

PSE TEST REPORT

For

Product Name:	Hand warmer
Trademark:	N/A Testing Libraria Te
Model Number:	M08
Prepared For:	Shenzhen Choupijiang Electronics Co., LTD
Address:	305, Building A1, Huangzhu Third Industrial Zone, Huangzhu Community, Hangcheng Street, Baoan District, Shenzhen
Prepared By:	Shenzhen Huaxiang Testing Co , Ltd
Address:	201, Building A10, Fuhai Information Port, Fuhai Street, Bao'an District, Shenzhen City
Test Date:	Oct. 17, 2023- Oct. 24, 2023
Test Date: Date of Report:	Oct. 17, 2023- Oct. 24, 2023 Oct. 24, 2023

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 1 of 42



TEST REPORT

JIS C 8714: 2007 & JIS C 8712: 2015 (also see IEC 62133: 2012).

METI Ordinance of Technical Requirements (H2 5 . 0 7 . 0 1) Appendix Information 9: Lithium ion secondary batteries (Cell part—test only as client 's request) -- Part 1: General requirements.

Reference No...... HUAX231018014KR

Date of issue..... Oct. 24, 2023

Testing laboratory

Name...... Shenzhen Huaxiang Testing Co , Ltd

Street, Bao'an District, Shenzhen City, Guangdong, China

Report No.: HUAX231018014KR

Testing location.....: Same as above

Client

Name...... Shenzhen Choupijiang Electronics Co., LTD

Address...... 305, Building A1, Huangzhu Third Industrial Zone, Huangzhu

Community, Hangcheng Street, Baoan District, Shenzhen

Test specification

Standard.....: JIS C 8714: 2007 & JIS C 8712: 2015 (also see IEC 62133: 2012)

Test procedure: ----

Non-standard test method.....: N/A

Test item

Description.....: Hand warmer

Brand name....: N/A

Model and/or type reference..... M08

Manufacturer...... Shenzhen Choupijiang Electronics Co., LTD

Address...... 305, Building A1, Huangzhu Third Industrial Zone, Huangzhu

Community, Hangcheng Street, Baoan District, Shenzhen

Test Result...... Please refer to next page(s) for details.

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 2 of 42



Testing procedure and testing location

: Shenzhen Huaxiang Testing Co, Ltd Laboratory name.....

: 201, Building A10, Fuhai Information Port, Fuhai Street, Bao'an District, Shenzhen City Testing location/address:

Tested By

(Test Engineer)

: Marke

Reviewed By

: Amy Jiang (Supervisor)



Tel: 0755-23010432 Web: www.hua-x.com Email: huaxiang@hua-x.com Page 3 of 42



Copy of marking plate:

Hand warmer

Model: M08

Rating: DC 5V 2A 3000mAh



Do not disassemble, crush, puncture, or short external wires

Do not dispose of in fire or water

Shenzhen Choupijiang Electronics Co., LTD

Made in China

Note: Due to the similar of rating label, Only above label is listed.

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Possible test case verdicts:

- test case does not apply to the test object......: N/A (Not Applicable)

- test object does meet the requirement.....: P (Pass)

- test object does not meet the requirement......: F (Fail)

Testing:

Date of receipt of test item: Oct. 17, 2023

Date (s) of performance of tests : Oct. 17, 2023- Oct. 24, 2023

Test item particulars:					
Supply Connection:	HUBXIS	Huskia	\ 11	# Huax	Hur
Protection against ingress of water	: IP2X				
Classification of installation and use	Huaxians	Portable	Huaxi	Anax	Hnu
Supply connection	Wire	resting	Testing	resting	resting
Recommend charging method declared by the manufacturer	2.0C, t	V/V •	t voltage a	constant cu at ambient 20 s to 1.5C.	
Discharge current (It A)	Huaxians	2A	Huaxi	Huax	Hu
Specified final voltage	0,1	5V	Testing	resting	Testing
Upper limit charging voltage per cell	Huaxiano	3.7V	Huaxi	Anax.	Hu _l
Maximum charging current	70	2A	sting .	sting	- sting
Charging temperature upper limit	Luaviang	45°C	- Juaxi	ang ,	Halua /
Charging temperature lower limit	70	-20°C	::nO	0	٠.٠٥

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 5 of 42



General remarks

This test report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item tested.

"(see remark #)" refers to a remark appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a comma is used as the decimal separator.

General product information:

This Li-poly is constructed with 1 lithium-ion cells and has overcharge, over-discharge, over current and short-circuits proof circuit.

The main features of the battery are shown as below (clause 7.1.1): (For battery pack)

The main features of the cell in the battery are shown as below (clause 7.1.2): (For battery pack)

Model	Upper limit	Taper-off	Lower charge	Upper charge
grian	charge voltage	current	temperature	temperature
M08	5V	1000mA	-20°C	45°C

Construction: 95*60*30(Battery Unit: mm) (For battery pack)

Weight: 0. 35Kg (For battery pack)

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 6 of 42



Type classification

Huaxiana Huaxiana 3	型式の	D区分 Classification of type
要素 Factor	区分	Classification
単電池の形状	Hns	円筒形のも の Cylindrical
Shape of secondary cell	1	角形のも の Angular
	HUB	その他のも の Other
単電池の電解質の種類	9)	液体状のも の Liquid state
Type of electrolyte in secondary	100	その他のも の Other
単電池の上限充電電圧	9	4. 25 V以下の も の 4.25 V or less
Upper limit charge voltage of secondary cell	100	4. 25 Vを超えるもの More than 4.25 V
組電池の質量	V	7 k g 以下のも の 7 kg or less
Weight of secondary battery	Hus	7 k g を超える も の More than 7 kg
電地ブロックの個数		1 個のも の Single
Number of battery blocks	1	2個以上の も の Multiple
過充電の保護機能	V	組電池で制御する も の Controlled by secondary battery
Overcharge protection	8 Hns	組電池搭載機器又は充電器で制御する も の Controlled by equipment incorporating a secondary battery or a charger
ing ing in	9	携帯機器用のも の For mobile equipment
用途	1	卓上機器用のも の For desktop equipment
Uses	9	その他のも の Other
組電池の種類 Type of secondary battery	Hns.	はんだ付けその他の接合方法にょ り 、容易に取り外す こ とができ な い状態 で機械器具に固定し て用い ら れ る も のその 他の 特殊な構造の も の Those designed to fix to appliances by soldering or other joining methods so that it cannot be easily removed, or those having other special construction
	1	その他のも の Other

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 7 of 42



		JIS C 8714:2007		
Clause	Requirement - Test	nd Testing	Result - Remark	Verdict

4	Type Test Conditions	no Testino	Te ^{sting}
19 Huaxiar	Tests were conducted with the number of cells or batteries as outlined in Table 1 of JIS C 8714 with cells or batteries.	Compliance checked	Paula 9 Testing
	Unless noted otherwise in the test methods, testing of cells were conducted at both highest test temperature and lowest test temperature.	Compliance checked	Priva g Testing
5	Specific requirements and tests	Hon Hon Hon	Р
5.1	Charging procedure for test purposes	Compliance checked	o ^{Tesm} P
5.2	Crushing of cells	Hose, Hose, Hose,	P
Huaxiar 19	Fully charged cells were crushed between two flat surfaces with a hydraulic ram exerting a force of 13 kN 1 kN.	Compliance checked	g Testing H ^{U27}
Anasha Anasha	A cylindrical or prismatic cell was crushed with its longitudinal axis parallel to the flat surfaces of the crushing apparatus.	Compliance checked	Private Privat
ig Hos	A second set of prismatic cells was tested, rotated 90 degrees around their longitudinal axis compared to the first set.	Compliance checked	P ^{HOS}
9	Results: no fire, no explosion.	No fire, no explosion.	Р
5.3	External short circuit of cells	See below	P
Ö	Fully charged cells or batteries were subjected to a short circuit test at 550 50.	See Table 4.3.2.	P
HABYIS	The total external resistance of $80\pm20~\text{m}\Omega$.	Hnayes Hnayes Hnayes	Pala
d Hnaxia _l	The cells were tested for 24 h or until the case temperature declined by 20% of the maximum temperature rise.	The batteries were tested for 24h	o Testing Huai
.s .:as	Results: no fire, no explosion.	See Table 4.3.2.	o Testinia
5.4	Thermal abuse of cells	Hraye Hraye	P
is Hus ^{xist} G Hus ^{xist}	Fully charged cells were placed in an oven. The oven temperature was raised at a rate of 5C/min 2C/min to a temperature of 130C 2C. The cell remained at that temperature for 10 minutes before the test was discontinued.	Compliance checked	g Te ^{sing} Hu ^a g Te ^{sing} Hu ^a
-xia	Results: no fire, no explosion	No fire, no explosion	P
5.5	Forced internal short circuit of cells	Hope Hogy	Р

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 8 of 42



Husin	HASSA	Huss	JIS	C 8714:2007	Husa	His	Hilas	Hrisa
Clause	Requirement -	Test	enits:	stins iang Testi	Result - Re	emark	enite:	Verdict
Hrighia	HUBKIG	HUBAG	Huskia	HUSKIG	Huskia	HUBRICA	HUBXIC	HUBX

	Fully charged cells were dismantled and a winding core were removed at the condition of ambient	See Annex A	g Te ^{sting} P
	temperature of 20°C 5°C, and dew point of below -25°C.	y Hus Hus Hus	
HUBXIBIL	Results: no fire.	Hinaxigue Hinaxigue Hinaxigu	Pallax
5.6	Free fall of batteries	See below	n Te ^{sting} P
19 Huaxian Huaxian	Fully charged batteries were dropped once in the direction most likely to affect in negative manner from height, which is specified in JIS C 6950 or JIS C 6065, according to the portable electronic applications.	Fall test applied on the top, side and bottom of enclosure, were dropped 3 times from a height of 1.0 m onto a concrete floor.	Paluari g Testing Huari
	Results: no external short circuit, no internal short circuit	No external short circuit, no internal short circuit	o Test P
5.7	External short circuit of batteries	See below	Testing P
Anaxian	Fully charged batteries were subjected to a short circuit test at 200 50.	See Table 4.3.2.	P _{AU} ZA
. Waxian	The total external resistance of $80\pm20~\text{m}\Omega$.	nexisen Pensixen Pensixen	P.,,,
g Luavian	The batteries were tested for 24 h or until the case temperature declined by 20% of the maximum temperature rise.	The batteries were tested for 24h	g Testin P
0	Results: no fire, no explosion.	See Table 4.3.2.	P
5.8	Function of the overcharge protection of batteries	nakaur. Polakaur.	P
9	a) the battery is made of a cell or one cellblock	9 _{aling} aling	P
Huaxian	b) the battery consists of a series connection of over two pieces of cells or cellblocks	Hnaviaud Je Hnaviaud Je Hnavia	N/A
Huaxian	c) the battery consists of a the series connection of over two pieces of cells or cellblocks	es Huaxiang Testines Huaxiang Testines Huaxian	N/A
Annex A	Procedure of forced internal short circuit test	enites enites enites enites enites enites enites enites enite enit	g Testin P
A.1	Number of test cells	Ten pieces	Physical
A.2	Charging procedure for test purpose	Compliance checked	o Testing
A.3	Insertion procedure of a small piece of metallic nickel to cause internal short circuit	Compliance checked	Prluax
A.3.1	Dismantling of charged cell	Compliance checked	PHURK
A.3.2	Shape and material of a small piece of metallic nickel	Compliance checked	g Testin P
A.3.3.	Insertion of a small piece of metallic nickel a) cylindrical cells were shown in figure A.2	Hngs Hngs Hngs	P N/A

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 9 of 42



Hussy	JIS C 8714:2007	Hnay Hnay	HUSAS
Clause	Requirement - Test	Result - Remark	Verdict
HUSKIG	Hrayer Hrayer Hrayer	HASA	Hagy
	b) prismatic cells were shown in figure A.3	Compliance checked	Testin P
A.3.4	Reassembling	Hraxiana, Hraxiana, Hraxian	P _{HUB} X ⁱ
ng	a) cylindrical cells	g sting sting	N/A
Juaxian	b) prismatic cells	Juaxiang lo Juaxiang lo Juaxiang	P
A.3.5	Enclose of winding core	enin enin e	P
A.4	Procedure of pressing	waxiang Tes waxiang Tes	P
A.4.1	Temperature adjustment in pre-heated oven	6 '''0 6''' 6''	P
A.4.2	Installation in constant temperature test oven	axiang Tesu axiang Tesu axian	P N
A.4.3	Internal short circuit test	Prismatic cell	Р
A.4.4	Stop pressing	400N, 30s	o ^{Test} P
A.4.5	Acceptance criteria	No fire	PHUZI
Annex B	Procedure of the decision of new charging condition and the adoption of new model	Huariang Testing Huariang Testing	N/A

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 10 of 42



HUAN	Huan Huan	JIS C 8712: 2015	His. His.	Hua	Huar
Clause	Requirement - Test	ing Teshing	Result - Remark	estill is	Verdict

1200		100 Land	UQ
HUBAG	Hnaye Hnaye Hnaye	Hinasia Hinasia Hinasia	Hus
1	General	ig a Testing and Testing	Testing P
HARXISH	Parameter measurement tolerances	Compliance checked	P HUS
2	General Safety Considerations	ig Testing Testing	Test P
Hnaxiaus	Cells and batteries subject to intended use be safe and continue to function in all respects	Compliance checked	P HUS
Huaxiano	Cells and batteries subject to reasonably foreseeable misuse do not present significant hazards.	Compliance checked	ng Te P
2.1	Insulation and Wiring	See below	¹⁰⁹ P
Hnaxiavá	$ \begin{array}{lll} - \mbox{ Insulation Resistance between an accessible} \\ \mbox{metal case (excluding electrical contacts) and} \\ \mbox{positive terminals} & 5 \mbox{M}\Omega \ . \end{array} $	ig Huaxiang Testing Huaxiang Testing	N/A
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements	Internal wires/conductors possess adequate cross-sectional areas for their intended application.	ng TestiP Huai
Huaxiano	Orientation of wiring maintains adequate creepage and clearance distances between conductors. Mechanical integrity of internal connections are sufficient to accommodate conditions of reasonably foreseeable misuse.	Compliance checked	P HUR
2.2	Venting	See below	P
Hnaxiauo Hnaxiauo	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and selfignition.	Compliance checked	P HUB
Hnaxiauô	Encapsulant used to support cells within an outer casing does not cause the battery to overheat during normal operation no inhibit pressure relief.	Compliance checked	(1) P
2.3	Temperature/current management	See below	P
) Hon	The batteries are designed such that abnormal temperature rise conditions are prevented.	Compliance checked	P
HASKISH	Means is provided to limit current to safe levels during charge and discharge.	Protective IC and PCB used	P Huai
2.4	Terminal contacts	See below	P
	Terminals have a clear polarity marking on the external surface of the battery	Marked with "+" and "-" for polarity marking	ng Testil B
Highia	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated	Compliance checked	P Huai

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 11 of 42



Huss	Huay Huay	JIS C 8712: 2015	Hiss Hiss	Hiss. Hiss.
Clause	Requirement - Test	iang Teshina iang Teshina	Result - Remark	Verdict

Huan	Hingy Hingy Hingy Hingy	Hngw. Hngw. Hngw.	Huax
	current.	19 a Testing a Testing	ng Testing
Huaxian.s	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance.	Compliance checked	P Huar
H _{naxio}	Terminal contacts are arranged to minimize the risk of short circuits.	Compliance checked	P Huax
2.5	Assembly of cells into batteries	See below	P
Hnskisua	Cells used in the battery assembly have closely matched capacities, are of the same design, and are of the same chemistry and same manufacturer.	Only one cell used	ng Testi P
3 Huaxiano	The battery incorporates separate circuitry to prevent cell reversal from uneven charges as the pack is designed for the selective discharge of a portion of its series connected cells.	No series connected	N/A
2.6	Quality Plan	Hua Hua Hua	P
Hnaxiang Hnaxiang	The manufacture has prepared a quality plan defining the procedures for the inspection of materials, components, cells and batteries and which covers the process of producing each type of cell and battery.	Compliance checked	ng Testing Huari
3	Type Test Conditions	19 stin9 stin9	P
g Huaxiano	Tests were conducted with the number of cells or batteries as outlined in Table 1 of JIS C 8712 with cells or batteries that were not more than 3 months old.	Compliance checked	ng Testing
9	Unless noted otherwise in the test methods, testing was conducted in an ambient of 200 50.	Compliance checked	P ng Testing
4	Specific requirements and tests	Hinaxia, Hinaxia, Hinaxi	P Huax
4.1	Charging procedure for test purposes	Compliance checked	Testipo P
4.2	Intended Use	Compliance checked	P Huax
4.2.1	Continuous Low Rate Charge	Compliance checked	Test P
Anaxiaus	Fully charged cells are subjected for 28 days to a charge as specified by the manufacturer.	See Table 4.2.1.	P HUSÝ
axiano	Nickel systems: no fire, no explosion	aviang Testin	N/A
Hass	Lithium systems: no fire, no explosion, no leakage	See Table 4.2.1.	Р
4.2.2	Vibration	See below	ng Testing
g Huay	The measured open circuit voltage of the fully charged cells or batteries is within anticipated parameters	See Table 4.2.2.	P Huse

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Hugy	Huar Huar	JIS C 8712: 2015	Huga. Huga.	Hugu	H _{ns} ,
Clause	Requirement - Test		Result - Remark	Verd	lict

ialle	Troquilonionic Took	en e	VCIGIO
Huaxiang Huaxiang	The cells or batteries are subjected to a vibration sequence as outlined in Table 2 of JIS C8712 with amplitude of 0.75 mm and a total maximum excursion of 1.52 mm. The frequency was varied at the rate of 1 Hz/min between the limits of 10 Hz and 55 Hz. The entire range of frequencies (10 Hz to 55 Hz) and return	See Table 4.2.2.	Testing
	(55 Hz to 10 Hz) was traversed in 90 min 5 min for each mounting position.	Hnaxique Hnaxique Hnaxi	
Huaxiang	The vibration was applied in each of three mutually perpendicular directions.	See Table 4.2.2.	10 ^{7 est} P
)	Results: no fire, no explosion, no leakage	See Table 4.2.2.	√e P
4.2.3	Moulded case stress at high ambient temperature	See below.	P ,,,,,
Huaxiang	Fully charged batteries were placed in an aircirculating oven at a temperature of 70°C 2°C for 7 hours. Afterwards, they are removed and allowed to return to room temperature.	Test performed on 70°C for 7 hours.	NO TOSINO
Huaxiang	Results: no physical distortion of the battery casing resulting in exposure if internal components.	No physical distortion of the battery case resulting in exposure if internal components.	P HUM
4.2.4	Temperature cycling	See below	ng Testing
Huaviang	Fully charged cells or batteries were subjected to temperature cycling (-20°C, +75°C) in forced draught chambers according to the procedure outlined in 4.2.4 b) and Fig. 1 of JIS C8712.	Compliance checked	P IND
Huaxiang	After the fifth cycle, the cells or batteries were stored for 7 days prior to examination.	Compliance checked	ng Testi P
, waxiang	Results: No fire, no explosion, no leakage	No fire, no explosion, no leakage	ng Test P
4.3	Reasonably foreseeable misuse	Pair Pair Par	Р
4.3.1	Incorrect installation of a cell (nickel systems only)	Not nickel battery	N/A
Huaxiang	Four fully charged cells of the same brand, type, size and age were connected in series with one of the four cells reversed. The assembly was connected across a 1-ohm resistor until the vent opens or until the temperature of the reversed cell returns to ambient	9 Huaxiang Testing Huaxiang Testing Huaxiang Testing Huaxiang Testing Huaxiang Testing	N/A

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 13 of 42



Huss	Hist. Hist.	JIS C 8712: 2015	Hns. Hns.	Husi	Husi
Clause	Requirement - Test	iang Teshing	Result - Remark	siling Siling	Verdict

Huaxie	Hnaye, Hnaye, Hnaye, Hnaye,	Huaxa Huaxa Huaxa	
)	temperature.	19 ATESING ATESING	n Testing
Huaxian a	Alternatively, a stabilized dc power supply was used t simulate the conditions imposed on the reversed cell.	Huaxians Huaxians Huaxi	N/A
Huaxia	Results: no fire, no explosion	Hinaxia, Hinaxia, Hinaxi	N/A
4.3.2	External short circuit	See below	TestiP
Anax _{isir} a	Fully charged cells or batteries were subjected to a short circuit test at 200 50.	See Table 4.3.2.	P Huax
Hnaxiand	Fully charged cells or batteries were subjected to a short circuit test at 550 50.	See Table 4.3.2.	P Huax
iano	The external resistance did not exceed 100 m Ω .	iang Teshina	P P
Anaxiiang	The cells or batteries were tested for 24 h or until the case temperature declined by 20% of the maximum temperature rise.	The batteries were tested for 24h	P Huan
J Hos	Results: no fire, no explosion.	See Table 4.3.2.	Р
4.3.3	Free fall	See below	ng Testin
Anax	Fully charged cells or batteries were dropped 3 times from a height of 1.0 m onto a concrete floor.	Fall test applied on the top, side and bottom of enclosure	P Huer
Huaxiang	Results: no fire, no explosion	No fire, no explosion	P 41183
4.3.4	Mechanical shock (crash hazard)	See below	P
Hnaxiou _d I Hnaxiou _d Hnaxiou _d	Fully charged cells or batteries were subjected to a total of three shocks of equal magnitude applied in each of three mutually perpendicular directions. At least on of the directions was perpendicular to a flat face. During the initial 3 milliseconds, the minimum average acceleration was 75 gn. The peak acceleration was between 125 gn and 175 gn.	Shock test applied in each of three mutually perpendicular directions.	ng Testing Huari Ng Testing Huari
	Results: no fire, no explosion, no leakage	No fire, no explosion, no leakage	ng Tes ^{ti} P
4.3.5	Thermal abuse	eniis eniis e	Р
H _{naxiauc}	Fully charged cells were placed in a gravity or circulating air-convention oven. The oven temperature was raised	Compliance checked	ng Te P Huaxi
	at a rate of 5C/min 2C/min to a temperature of 130C 2C. The cell remained at that temperature for 10 minutes before the test was discontinued.	Huaxiang Tesing Huaxiang Tesing Huaxi	
3	Results: no fire, no explosion	No fire, no explosion	Р
4.3.6	Crushing of cells	niang rest	¹⁰ P

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 14 of 42



Him	Huan Huan Huan Huan J	IS C 8712: 2015	
Clause	Requirement - Test	Result - Remark	Verdict

Clause	Troquiromone Tool	- tooding i tomant	~ VCIGIO
Huaxiang	Fully charged cells were crushed between two flat surfaces with a hydraulic ram exerting a force of 13 kN 1 kN.	Compliance checked	ng Teshing
Hnaxisus	A cylindrical or prismatic cell was crushed with its longitudinal axis parallel to the flat surfaces of the crushing apparatus.	Compliance checked	P HU
Huax	A second set of prismatic cells was tested, rotated 90 degrees around their longitudinal axis compared to the first set.	Compliance checked	P HU
) Ho	Results: no fire, no explosion.	No fire, no explosion.	Р
4.3.7	Low pressure	viang Testina viang Testina	ro ¹⁸⁸ P
Huaxiang	Fully charged cells are placed in a vacuum chamber whose internal pressure was gradually reduced to a pressure equal to or less than 11.6 kPa and held at that value for 6 hours.	Compliance checked	P HU Ng Tasing HU
Huaxiang	Results: no fire, no explosion, no leakage	No fire, no explosion, no leakage	105 P
4.3.8	Overcharge for nickel systems	Not nickel systems.	N/A
Huaxiang	A discharged cell or battery was subjected to a high-rate charge of 2.5 times the recommended charging current for a time that produced a 250% charge input (250% of rated capacity).	Huaxiang to Huaxiang to Huaxi	N/A
Hon	Results: no fire, no explosion.	10 .v0 .v0	N/A
4.3.9	Overcharge for lithium systems	Compliance checked	ng Testin
Hnaxiaua	A discharged cell was charged from a power supply of 10 V, at a charging current lrec recommended by the manufacturer for 2.5 C5/Irec hours	See Table 4.3.9.	P HO
ens:	Results: no fire, no explosion.	No fire, no explosion.	ng Testing
4.3.10	Forced discharge	Compliance checked	P M
Huaxiang	Discharged cells intended for use in multi-cell applications, were subjected to a reverse charge 1t 1.0 It (A) for 90 minutes.	See Table 4.3.10.	ng Testing Hu
ensi	Results: no fire, no explosion	No fire, no explosion	no ^{Testino}
4.3.11	Cell protection against a high charging rate (lithium systems only)	ig Lesitua Lesitua Hinay	N/A
Huaxiang	Discharged cells were charged at three times the charging current recommended by the manufacturer until the cells was fully charged or an internal safety devices cut off the charge current	ng Huaxiang Testing Huaxiang Testing Huaxi	N/A

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 15 of 42



Hos	Huar Huar	JIS C 8712: 2015	Huan Huan	Husi	Hugy
Clause	Requirement - Test	enig Testine in Para in Testine	Result - Remark	ins	Verdict

9	before the cell became fully charged.	19 cesting cesting	stin ⁹
Huaxian	Results: no fire, no explosion	Huaxiang Jes Huaxiang Jes	N/A
5	Information for safety	See below	P
Huaxiani 3	Information is provided to equipment manufacturers in the form of instructions to minimize and mitigate hazards associated with the cells or batteries in accordance with guidelines outlined in informative Annex A.	Information is provided in the product specification.	ng Testing
	Information is provided to end-users in the form of instructions to minimize and mitigate hazards associated with the batteries in accordance with guidelines outlined in informative Annex B.	Information is provided in the product specification.	ng Testing
6	Marking	Hnaxiaus Hnaxiaus Hnaxi	P Huay
6.1	Cell Marking	ng resting resting	Testip
Huaxiani 3	The cells are marked in accordance with JIS C8705, JIS C8708 or JIS C8711 as applicable. See Copy of Marking Plate item in the beginning of this report.	See Copy of Marking Plate	P Huax
6.2	Battery Marking	onites onites 0	N/A
d Hnaxisuu	The batteries are marked in accordance with JIS C8705, JIS C8708 or JIS C8711 as applicable. See Copy of Marking Plate item in the beginning of this report	Huaxiang to Huaxiang Testing	N/A
6.3	Other Information	10 .v0 .v0	P
Huaxiani 3	Disposal instructions are marked on the battery or supplied in the information packaged with the battery.	Information is provided in the product specification.	ng Testing P
4uaxiani 3	Recommended charging instruction are marked on the battery or supplied in the information packaged with the battery.	Information is provided in the product specification.	ng P Huay
7 Juaniani	Packaging	Huaxiang Huaxiang Huaxi	P
Huaxiani	Cells or batteries were provided with packaging that was adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design was chosen to prevent the development of unintentional electrical conduction, corrosion of the terminal and ingress of moisture.	Compliance checked	ng Testing Huer

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 16 of 42



Husan	Hname Hname	JIS C 8712: 2015	Hoay Hoay	Huaya	Huss
Clause	Requirement - Test	ing Testing in 1 Testing	Result - Remark	illia Tillia	Verdict

705till	TABLE: 4.2.1 Co	ntinuous Low Rate	Charge Test	esting	stin's TestiP
Model	Recommend Charging Meth CC, CV, or CC	od, Charging	Charging	OCV at Start of Test, Vdc	Results
Huaxiang Testing	CC/CV	ng Tes 5	10000mA	4.79	No fire, no explosion, no leakage
	CC/CV	5 Huaxiang Testing	10000mA	4.78	No fire, no explosion, no leakage
For cell	CC/CV	ng Test 5 Live Manager Testing	10000mA	4.79	No fire, no explosion, no leakage
	CC/CV	ng Test 5 tuexiang Testing	10000mA	4.77	No fire, no explosion, no leakage
	CC/CV	ng Tes 5 Huadang Teshing H	10000mA	4.76	No fire, no explosion, no leakage

Huaxiang	TABLE: 4.2.	2 – Vibration Test	parians the P the
Model		OCV at Start of Test, Vdc	Results
For battery 5.18		5.18 at X/Y/Z axis	No fire, no explosion, no leakage
For battery		5.19 at X/Y/Z axis	No fire, no explosion, no leakage
For battery	Testing	5.19 at X/Y/Z axis	No fire, no explosion, no leakage
For battery	Huaxians	5.19 at X/Y/Z axis	No fire, no explosion, no leakage
For battery 5.18		5.18 at X/Y/Z axis	No fire, no explosion, no leakage
Supplemen	tary informat	ion: was a second	Alang Test

Maxiguo .	TABLE: 4.3.1Incorrect Installation of a Cell Test (Nickel Systems)					N/A	
Model		OCV (reversed cell), Vdc			Results		
isho Tes	iang Tes	iang Tes	ish9 Te	- 1840 Le	iang Te	ish9 (6°	iang Tes.
Huss	Husi	Husi	HASS	HUST	Hos	Husi	Huga. Hug
_Testin	.9 _Testin ^r) 	.9 	stin ⁹	-tin ⁹	stin ⁹	ing Testing
Huaxians	Huaxiana	Huaxiane	Huaxiana	Huaxians	Huaxians	Huaxians	Huaxiana Hui
		Vir.				en Prije	
Supplemer	ntary informa	tion:	axiang Te	axiang Te	axiang Te	axiang Tee	Xiang Tes

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 17 of 42



Huann	Hinayan Hinayan	JIS C 8712: 2015	Hnaye Hnaye	HIBAIL	Hosay
Clause	Requirement - Test		Result - Remark	Stille	Verdict

ing Testi	TABLE: 4.3.2 – Exter	nal Short Circuit	Test	1e5" 1e5"	Tes P
Model	Ambient (At 20oC ± 5°C or 55°C ± 5oC)	OCV at start of test, Vdc	Resistance of Circuit, Ω	Maximum Case Temperature Rise AT, oC	Results
For battery	20.2/55.1	5.18/5.16	<0.1	1.1/0.7	No fire, no explosion
For battery	20.8/55.6	5.14/5.17	<0.1	0.8/0.9	No fire, no explosion
For battery	21.1/55.3	5.19/5.15	<0.1	0.8/1.2	No fire, no explosion
For battery	20.4/54.4	5.19/5.18	<0.1	1.2/1.3	No fire, no explosion
For battery	20.0/55.3	5.13/5.19	<0.1	1.0/0.6	No fire, no explosion

TA	BLE: 4.3.2 - Exte	rnal Short Circu	it Test	Ho	P
Model	Ambient (At 20 oC ± 5°C or 55°C ± 5 oC)	OCV at start of test, Vdc	Resistance of Circuit, Ω	Maximum Case Temperature Rise ΔT, oC	Results
For cell	20.4/55.3	5.21/5.19	<0.1	13.0/5.2	No fire, no explosion
For cell	20.4/55.3	5.22/5.20	<0.1	12.2/4.7	No fire, no explosion
For cell	21.6/55.3	5.22/5.22	<0.1	13.4/5.1	No fire, no explosion
For cell	20.4/55.4	5.19/5.21	<0.1	12.7/5.3	No fire, no explosion
For cell	20.3/55.3	5.21/5.20	<0.1	13.1/5.1	No fire, no explosion
Supplementary	information:	Huaxi	Hnax. Hnax	HUSK	Hng _{xx} Hng

TABLE:	4.3.8 - Overcharge	Test (Nickel System	ns)	N/A
Model	OCV prior to charging, Vdc	Maximum Charge Current, A	Time for Charging, h	Results
Has. Has.	His. His	Huan	Hos. Hos.	His. His
o sting	sting sting	sting sting	esting	sting sting
Supplementary info	rmation:	kiang to kiang to	xiang h	exisn ⁹

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 18 of 42



Husan	Huaye Huaye	JIS C 8712: 2015	Hnsy. Hnsy.	Hussa	History
Clause	Requirement - Test	enires in Testi	Result - Remark	es _{illua}	Verdict

TABLE: 4.3.9 – Overcharge Tests (Lithium Systems)						P
Model	OCV at start of	Maximum Charging	Maximum Charging	Total Time of	Results	
	test, Vdc	Current, mA	Voltage, Vdc	Charging, h		
For cell	209	10000	10	, ₂₀ 0 5	No fire,	no explosion
For cell	HOST	10000	10	5	No fire,	no explosion
For cell	_{ctin} 9	10000	10	_5°	No fire,	no explosion
For cell	10 Te 100 Te	10000	10	5	No fire,	no explosion
For cell	Husha	10000	10	5	No fire,	no explosion
Supplementary ir	nformation:	enits enits	eting	ening	e _{tin} o	e _{nin} 9

TABLE: 4	4.3.10 – Forced D	ischarge Test	ng Testing aviation	ng Testing aviang Test P
Model	OCV before application of reverse charge,	Measured Reverse Charge It, A	Total Time for Reversed Charge Application, Min	Results
For cell	4 75	2 4	90,	No fire, no explosion
For cell	4.72	5	90	No fire, no explosion
For cell	4 72	5	41/2 ² 90	No fire, no explosio
For cell	4.71	5	90	No fire, no explosion
For cell	4.73	5	90	No fire, no explosion
upplementary inform	nation:	ANDYIO	HABXIO. HABXIO	HAND May

TABLE (Lithiu	E: 4.3.11 – Cell Protec	ction Against a High	Charging Rate Test	N/A
Model	OCV at start of test, Vdc	Maximum Charging	Maximum Charging	Res ults
Testing	Testing	Testing Testing	Testing Testing	g Testing
Hnaxiaua Hnaxiaua	Huaxiana Huax	18 19 HUBXISN9	Juskiana Hnakiana	Huaxiang Hu
enin ^o	enits enits	Pair Pair	rite Onite	e _{niis} e
	110° 100° 100° 100° 100° 100° 100° 100°	18/19 Tes	iang Tes	
His His	Hriss, Hriss,	Huay	HOS.	Hriss, Hr
Supplementary inf	ormation:	Testing Testing	Testing Testin	g Testing

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 19 of 42



METI Ordinance of Technical Requirements (H25.07.01) Appendix Information 9				
Clause	Requirement - Test	Result - Remark	Verdict	

1 iang Test	General safety considerations		o ^{Test} P
Huaxiang Testing	The safety of secondary cells and batteries requires the consideration of two sets of applied conditions:	Juanang Testing Huanang Testing	P HU
Prince	a) intended use;	en;i en;i	Р
axiang Team	b) reasonably foreseeable misuse	ayang Testi	Р
Huaxiang Testing	It is expected that cells or batteries subjected to misuse may fail to function following such experience.	Lexang Tesing Huavang Tesing	Teshing
Pusikang Testing Pulisang Testing	They shall not however present significant hazards. It may also be expected that cells and batteries subjected to intended use shall not only be safe but shall continue to be functional in all respects.	Juexiang Testing Huaxiang Testing Huaxian Huaxian	Testing
1.(1)	Insulation and Wiring	nayer Hnayer Hnayer	P 🚧
Huaxiang Testing	a) Insulation Resistance between an accessible metal case (excluding electrical contacts) and positive terminals $5M\Omega$	No metal case exists.	N/A
Huaxiang Testing	b) Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements	See tests of clause 2 and clause 3.	Jeshi P
Huaxiang Tesing	c) Orientation of wiring maintains adequate creepage and clearance distances betweenconductors. Mechanical integrity of internal connections are sufficient to accommodate conditions of reasonably foreseeable misuse.	See tests of clause 2 and clause 3.	Tesling
1.(2)	Inner Pressure Reduction Mechanism	Pakian ⁹ Pakiang Pakian	Р
Huaxiang Testing	a) Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition.	Venting mechanism exists on the top of the cell.	P HO
Huaxiang Testing	b) Encapsulant used to support cells within an outer casing does not cause the battery to overheat during normal operation no inhibit pressure relief.	Juaxiang Testing	N/A
1.(3)	Temperature and current management	enis enis	В
Huaxiang Teath 9	The batteries are designed such that abnormal temperature rise conditions are prevented.	Overcharge, over-discharge, over current and short-circuit proof circuit used in this battery. See tests of clause 3.	Tesing
Huaxiang Testing	Means is provided to limit current to safe levels during charge and discharge.	Overcharge, over-discharge, over current and short-circuit proof circuit used in this battery.	Testing Hu

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 20 of 42



Clause	Requirement - Test	Result - Remark	Verdict
Anada	Hosyana Hasyana Hosyana	Troodic Tromain	VOIGIO
1.(4)	Terminal contacts	e _{nin} o e _{nin} o	P
axiang Tes	a) Terminals have a clear polarity marking on the	The DC connector contacts	Р
	external surface of the battery or be designed with no	complied with the requirements.	HI
70Stin	fear of misconnection.	Testing Testing	resting
	b) The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current.	Complied.) P
	c) External terminal contact surfaces are formed from	100	Р
	conductive materials with good mechanical strength	og Testille	1705till F
	and corrosion resistance.	naxian Hnaxiana Hnaxian	H
7/74	Terminal contacts are arranged to minimize the risk of	enir. enir.	В
	short circuits.	105° 00 105°	17e5"
1.(5)	Assembly of cells into batteries	10S2P	P
	Cells used in the battery assembly have closely	estin9	B
	matched capacities, are of the same design, and are of the same chemistry and same manufacturer.	ayiang hang hang ayian	3
HUC	The battery incorporates separate circuitry to prevent	100 100 100	N/A
	cell reversal from uneven charges as the pack is	Testing Testing	Testing
	designed for the selective discharge of a portion of its	uaxiang uuaxiang uuaxian	9
	series connected cells.		۳ کام
2 (85111)	Intended Use	ng Testins	705 ¹¹¹ P
	In the tests mentioned below, the number and	Waxia Huaxia Huaxia	P
	test ambient temperature of cells or batteries to	enite enite	enite :
	be tested shall be as per Annex Table 1- 1.	ayiang Terayian	370
	Provided that these tests can be handled by using an equivalent or severer test method.	Ina, Hina, Hina,	1
	Moreover, if the battery structure has been	Testing Testing	Testing
	partially modified and the test results before the	naixanu enaixau	5
	change can be used instead, no further tests	42	Q
ng Testill	are required on that particular part.	Testing Testing	Testille
2.(1)	Continuous Low Rate Charge	maxia, Hilaxia, Hilaxia,	P
	Fully charged cells are subjected for 28 days to	Arrange the test as	z stiiP
	a charge as specified by the manufacturer.	required.	3
400	Ambient temperature when testing	50°C	Р
· 111587 000:	Results: no fire, no explosion, no leakage	No fire, no explosion, no	P
	results. No life, no explosion, no leakage	leakage.	4
2.(2)	Vibration	sting sesting	Testing P
(-)	- isus isus isus	neixe Pneixen Pneixe) \
	The measured open circuit voltage of the fully	See test below.	P
	charged cells or batteries is within anticipated parameters	a Testing	Testins
Huaxians	775×10	maxiana Hnaxiana Hnaxian	_ \
	The cells or batteries are subjected to a	Arrange the test as	P)
	vibration sequence with amplitude of 0.76 mm and a total maximum excursion of 1.52 mm.	required.	J. 65.
	The frequency was varied at the rate of 1	make Hinake Hinaker	4
	Hz/min between the limits of 10 Hz and 55 Hz.	Priise Priise	edin9
	The entire range of frequencies (10 Hz to 55	2010	100

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 21 of 42



Clause	Requirement - Test	Result - Remark	Verdic
Haxigus	Hinsign Analysis Hinsigns Analysis	Hnsxigus Hnsxigus Hnsxigu	H
Testing	Hz) and return (55 Hz to 10 Hz) was traversed	Testing Testing	Testing
Huaxian9	in 90 min ±5 min for each mounting position.	Huaxiang Huaxiang Huaxian	<i>H</i> .
miang Testing	The vibration was applied in each of three mutually perpendicular directions.	Arrange the test as required.	A Testin P
	Results: no fire, no explosion, no leakage	No fire, no explosion, no leakage.	P
2.(3)	Battery enclosure test at high ambient temperature	Anayana Hnayana Hnaya	PY
	Fully charged batteries were placed in an aircirculating oven at a temperature of 70°C ±2°C for 7 hours.	uaxiang Testing Huaxian	P P
	Afterwards, they are removed and allowed to return to room temperature.	Huayan Huayan Huayan	
Huaxiang Teshina Huaxiang Teshina	Results: no physical distortion of the battery casing resulting in exposure if internal components.	Juaxiang Tesimis Huaxiang Tesimis Huaxian Huaxian	Testing P
2.(4)	Temperature cycling	oviang Testing Testing Testing	P
Huaxiang Testing	Fully charged cells or batteries were subjected to temperature cycling (+75°C, +20°C, -20°C, +20°C) in forced draught chambers according to the procedure. Arrange the test as required.		Р
Huaxiang Testims Huaxiang Testims	After the fifth cycle, the cells or batteries were stored at 20 ±5°C for 7 days prior to examination.	Arrange the test as required.	TesimP P
Huaxiang Tes	Results: No fire, no explosion, no leakage	No fire, no explosion, no leakage.	P
B resting	Reasonably foreseeable misuse	cong Testing	Testing P
Huaxiang Testing	In tests specified below, the number and test ambient temperature of cells or batteries to be tested shall be as per Annex Table 1- 1. Provided that these tests can be conducted by using an equivalent or severer test method.	Juaxiano Tasiino Huaxiano Tasiino Huaxian	Y Testing Y Y
	Moreover, if the battery structure has been partially modified and the test results before the change can be used instead, no further tests are required on that particular part.	Juaxiang Testing Huaxiang Testing Huaxian	
.(1)	External short circuit	Hadyang Hadyang	Р
eniira Tesiing Huaxiang Tesiing	a) Fully charged cells were subjected to a short circuit test at 55°C ±5°C. Arrange the test as required. Each 5 pcs batteries charged at ambient temperature 50°C and -5°C respectively prepared for		Testin9
	test at 55°C ±5°C.	ambient temperature 50°C and	t

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 22 of 42



- 1	METI Ordinance of Technical Requirements	(1120:07:07) Appendix Information	JII J
Clause	Requirement - Test	Result - Remark	Verdict

Hugylo	Hinsage Hinsage /	Anama Anama	Has
Huaxiang Testing	The cells were tested for 24 h or until the case temperature declined by 20% of the maximum temperaturerise.	Tested until the case temperature declined by 20% of the maximum temperature rise	Testing Huay
Huaniang Tesing	b) Fully charged batteries were subjected to a short circuit test at 20°C ±5°C.	Arrange the test as required. Each 5pcs batteries charged at ambient temperature 50°C and -5°C respectively prepared for the test.	P HUSY
17	The external resistance did not exceed 80 \pm 20 m Ω .	See table 3.(1)	Р
Huaxiang Tesmi	The batteries were tested for 24 h or until the case temperature declined by 20% of the maximum temperaturerise.	Tested for 24 hours.	P HUBY
Huaxiang Teams	If battery incorporates protective device or protective circuit and the current has stopped, then for one hour after the current stopped.	Juaxiang Teams Huaxiang Teams Huaxian	N/A
-ng Testills	Results: no fire, no explosion.	No fire, no explosion.	Yeshing P
3.(2)	Free fall	Ingkigu Hinakigu	P HURY
iang Testing	Fully charged cells or batteries were dropped 3 times from a height of 1.0 m onto a concrete floor.	Arrange the test as required.	1 Cestir P
Hnayer	Provided that this does not apply to charged batteries weighting more than 7 kg.	ring Hospi	N/A
iang Tesm	Results: no fire, no explosion	No fire, no explosion.	P
3.(3)	Mechanical shock (crash hazard)	Ingree Hilane	P Huss
Huaxiang Testing	a) Fully charged cells or batteries were subjected to a total of three shocks of equal magnitude applied in each of three mutually perpendicular directions.	Arrange the test as required.	y Testin a Huai
Huaxiang Testing	b) During the initial 3 milliseconds, the minimum average acceleration was 735 m/s ² . The peak acceleration was between 1228 m/s ² and 1716 m/s ² .	Juaxiang Testing Huaxiang Testing	y Testir P Huax
Testing	Results: no fire, no explosion, no leakage	No explosion, no leakage.	TestiP
3.(4)	Thermal abuse	uakang ' uakang '	P
Huariang Testing	Fully charged cells were placed in a gravity or circulating air-convention oven. The oven temperature was raised at a rate of 5°C/min ±2°C/min to a temperature of 130°C ±2°C. The cell remained at that temperature for 10 minutes before the test was discontinued.	Arrange the test as required. Each 5pcs cells charged at ambient temperature 50°C and -5°C respectively prepared for the test.	Testing Huer
-ng Testins	Results: no fire, no explosion	No fire, no explosion	1 ^{esti} P
3.(5)	Crushing of cells	Maxian Hilaxian Hilaxian	P HUZY
Huaxiang Tasing	a) Fully charged cells were crushed between two flat surfaces with a hydraulic ram exerting a force of 13 kN ± 1 kN.	Arrange the test as required. Each 5pcs cells charged at ambient temperature 50°C and	Testing
Huaxiang Testing	Huaxiang Testing Huaxiang Testing Huaxiang Testing		2

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 23 of 42



METI Ordinance of Technical Requirements (H25.07.01) Appendix Information 9				
Clause	Requirement - Test	Result - Remark	Verdict	

Testins	and estina and estina and estina	for the test.	185th	
Huaxians	b) The force was released when	Maxiaug Hilaxiau	P	
Huaxiang Testing	(1) the maximum forces applied	Arrange the test as required. The Maximum force is achieved when the force applied crushing the cell from wide side.	ns Testing	
ng Testing	(2) an abrupt voltage drop of one-third of the original voltage has been obtained	a Testing agresting	N/A	
Husxisi	(3) There was 10% deformation of battery height	naxion Hiaxion Hiaxian	N/A	
Huaxiang Testing	c) A cylindrical or prismatic cell was crushed with its longitudinal axis parallel to the flat surfaces of the crushing apparatus.	Jaxiang Testing	P	
wexiang Testing	A second set of prismatic cells was tested, rotated 90 degrees around their longitudinal axis compared to the first set.	librang Testing	N/A	
Jugaiang Testing	Ambient temperature when testing	Ambient temperature 50°C and -5°C respectively.	P	
0	Results: no fire, no explosion.	No fire, no explosion.	Р	
3.(6)	Low pressure		Р	
Huskiang Testing	Fully charged cells are placed in a vacuum chamber whose internal pressure was gradually reduced to a pressure equal to or less than 1 1.6 kPa and held at that value for 6 hours.	Arrange the test as required.	P Huz	
ng Testing	Results: no fire, no explosion, no leakage	No fire, no explosion, no leakage	P	
3.(7)	Overcharge	Maxian Hilaylana Hilaylan	PHUE	
Huaxiang Testing Huaxiang Testing Huaxiang Testing	Overcharge A discharged cell was charged from a power supply of 10 V, at a charging current lrec recommended by the manufacturer for 2.5 C5/Irec hours or until it reach the test voltage. Arrange the test as required. Each 5pcs cells overcharged at ambient temperature 50°C and -5°C respectively during the test		TestinP Testing Testing	
	Ambient temperature when testing	Ambient temperature 50°C and -5°C respectively.	3 ^{Tessu} P HU ²	
visho Tesu.	Results: no fire, no explosion.	No fire, no explosion.	P	
3.(8)	Forced discharge	Insu. Histor Hillship	P Hus	
Huaxiang Testing	Discharged cells intended for use in multi-cell applications, were subjected to a reverse charge at 1.0 It (A) for 90 minutes.	Arrange the test as required. Each 5pcs cells overcharged at ambient temperature 50°C and	Testing	

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 24 of 42



METI Ordinance of Technical Requirements (H25.07.01) Appendix Information 9				
Clause	Requirement - Test	Result - Remark	Verdict	

Huaxiang Testing	Luaxiang Testins Luaxiang Testins Luaxiang Testins	-5°C respectively during the test.	J (estims
Huaxiang Testing	Ambient temperature when testing	Ambient temperature 50°C and -5°C respectively.	Teshing Hur
9000	Results: no fire, no explosion	No fire, no explosion	Р
3.(9)	Cell protection against a high charging rate	ns: "Cat ons: "Cat ons:	P
Huanna Testing	Discharged cells were charged at three times the charging current recommended by the manufacturer until	Arrange the test as required	P Hur Testing
	the cells was fully charged, or	Ansyr Hnsw. Hnsw.	N/A
Huaxiang Testing	A protective devices in the equipment or battery cut off the charge current before the cell became fully charged.	Arrange the test as required. Each 5pcs cells overcharged at ambient temperature 50°C and	Testing
Hristians jestins	Ambient temperature when testing	-5°C respectively during the test. Ambient temperature 50°C and -5°C respectively.	P P
ish depri	Results: no fire, no explosion	No fire, no explosion	P
3.(10)	Forced internal short circuit of cells		P .
Huaxiana Testina Huaxiana Testina Huaxiana Testina	Pressed the winding core of charged cell (except when electrolyte is not liquid) by pressing jig under condition that nickel peace was inserted. Arrange the test as required. Each 5pcs cells overcharged at ambient temperature 50°C and -5°C respectively during the test.		N/A
Huaxiang.	Inserted between the positive active material and negative active material	Hrisyana, Hrisyana, Hrisyan	P
Huaxiang Testing	Inserted between the uncoated current collector of positive electrode and the active material coated negative active electrode	Arrange the test as required	Te ^{sting} Huf
wiang Testing	Test was stopped when voltage drop of over 50 mV was obtained, or	iang Testing	N/A
Huss.	Stopped when the pressure reached 800 N (for prismatic cells, 400N).	800N	P Hur
Huaxiang Tes	Ambient temperature when testing	Ambient temperature 50°C and -5°C respectively.	P
Huaxiang Testing Huaxiang Testing	Number of test sample	Each 10 pcs cells overcharged at ambient temperature 50 °C and -5 °C respectively during the test.	Testing

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 25 of 42



METI Ordinance of Technical Requirements (H25.07.01) Appendix Information 9				
Clause	Requirement - Test	Result - Remark	Verdict	

	Results: no fire	No fire	P
3.(11)	Function of the overvoltage protection of batteries	naxe Hnaxe Hnaxe	P HUE
Huaxiang Testing	The cell block in the battery shall not exceed the upper limited charging voltage at 20 ±5°C ambient temperature.	Laxiang Testing Huaxiang Testing	Testir P
waxiang Testing	a) For batteries made of a one cell block, the voltage applied to the cell block during charging shall be measured	Jaxieng Testing	N/A
Huaxiang Testing	b) For batteries consisting of a series of two pieces or more of cell blocks, it shall be charged while measuring the voltage of each cell block and at the same time, one cell block shall forcibly be discharged and the voltages of the other cell blocks shall gradually be measured	Arrange the test as required on the cell. The max. voltage measured are not exceed the limit.	P Testing Hus
	c) For batteries consisting of a series of connection of two pieces or more of cell blocks, a voltage exceeding the upper limited charging voltage specified in Annex Table 1-2 shall be applied to the cell block while measuring the voltage of each cell block. When the charging stops, the voltage shall be measured	Juaxiang Testing Juaxiang Testing Huaxiang Testing Huaxiang Huaxiang Huaxiang Huaxiang Huaxiang Huaxiang	N/A
3.(12)	Free fall of appliance	may Hray	N/A
Huaxiang Testing	The charged battery shall be installed to be used, and shall be dropped once a concrete floor or iron plate in a direction considered to most likely affect the battery in a negative manner.	Arrange the test as required	N/A
. ng (estill)	An equivalent load shall be applied to the battery	100 (05)	N/A
Huaxis	Kind of equipment	Maskey Hilaskey	N/A
, sting	Weight of appliance	sting sting	N/A
waxiang 1	Applicable standard	nsiyen Pensiye	N/A
Han	Height in drop testing	100 HOR HOR	N/A
, a Lesting	Results: no short-circuiting	od Lesing	N/A
4 11/20/10/15	Labeling	naxisms Hnaxisms Hnaxism	P Hus
Luaxiang Testing	Labeling shall be provided as specified in Annex Table 2.	See marking	78 ⁵¹¹⁷⁰ P
Remarks:	Remarks 1. ItA shall be expressed in the following formula [see IEC 61434 (1996)]: ItA = MPC-RTL3000Ah/1 h. 2. Supporting documents complying with the procedure specified in JIS C 8714 (2007), Supplement B shall be stored. 3. If an upper limited charging voltage having a value other than listed in Table 2 is newly used, one shall store supporting documents regarding	Juaxiang Testing	Testing Testing Hus Testing Hus Testing

Web: www.hua-x.com Tel: 0755-23010432 Email: huaxiang@hua-x.com Page 26 of 42



Clause	Requirement - Test	axiang Test.	Result - Remark	Verdict
Hos	410, Ho, Ho,	Ho H		Ho Ho
	specified in JIS C 8714 (2007), S and use said value as the upper charging voltage.	~()		Huaxian Tesu.
	4. When a highest or a lowest test having a value other than listed in newly used, supporting document temperature changes shall be stowith said procedure and said valuatored as the highest or lowest test.	n Table 2 is ats regarding bred complying ue can be		Huaxian 3 Testing Huaxian 3 Testing Huaxian 3 Testing
	according to JIS C 8714 (2007), 3 "Procedure of the decision of new condition and the adoption of new	Supplement B, w charging		Huaxian3 Testing
Supplemer	ntary rules	ting Testing	a Testing	Testing P
Date of en	nforcement]	HARXISH H	Hnaxisus Hnaxisus	HIIZXIAN PHI
Huaxiang Testif	Article 1 This ministerial ordinance into effect on the date of enforcer (November 20, 2008) of the Law Part of the Electrical Appliance at Safety Law (Law No. 116 of 2007)	ment for Revising nd Material	uaxiang Testing Huaxiang Testing Haxiang Testing	Husking Tashing
Transitory	measures]			Р
Huaxiang Testif Huaxiang Testif	Article 2 Regulations (11) and (1) Table 9-3 of the Ministerial Ordin Determining Technical Standards Appliances revised according to ordinance will not be applied for tafter the date this ministerial ordinito effect.	ance for s for Electrical said ministerial hree years	Jakang Testing Huakang Testing Huakang Testing Huakang Testing	Huaxian 3 Testing Huaxian 3 Testing Hu
	For three years after the date of a this ministerial ordinance, Annex and 1-2 of Attached Table 9 of th Ordinance for Determining Techn for Electrical Appliances revised said ministerial ordinance may be the test conditions specified in At 1 and 2 in the Supplementary Ru that, this shall not apply to (1), (4 Attached Table 9-3 regarding Lith Secondary Cells and Batteries for Electronic Applications and Othe	Tables 1- 1 the Ministerial chical Standards according to the applied under ttached Tables alles. Provided the provided the provided the provided the provided the provided the provided		Huariana Testing Huariana Testing Huariana Testing Huariana Testing Huariana Testing

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2-1 TA	BLE: Continuous Low	Rate Charge Test	Testing	Testing	P^0
Sample no.	Recommended chargingvoltage Vc (Vdc)	Recommended chargingcurrent Irec (A)	OCV before test (Vdc)	Results	ng Testing
Cell #1	5 Huarta Huar	1.1	5.089	P HURNE	1
Cell #2	5 Testing	1.1 ³¹⁰⁰⁹ 100 Testing	5.089	Р	o Testing
Cell #3	5 Huak	1.1 HURNE	5.092	P HUZIN	\
Cell #4	5	1.1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.090	P	o Testing
Cell #5	5 Huaxia Huax	1.1	5.093	P HURNIN	,

Supplementary information:

- No fire or explosion
- No leakage

Note(s): Test time is 28 days.

2-2	TABLE: Condition	ns for vibration t	test	Huaxiang, Haaxiang, B	
Sample no. OCV before test (Vdc)		OCV after test (Vdc)	Vibration time (minute)	Visual examination resu	
For cells:	og Testing	esting na Testing	na Testing	ing of esting of Testing	
Cell #6	5.085	5.090	90*3	Hnaxia, Hnaxia, F	
Cell #7	5.083	5.087	90*3	no na Testino na Testino	
Cell #8	5.083	5.088	90*3	Huaxian's Huaxian's	
Cell #9	5.084	5.086	90*3	No fire, no explosion, no	
Cell #10	5.083	5.087	90*3	leakage	
For batteries	s: gesting	esting a Testing	a Testing	ing Cesting of Lesting	
Battery #1	5.068	5.076	90*3	Huaxian Huaxian F	
Battery #2	5.066	5.069	90*3	ing Testing	
Battery #3	5.070	5.071	90*3	Huaxiana Huaxiana	
Battery #4	5.066	5.068	90*3	No fire, no explosion, no	
Battery #5	5.069	5.065	90*3	leakage	
Note(s):	eting	enira enira	e _{min} g .	eniis eniis enii	

Note(s):

1. The vibration is applied in each of three mutually perpendicular directions. 2. Rest cell or batteries for 1 h, then make a visual inspection.

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2-3	TABLE: Moulded case stress at high ambient temperature			Psting	
Sample No.	OCV at Start of Test, Vdc	Temperature(C)	Result	esting	
Battery- 30	5.031	70 C ± 2 C	No physical distortion of the battery case resulting in exposure of internal components.		
Battery- 31	5.033	70 C ± 2 C			
Battery- 32	5.033	70 C ± 2 C	Hinayang ' Hinayang '		

2-4	TABLE: Temperatu	re cycling	eine Lesine Lesine Presine
Sample No.	OCV at Start of Test, Vdc	Temperature(C)	Result
Cells:	Huaxians	Hriaxiana Hriaxiana	Hinaxiania Hinaxiania Hinaxiania
Cell- 11	5.07	(-20 C, +75 C)	sino resino
Cell- 12	5.08	(-20 C, +75 C)	No fire, no explosion, no leakage.
Cell- 13	5.07	(-20 C, +75 C)	sing a Testing an Testing
Cell- 14	5.08	(-20 C, +75 C)	Huaxians Huaxians Huaxians
Cell- 15	5.09	(-20 C, +75 C)	enites per contraction of testing contractions on testing contractions.
Batteries	Hiladra	History History	Hinese Hinese Hinese
Battery- 06	5.076	(-20 C, +75 C)	No fire, no explosion, no leakage.
Battery- 07	5.069	(-20 C, +75 C)	Hnaye Hnaye Hnaye
Battery- 08	5.071	(-20 C, +75 C)	aviano Testino aviano Testino aviano Testino
Battery- 09	5.068	(-20 C, +75 C)	1100 1100 1100 1100 1100 1100 1100 110
Battery- 10	5.065	(-20 C, +75 C)	axiang tesu axiang tesu axiang tesu
Note(s):	enir enir	ing Ho.	enis enis enis enis enis

3-1	TABLE: External sh	ort-circuit (cell) resting		mg (e)	S /0
Sample no.	Ambient T (C)	OCV before test (Vdc)	Resistance of circuit (m)	Maximum case temperature (C)	Results	HI in ^g HI
Samples ch (45°C)	narged at charging t	emperature up	per limit	Testing Huaxiang Testi	ng Huaxiang Testi	_{iin} g 'in
Cell #16	55.1	5.08	85.9	97.3	P	ing
Cell #17	55.0	5.06	88.4	96.5	Puzxiang	141

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Cell #18	55.2	5.08	86.3	97.5	P Testing
Cell #19	55.0	5.07	88.2	97.4	Payiang
Cell #20	55.1	5.07	86.7	98.4	P Testing
Samples charg	ed at charging te	emperature low	er limit (-5°C)	Huaxiang ,	Huaxiang F
Cell #21	55.0	5.07	83.2	100.6	P Testing
Cell #22	55.1	5.07	86.7	101.8	Puaxiang
Cell #23	55.3	5.07	89.5	98.9	P Testing
Cell #24	55.1	5.08	92.1	97.6	Pulaxiang
Cell #25	55.0	5.08	93.2	104.4	P esting

Supplementary information:

- No fire or explosion

Sample no.	Ambient T	OCV before test (Vdc)	Resistance of circuit (mΩ)	Maximum case temperature (C)	Component single fault condition	Results
Samples ch	arged at char	ging tempera	ture upper lir	nit (45°C)	iang Testing	enites Testine
Battery #11	23.2	5.021	87.7	26.0	-Huaxia	Р
Battery #12	23.1	5.021	88.2	26.2	: and Testing	P Testing
Battery #13	23.3	5.022	90.4	27.4	-Huaxia	Р
Battery #14	23.0	5.020	91.5	25.4		P resting
Battery #15	23.2	5.023	89.3	26.7	-Huaxia	Р
Samples ch	arged at char	ging tempera	ture lower lin	nit (-5°C)	ng Testing	. ng Testing
Battery #16	23.5	5.052	87.2	26.2	-Huaxies	Р
Battery #17	23.4	5.056	88.3	26.0	- ng Testing	P resting
Battery #18	23.1	5.049	91.1	25.5	-HU3X181	Р
Battery #19	23.3	5.051	90.2	25.4	9 Testing	P resting
Battery #20	23.2	5.051	87.6	26.2	-Hnaxia	P

- No fire or explosion

3-2	TAB	LE: Free fall		iang Te
Sample N	ο.	OCV at start of test, Vdc	Drop height (m)	Result
Cells	nsixo	g Tes axiang Tes axiang Tes	viend tes	iang Tesa

Email: huaxiang@hua-x.com Web: www.hua-x.com Tel: 0755-23010432 Page 30 of 42



Cell#26	5.028		2.4	No fire, no explosion.
Cell#27	5.031	Hnaxiana Hnaxiana	2.4	No fire, no explosion.
Cell#28	5.026	Huaxiang Tes Huaxiang Tr	2.4	No fire, no explosion.
Batteries	esting Testing	ng Testing	isting Testing	ng Testing
Battery#21	5.056	Testing Hilasia	2.4	No fire, no explosion.
Battery#22	5.049	inaxiaua . Hnaxiaua .	2.4	No fire, no explosion.
Battery#23	5.051	Huaxiang Testin Huaxiang Te	2.4	No fire, no explosion.

3-3	TABLE	E: Mechanical shock (crash	n hazard)		P
Sample No).Huaxia	OCV at start of test, Vdc	HIBXII	Result	4nsxxx
Cells	ng Te	sing Testing and Testing	ng Test	ing testing and testing	. ng Testing
Cell#29	Hugxia.	5.028	Huaxia	No fire, no explosion, no le	akage.
Cell#30	70	5.031	-ng (es	ing resting and Testing	
Cell#31	Huaxian	5.026	Hugxian	Huakian Huakian	
Cell#32	-ng Te	5.029	-29 Test	ing resting agresting	
Cell#33	Huaxia	5.033	Huaxian	Huaxian Huaxian	
Batteries	.ng 78	sing na Testing na Testing	-79 ⁷ est	ing resting and resting	and Testing
Battery#24	Huaxia	5.011	HUBXION	No fire, no explosion, no le	akage.
Battery#25	2010	5.011	~9 ⁷ es [†]	ing a Testing and Testing	
Battery#26	Huaxian	5.020	Huaxian	Huaxian Huaxian	
Battery#27	~ 10°	5.010	~ 1est	ing a Testing an Testing	
Battery#28	Huaxians	5.013	Huaxian	Huaxian e	
Note (s):	~0 ⁷⁶	sting a Testing	~1est	ing a Testing	on Testing

3-4	TABLI	E: Thermal abuse			Testille P
Sample No	O.Huaxiang Te	OCV at start of test, Vdc	Ambient temperature,	Temperature raised at a rate(C/min)	Result
Samples of	charged a	at charging tempe	rature of -5C	esting Testing	Testing Testing
Cell#34	Huaxiang	5.028	130±2	5±2	No fire, no

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Answ.	Hinsy Hinsy	Hussy	Hisay, Hisay	explosion
Cell#35	5.031	130±2	5±2	No fire, no explosion
Cell#36	5.026	130±2	5±2	No fire, no explosion
Cell#37	5.029	130±2	5±2	No fire, no explosion
Cell#38	5.033	130±2	5±2	No fire, no explosion
Samples charged a	t charging tempera	ture of 45C	Juaxiang 1	Maxisud 1
Cell#39	5.080	130±2	5±2	No fire, no explosion
Cell#40	5.077	130±2	5±2	No fire, no explosion
Cell#41	5.081	130±2	5±2	No fire, no explosion
Cell#42	5.075	130±2	5±2	No fire, no explosion
Cell#43	5.078	130±2	5±2	No fire, no explosion

3-5	TABLE	: Crush (cells)			HIJAKI P
Sample no.		OCV before test (Vdc)	Width of cell before crush, (mm)	Width of cell after crush, (mm)	Results
Samples	charged	at charging temper	ature upper limit	(45°C)	is in Testins
A prismat apparatus		crushed with its long	itudinal axis paralle	el to the flat surfaces of t	he crushing
Cell #44	Huaxians	5.028	20.1	Huaxians Huaxians	Puzziania
Cell #45	168	5.031	20.0	- Testing	P Testing
Cell #46	Huaxians	5.026	20.1	Huaxians Huaxians	P
Cell #47	168	5.029	20.0	- Testing	P Testing
Cell #48	Huaxians	5.033	20.0	Huaxians Huaxians	Pusitand
	set of pris		d, rotated 90 degre	es around their longitud	inal axis
Cell #49)	5.026	32.0	- sing sin	P
Cell #50	waxiang Tes	5.029	32.1	waxiang Tes	P
Cell #51	7	5.031	32.0	cind	P
Cell #52	axiang Tee	5.026	32.1	and Test	P xiang Test

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Cell #53	5.091	32.1	History Hinsa	P
- in O	Dair Dair	mperature lower lim	 nit (-5°C)	eng Testing
A prismatic cell apparatus	was crushed with it	s longitudinal axis pa	arallel to the flat sur	faces of the crushing
Cell #54	5.031	18.1	HOSTIGHTS HUBY	Ruaxians
Cell #55	5.026	18.1	sting - Testing	Testing P Testing
Cell #56	5.091	18.2	Huaxiania Huax	P. Variance
Cell #57	5.031	18.2	sing - Tesing	Tesing P Tesing
Cell #58	5.026	18.2	Hrisxisus Hrisx	P _{IUBX} ians
A second set of compared to the	• (0	tested, rotated 90 de	grees around their lo	ongitudinal axis
Cell #59	5.029	32.0	ening ening	P
Cell #60	5.031	32.0	ng Test	iang Tes P Pakiang Tes
Cell #61	5.026	32.0	enie - enie	P
Cell #62	5.029	32.1	wing Test	lang Tes P Niang Tes
Cell #63	5.031	32.0	- Jon	Р

3-6	TABL	E: Low pressure		Luaxian ⁹ Luaxian ⁹ Luaxian ⁹ P
Sample	No.	OCV at start of test, Vdc	Pressure	Result
Cell #64	V0	5.077	≤ 11.6KPa	No fire, no explosion, no leakage.
Cell #65	w.	5.081	≤ 11.6KPa	No fire, no explosion, no leakage.
Cell #66	Hos	5.075	≤ 11.6KPa	No fire, no explosion, no leakage.

3-7	TABLE:OVERCH	IARGE	waxiang To	waxiang to	axian ^g P
Sample No	o. OCV at start of test, Vdc	Maximum Charging Voltage, Vdc	Maximum chargingcurrent (A)	Total time of charging (h)	Result
Test ambie	ent temperature: -	5C - 100 To	iang Testing	enites P _{nsi}	iang Testing
Cell #67	5.028	5.080	2.4	2.5	No fire, no explosion.
Cell #68	5.031	5.077	2.4	2.5	No fire, no explosion.
Cell #69	5.026	5.081	2.4	2.5	No fire, no

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4ns. Hns	HOST	Hose Hose	Huse	Hose Ho	explosion.
Cell #70	5.029	5.075	2.4	2.5	No fire, no explosion.
Cell #71	5.033	5.078	2.4	2.5	No fire, no explosion.
Test ambient	temperature: 4	5 C	400.	0 ::00 H100. H1	:00
Cell #72	5.080	5.025	2.4	2.5	No fire, no explosion.
Cell #73	5.077	5.033	2.4	2.5	No fire, no explosion.
Cell #74	5.081	5.022	2.4	2.5	No fire, no explosion.
Cell #75	5.075	5.027	2.4	2.5	No fire, no explosion.
Cell #76	5.078	5.031	2.4	2.5	No fire, no explosion.
Note (s):	xiang Teen xians	Learn Misua Learn	eng Lean,	- Xiang Teshi	Niang Tesm

3-8	TABLE: Forced	discharge			axiang P
Sample N	Before reverse charge, Vdc	OCV after Test, Vdc	Reverse Charge current 1 It A	Total time of charging (h)	Result
Test amb	ient temperature:	-5C	and Testing	igng Testing	iang Testins
Cell #77	5.0	3.7	2.4	1.5	No fire, no
Cell #78	5.0	3.7	2.4	1.5	explosion.
Cell #79	5.0	3.7	2.4	1.5	- N
Cell #80	5.0	3.7	2.4	1.5	viang Testins
Cell #81	5.0	3.7	2.4	1.5	100 H
Test amb	ient temperature:	45 C	lang Testing Testin	wang Teshino	viang Testing
Cell #82 5.0		3.7	2.4	1.5	No fire, no
Cell #83	5.0	3.7	2.4	1.5	explosion.
Cell #84	5.0	3.7	2.4	1.5	
Cell #85	5.0	3.7	2.4	1.5	viang Testing
Cell #86	5.0	3.7	2.4	1.5	· · · · · · · · · · · · · · · · · · ·
Note (s):	viang Teshina	ing Testing	ang Teshir	viang Teshha	viang Teshie

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3-9	TABLE: Cell protonly)	tection against a high	n charging rate (lit	hium systems	Bug
Sample No	OCV at start of Test, Vdc	Charged current (A)	Maximum charging voltage,	Result	sting
Test ambie	ent temperature: -	5 C	ang Testing	y Testing	sting
Cell #87	3.7	2.4	5.0	No fire, no explosion.	
Cell #88	3.7	2.4	5.0	No fire, no explosion.	-tine
Cell #89	3.7	2.4	5.0	No fire, no explosion.	
Cell #90	3.7	2.4	5.0	No fire, no explosion.	stin!
Cell #91	3.7	2.4	5.0	No fire, no explosion.	
Test ambie	ent temperature: 4	5C	ang Testing	y Testing con Tes	sting
Cell #92	3.7	2.4	5.0	No fire, no explosion.	
Cell #93	3.7	2.4	5.0	No fire, no explosion.	Siline
Cell #94	3.7	2.4	5.0	No fire, no explosion.	
Cell #95	3.7	2.4	5.0	No fire, no explosion.	- stine
Cell #96	3.7	2.4	5.0	No fire, no explosion.	
Note (s):	19 Testing	g Testing	ang Testing	ong Testing	sting

3-10	TABLE: F	orced internal she	ort circuit of cel	ls _{vien} o re ^{sur}	iang Testin	viano Testin
Sample N)	oer OCV at st nt, (0) Vdc	tart of Test, Part	app	ximum blied ssure,	Result
Test ambi	ent tempera	ature: -5C	ug Hugxiang	Huaxiana, Huax	Hus Jang	HI HI
Cell #97	-5 _{coli} ir	5.018	Testing 1	800	Testin ⁹	No fire, no
Cell #98	-5	5.013	Huaxiana 1	800	Jang Hus	explosion.
Cell #99	-5 _{(estin}	5.020	Testing 1	800	resting	Testing
Cell #100	-5	5.015	ng Huaxi 1	800) _{auo} .	ojang .
Cell #101	-5 ₋₅ in	5.019	Testing 1	800	resting	Testing
Test ambi	ent temper	ature: 450	Hnaxiaua	Hnaxiaua, Hnax	Hns	Higher Hi
Cell #102	45	5.022	Testing 1	100 Tolor	Testing	No fire, no
Cell #103	45	5.024	ng Huaxiang 1	800) _{SUð}	explosion.
Cell #104	45	5.015	Testing 1 Tes	in ⁰ (200	Testing	Testing
Cell #105	45	5.023	m9 Huaxian9 1	800)sng Hus	High9

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Cell #106	45	5.019	100 H	1	100	800	Hos
Note (s):	iang Tesme	iang Teshine	iang Tesime	iang Teshira	iang Tesum	iang Tesuna	iang Teshine

Shenzhen Huaxiang Testing Co , Ltd

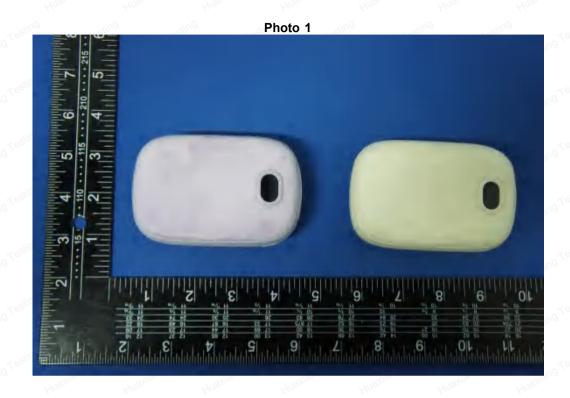
3-11	TABLE	: Function of ove	rcharge protection o	f batteries	P
Sample No	Huaxiang Te	OCV at start of test, Vdc	Maximum Cell Voltage, Vdc	Charging Current, (A)	Result
Battery#29	Huaxiang Te	5.098	5.5 **** ******************************	2.4	Maximum Battery Voltage below 8.4V

3-12	IADLE:	Free fall of appl	iances		Juaxialia P	
Sample No	× 0	OCV at start of test, Vdc	OCV at after of test, Vdc	Drop height (m)	Result	
Battery#21		5.052	5.021	4.0	No external short	
Battery#22	Huar	5.056	5.021	4.0	circuit inside of the battery, no internal	
Battery#23	:ang 76	5.049	5.022	4.0	short circuit in cells	

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Appendix I: Photographs of the EUT





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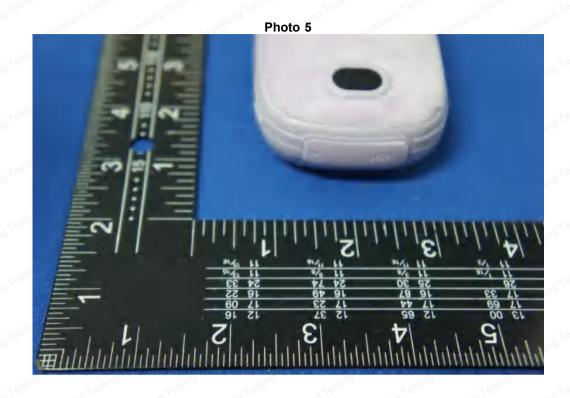


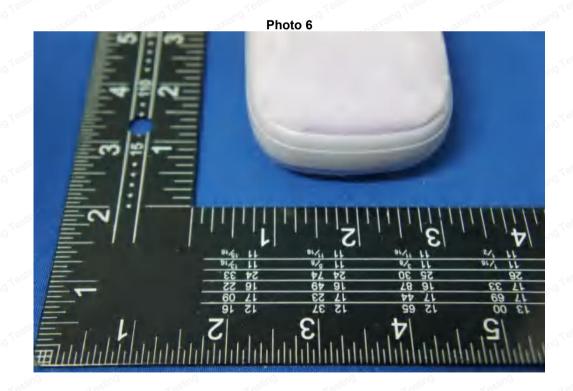
Photo 3

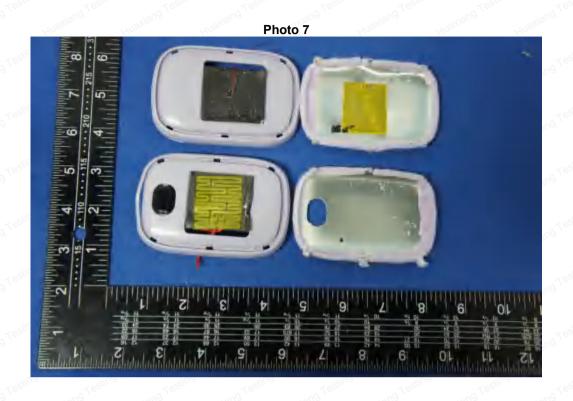


Photo 4

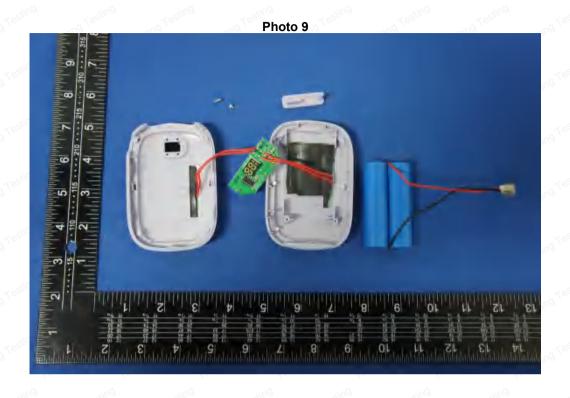


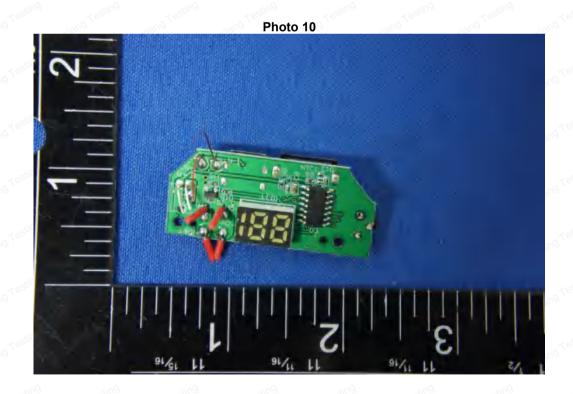




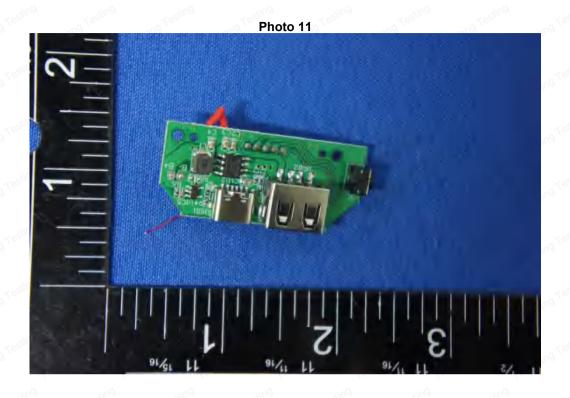












*** * * * END OF REPORT ** * * * *