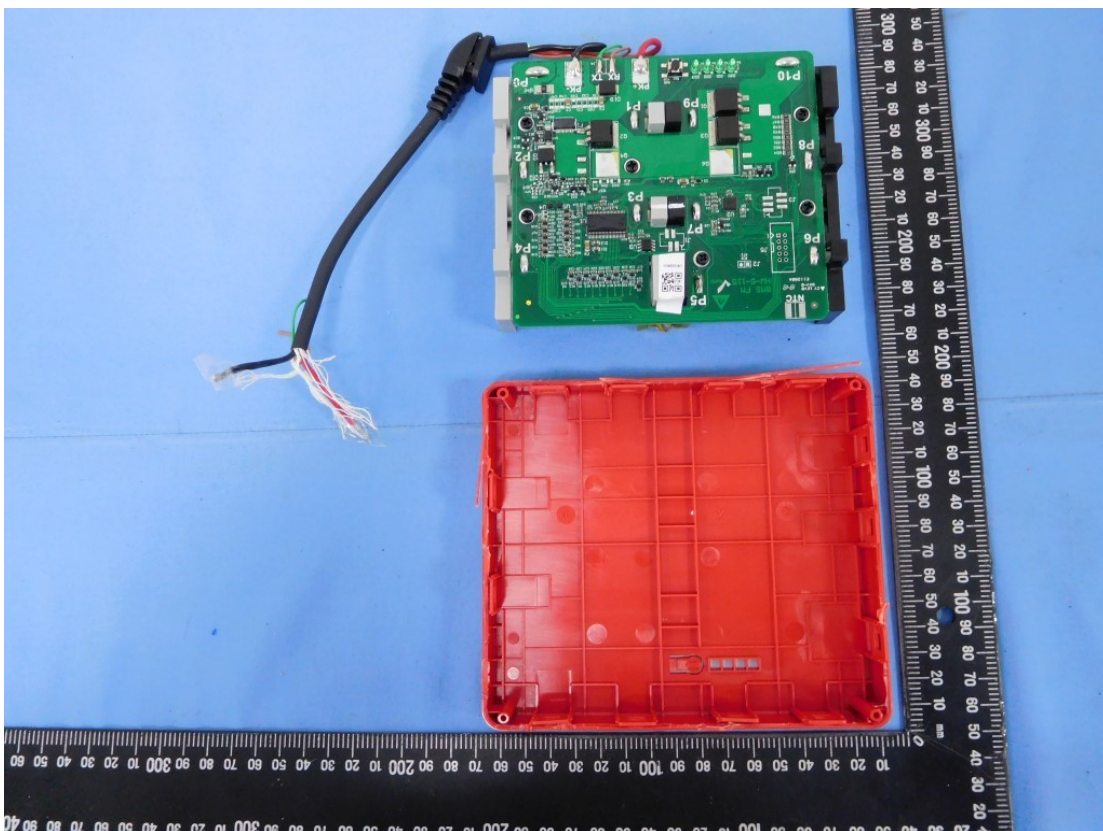
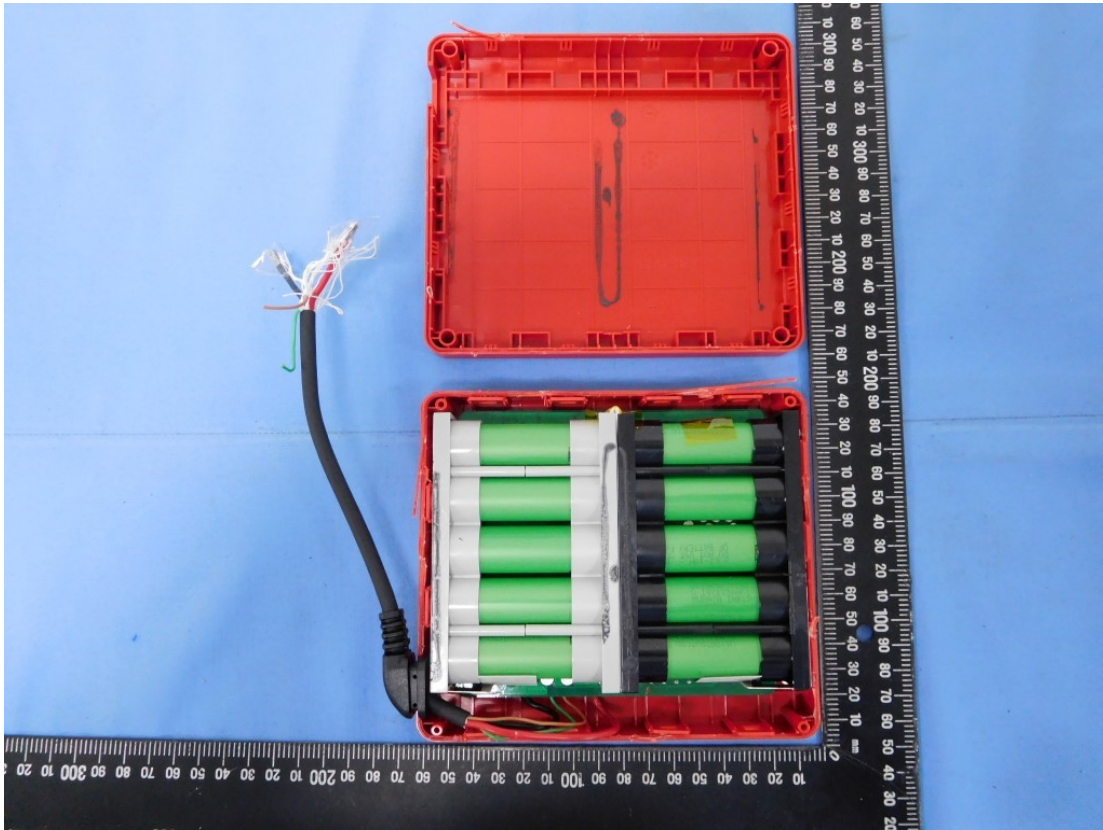
Type Designation: 880/195-CA030044





Product: Rechargeable Li-Ion Battery

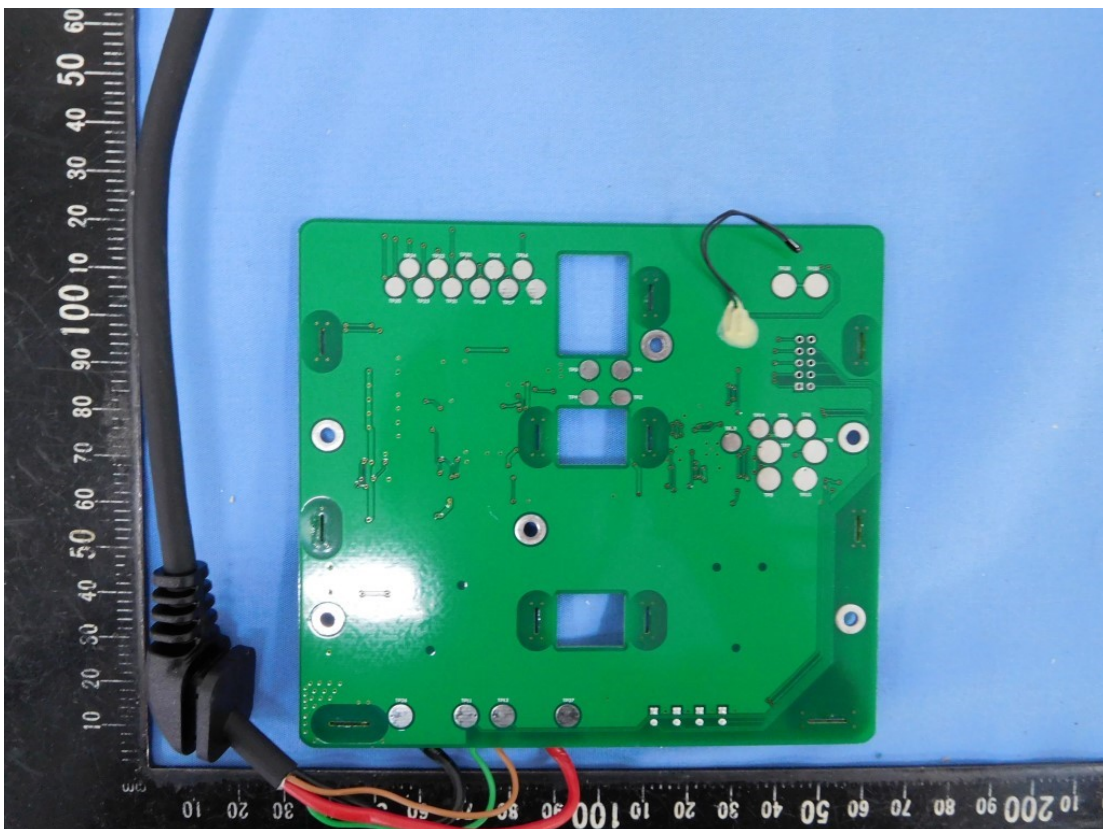
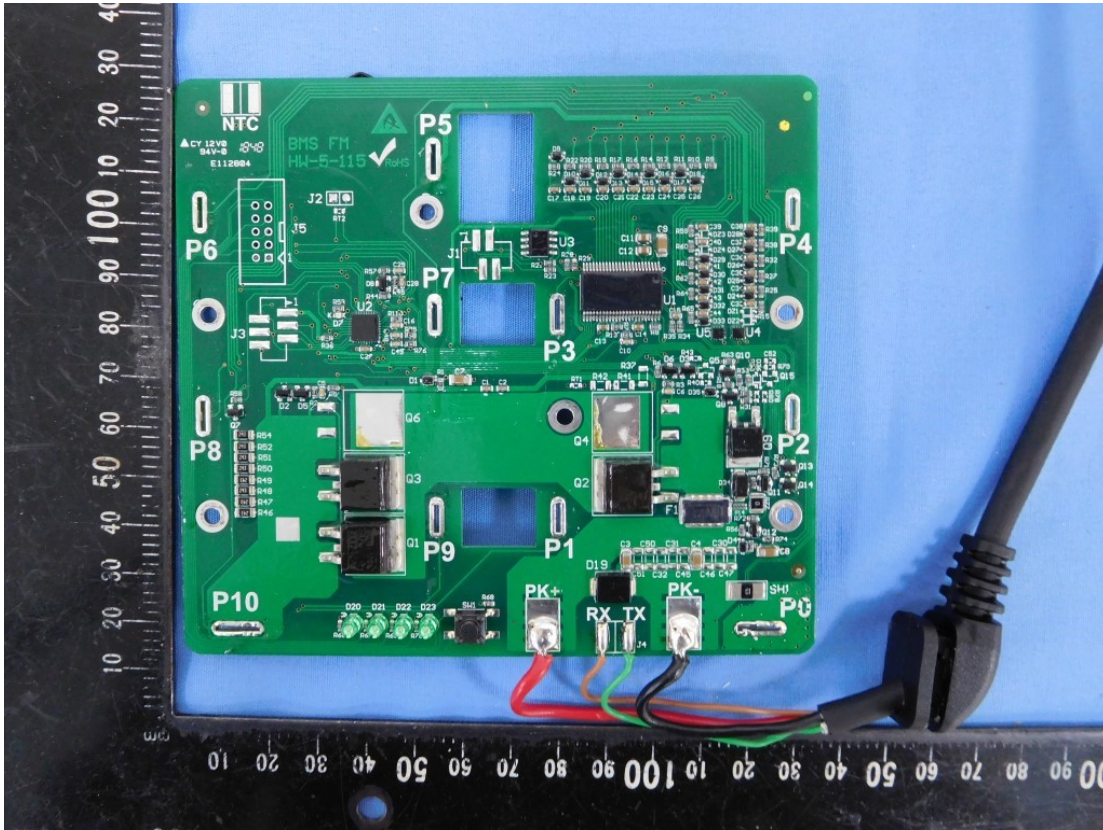
Type Designation: 880/195-CA030044





Product: Rechargeable Li-Ion Battery

Type Designation: 880/195-CA030044





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