

TEST REPORT

On Behalf of

Dongguan Liliang Electronics Co., LTD

Polymer lithium ion battery

402030

Prepared for : Dongguan Liliang Electronics Co., LTD
No.B,Science park zhaoxuan, Road No.3hong, Southern Distr
ict, Dongguan

Prepared By : Shenzhen TCT Testing Technology Co., Ltd.
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Date of Test: Dec. 23, 2015 to Dec. 31, 2015

Date of Report: Dec. 31, 2015

Report Number: TCT151207S011

TEST REPORT

EN 60950-1

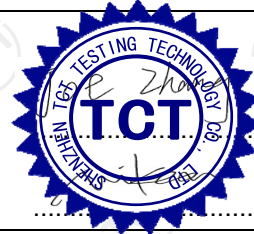
Information technology equipment – Safety –

Part 1: General requirements

Report reference No. : TCT151207S011

Tested by (+ signature)..... Joe Zhang

Approved by (+ signature) Mike Xu



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Total number of pages.....: 36 pages

Testing Laboratory Name Shenzhen TCT Testing Technology Co., Ltd.

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Applicant's Name Dongguan Liliang Electronics Co., LTD

Address No.B,Science park zhaoxuan, Road No.3hong, Southern District, Dongguan

Manufacturer name.....: Dongguan Liliang Electronics Co., LTD

Manufacturer address: No.B,Science park zhaoxuan, Road No.3hong, Southern District, Dongguan

Test specification:

Standard : EN 60950-1: 2006+A11: 2009+A1: 2010+A12: 2011+A2: 2013

Test procedure : N/A

Non-standard test method : N/A

Test item Description..... : Polymer lithium ion battery

Trademark : N/A

Model and/or type reference.....: 402030

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

Test item particulars	
Equipment mobility.....	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....	☐ pluggable equipment ☐ type A ☐ type B ☐ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☐ OVC II ☐ OVC III ☒ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values	+10%, -10% (requested by applicant)
Tested for IT power systems	☐ Yes ☒ No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	☐ Class I ☐ Class II ☒ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	16A except 13A for United Kingdom (20A for Canada and United States)
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IP20
Altitude during operation (m)	< 2000
Altitude of test laboratory (m)	< 500
Mass of equipment (kg)	Approx. 0.02kg
Possible test case verdicts:	
- 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)	
Testing	
Date of receipt of test item.....	2015-12-23
Date (s) of performance of tests.....	2015-12-23 to 2015-12-31
General remarks:	
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.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 6.2.5 of IEC60068-2-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are)

representative of the products from each factory has ☐ Yes
been provided: ☒ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....: Same as applicant

General product information:

1. The test samples are pre-production samples without serial numbers.
2. The maximum ambient temperature is 25°C

Model List:

Rating	Output: 3.7V== Capacity:180mAh
Test Model	402030
Other Models	N/A

Model difference between models:

1. All models are identical to each other except for type designation, parameter of transformer and rating output.
2. All tests are carried out on 402030

Label

Polymer lithium ion battery

Model: 402030

Rated: Output: 3.7V==

Capacity:180mAh



Dongguan Liliang Electronics Co., LTD

Made in China

Note:

1. The height of graphical symbols shall not be less than 5 mm;
2. The height of letters and numerals shall not be less than 2 mm;
3. The main rating label was attached in enclosure,

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Clause	Requirement – Test	Result – Remark	Verdict

1	GENERAL		P
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1.5	Components		P
1.5.1	General	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant EN component standards.	P
	Comply with EN 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	Components which are certified to EN and /or national standards are used correctly within their ratings. Components not covered by EN standards are tested under the conditions present in the equipment.	P
1.5.3	Thermal controls	No thermal controls provided	N/A
1.5.4	Transformers	No used	N/A
1.5.5	Interconnecting cables	No Interconnecting cables	N/A
1.5.6	Capacitors bridging insulation	No such component	N/A
1.5.7	Resistors bridging insulation	No such component	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors	No such component	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface		P
1.6.1	AC power distribution systems	Connection to TN power system	N/A
1.6.2	Input current	See appended table 1.6.2.	P

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Clause	Requirement – Test	Result – Remark	Verdict
1.6.3	Voltage limit of hand-held equipment	The EUT is not hand-held equipment	N/A
1.6.4	Neutral conductor	Class III equipment	N/A
1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	All relevant markings are provided on a label.	P
1.7.1.1	Power rating marking	See below	P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	3.7V	P
	Symbol for nature of supply, for d.c. only	==	P
	Rated frequency or rated frequency range (Hz) ...:	DC only	N/A
	Rated current (mA or A)	See label	N/A
1.7.1.2	Identification markings	See below	P
	Manufacturer's name or trade-mark or identification mark	See label	P
	Model identification or type reference	See label	P
	Symbol for Class II equipment only	Class III equipment	N/A
	Other markings and symbols	See copy of marking plate	P
1.7.1.3	Use of graphical symbols		P
1.7.2	Safety instructions and marking	See user manual	P
1.7.2.1	General		P
1.7.2.2	Disconnect devices	DC connector	P
1.7.2.3	Overcurrent protective device	No such component	N/A
1.7.2.4	IT power distribution systems	TN power distribution systems	N/A
1.7.2.5	Operator access with a tool	No operator access area	N/A
1.7.2.6	Ozone	No such component	N/A
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	Input not adjustable.	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No power outlet	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	No such component	N/A
1.7.7	Wiring terminals	See below.	N/A
1.7.7.1	Protective earthing and bonding terminals	Class III equipment	N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	No Controls and indicators	N/A
1.7.8.1	Identification, location and marking	Enclosure	P
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to EN 60417.....		N/A
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices	No such components.	N/A
1.7.11	Durability	See appended table 1.7.11	P
1.7.12	Removable parts	No Removable parts	N/A
1.7.13	Replaceable batteries		P
	Language(s)	English	—
1.7.14	Equipment for restricted access locations		N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	Class III equipment no hazards accessed	N/A
2.1.1.1	Access to energized parts	Operator can not touch the hazardous energized parts	N/A
	Test by inspection		P
	Test with test finger (Figure 2A)	Hazardous parts not accessible	P
	Test with test pin (Figure 2B)	Hazardous parts not accessible	P
	Test with test probe (Figure 2C)	No TNV circuit within equipment	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		P
2.1.1.5	Energy hazards	(see appended tables 2.1.1.5)	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	No X-cap	N/A
	Measured voltage (V); time-constant (s)		—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers	No such component	N/A

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Clause	Requirement – Test	Result – Remark	Verdict

2.1.2	Protection in service access areas	No service access area.	N/A
2.1.3	Protection in restricted access locations	The unit is not limited to be used in restricted access locations	N/A

2.2	SELV circuits		P
2.2.1	General requirements	42.4V peak or 60VDC are not exceeded in outputs of power supply under normal operation or single fault condition. (see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V)	Each output of power supply is not exceeded 42.4V peak or 60VDC	P
2.2.3	Voltages under fault conditions (V)	Single fault did not cause excessive voltage in accessible outputs. Limits of 71V peak and 120V DC were not exceed and SELV limits not for longer than 0.2 seconds (see appended table 2.2)	P
2.2.4	Connection of SELV circuits to other circuits	No direct connection between SELV and any primary circuits	P

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuit within equipment	N/A
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A

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Clause	Requirement – Test	Result – Remark	Verdict

	Frequency (Hz)		—
	Measured current (mA).....		—
	Measured voltage (V)		—
	Measured circuit capacitance (nF or μ F).....		—
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	Limited power sources		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	(see appended table 2.5)	N/A
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA).....	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A) ..		—

2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG		—
	Protective current rating (A), cross-sectional area (mm^2), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)		N/A
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device in protective earthing or bonding conductor.	N/A
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect earth without disconnecting input connector.	N/A
2.6.5.4	Parts that can be removed by an operator	Appliance terminal used.	N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance	All safety earthing connections in compliance with annex J.	N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	Overcurrent and earth fault protection in primary circuits		N/A
2.7.1	Basic requirements		N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel		N/A
2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlocks	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A

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Clause	Requirement – Test	Result – Remark	Verdict

2.8.7.1	Separation distances for contact gaps and their related circuits (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test	(see appended table 5.2)	N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	No natural rubber, hygroscopic material and material containing asbestos used as insulation	P
2.9.2	Humidity conditioning		P
	Relative humidity (%), temperature (°C)	RH: 93%, 25°C, 48hrs	—
2.9.3	Grade of insulation	Insulation complies with sub-clauses 2.10, 4.5.1 and 5.2.	P
2.9.4	Separation from hazardous voltages	The secondary circuit is separated from hazardous voltages by reinforce insulation or double insulation	P
	Method(s) used	Method 1 used	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency	Considered	P
2.10.1.2	Pollution degrees		P
2.10.1.3	Reduced values for functional insulation		N/A
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances		N/A
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply		N/A
	b) Earthed d.c. mains supplies		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		N/A
2.10.4.1	General		N/A
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U		P
	Two wires in contact inside wound component; angle between 45° and 90°		P
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection		N/A
3.1.2	Protection against mechanical damage		P

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Clause	Requirement – Test	Result – Remark	Verdict
3.1.3	Securing of internal wiring		N/A
3.1.4	Insulation of conductors	Insulation on internal conductors is considered to be of adequate quality and suitable for the application and the working voltage involved.	P
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure	No screws used to provide electrical contact pressure.	N/A
3.1.7	Insulating materials in electrical connections	Not used.	N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

3.2	Connection to a mains supply		P
3.2.1	Means of connection	Class III equipment	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N/A

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Clause	Requirement – Test		Verdict
3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	No wiring terminals	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)..... :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		N/A
3.4.1	General requirement	Class III equipment	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
3.5	Interconnection of equipment		N/A
3.5.1	General requirements		N/A
3.5.2	Types of interconnection circuits	Only SELV circuit	N/A
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment		N/A
4	PHYSICAL REQUIREMENTS		N/A
4.1	Stability		N/A
	Angle of 10°	No overturn	N/A

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Clause	Requirement – Test	Result – Remark	Verdict

	Test force (N)		N/A
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4.2	Mechanical strength		P
4.2.1	General		P
	Rack-mounted equipment.	(see Annex DD)	N/A
4.2.2	Steady force test, 10 N	No hazard, ref. comment in appended table 2.10.3, 2.10.4.	P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		N/A
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)	See appended table 4.2.6	P
4.2.7	Stress relief test	See appended table 4.2.7	P
4.2.8	Cathode ray tubes	No CRT	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamps	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)		N/A

4.3	Design and construction		P
4.3.1	Edges and corners	Round or Smooth	P
4.3.2	Handles and manual controls; force (N)	No handle or manual control used	N/A
4.3.3	Adjustable controls	No adjustable controls.	N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection by plugs and sockets		N/A
4.3.6	Direct plug-in equipment	Transportable equipment	N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A
4.3.8	Batteries	See appended table 4.3.8	P
	- Overcharging of a rechargeable battery		P
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		P
	- Excessive discharging rate for any battery		P

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Clause	Requirement – Test	Result – Remark	Verdict
4.3.9	Oil and grease	Insulation in intended use not considered to be exposed to oil or grease.	N/A
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these substances.	N/A
4.3.11	Containers for liquids or gases	No container for liquids or gases provided.	N/A
4.3.12	Flammable liquids	No flammable liquids provided.	N/A
	Quantity of liquid (l)		--
	Flash point (°C)		--
4.3.13	Radiation	See below	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation	No Ionizing radiation	N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	No UV radiation.	N/A
	Part, property, retention after test, flammability classification		--
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser diodes)	(see separate test report of IEC/EN 60825-1 / IEC/EN 60825-2)	N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)		N/A
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No hazardous moving parts	N/A
4.4.2	Protection in operator access areas		N/A
	Household and home/office document/media shredders	(see Annex EE)	N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A

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Clause	Requirement – Test	Result – Remark	Verdict

	Not considered to cause pain or injury. a).....:		N/A
	Is considered to cause pain, not injury. b)		N/A
	Considered to cause injury. c)		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning		N/A

4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L		—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat		N/A

4.6	Openings in enclosures		N/A
4.6.1	Top and side openings		P
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom, dimensions (mm) ..		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks)		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials		P
	Method 2, application of all of simulated fault condition tests		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
4.7.2	Conditions for a fire enclosure		N/A
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures	Plastic Enclosure V-1 or better	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	PCB:V-1 or better	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General		N/A
5.1.2	Configuration of equipment under test (EUT)		N/A
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)....		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	Electric strength		N/A
5.2.1	General	Class III equipment	N/A
5.2.2	Test procedure		N/A
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation		P
5.3.2	Motors	No Motors	N/A
5.3.3	Transformers	No Transformers	N/A
5.3.4	Functional insulation	Only Functional insulation	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE	No Audio amplifiers	N/A
5.3.7	Simulation of faults	See appended table 5.3.7	P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.2	After the tests	No fire or molten metal occurred and no deformation of enclosure after the tests.	P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
6.1.2.1	Requirements	(see appended table 5.2)	N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
A.1.4	Test flame (see EN 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see EN 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to EN 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—

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Clause	Requirement – Test	Result – Remark	Verdict
B.2	Test conditions		N/A
B.3	Maximum temperatures	(see appended table 5.3)	N/A
B.4	Running overload test	(see appended table 5.3)	N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors	(see appended table 5.3)	N/A
B.9	Test for three-phase motors	(see appended table 5.3)	N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	T1 (In the complete power supply unit)	—
	Manufacturer	See table 1.5.1	—
	Type	See table 1.5.1	—
	Rated values	See table 1.5.1	—
	Method of protection	Electronic protection	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended tables 5.2 and C2)	P
	Protection from displacement of windings	By bobbin and insulation tape	P

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A

EN60950-1			
Clause	Requirement – Test	Result – Remark	Verdict

E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
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F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
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G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Copper	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V):		N/A

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Clause	Requirement – Test	Result – Remark	Verdict

K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation	(see appended table 5.3)	N/A

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A

N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	EN 60065 impulse test generator		N/A

P	ANNEX P, NORMATIVE REFERENCES		—
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Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
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Clause	Requirement – Test	Result – Remark	Verdict
	- Preferred climatic categories		N/A
	- Maximum continuous voltage		N/A
	- Combination pulse current		N/A
	Body of the VDR Test according to EN60695-11-5.....		N/A
	Body of the VDR. Flammability class of material (min V-1).....		N/A
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Approved TIW used	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

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Clause	Requirement – Test	Result – Remark	Verdict

X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		P
X.1	Determination of maximum input current		P
X.2	Overload test procedure		P

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A

Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
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AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
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BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
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CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250N, including end stops.....		N/A
DD.4	Compliance.....		N/A
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....		N/A
	Information of user instructions, maintenance and/or servicing instructions.....		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A):		N/A
	Test with wedge probe (Figure EE1 and EE2):		N/A

1.5.1	TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
PCB	Various	Various	Min.130℃ V-0	UL 94	UL	
Battery	Dongguan Liliang Electronics Co., LTD	402030	3.7V, 180mAh	IEC 62133	TCT151207B02 4	
Battery Cell	SHENZHEN TOP ENERGY CO.	402030	3.7V, 180mAh	IEC 62133	TCT151207B02 4	
¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance						

1.6.2	TABLE: electrical data test (in normal conditions)					P
fuse #	I rated (A)	U (V)	I (A)	P(W)	Battery Voltage(V)	condition
--	0.036	4.2VDC	0.035	0.151	--	Supply by DC power supply
--	0.036	3.7VDC	0.037	0.140	--	Supply by battery
Remark: The steady state input current [did] [did not] exceed the rated current at the rated voltage by more than 10 percent under maximum normal load.						

1.7.13	TABLE: durability of marking test			P
Location	Checked by	Time	Result	
External enclosure	Water	15s	No any curling and still legibility	
External enclosure	Petroleum spirit	15s	No any curling and still legibility	

2.1.1.5	TABLE: Hazardous energy measurement			N/A
Output	Voltage (Max.) (V)	Current (Max.) (A)	VA (Max.) (VA)	
Remark:				
Input: 1.1 times rate voltage				

2.1.1.7	TABLE: discharge test			N/A
Condition	calculated	calculated	T u →0V(s)	Comments
Remark:				
Input:				

2.2.2& 2.2.3	TABLE: voltage measurement under normal and fault condition			N/A
Location	condition	Voltage measurement (V)	Comments	
Remark: The voltage should not exceeds 42.4V peak and 60Vd.c , and moreover,71V peak and 120V dc(0.2s) in fault condition				
Input: Un				

2.4.2	TABLE: limited current circuit measurement					N/A
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
Remark:						

2.5	TABLE: limited power source measurement			P
Condition	Output voltage (Uoc) (V)	Output current (Isc) (A)	Apparent power (S) (VA)	
Normal condition	3.75	0.4	1.404	
Abnormal condition	3.73	0	0	
Uoc: max output voltage, Isc: max. output current with any non-capacitive load, including a short circuit, measured 5s after application of the load, S(VA): max. output VA with any non-capacitive load, including a short circuit, measured 5s after application of the load				
Remark:				

2.6.3.3	TABLE: provisions for protective earthing		N/A
Location		Resistance measured(mΩ)	Comments
Note:			

2.9.2	TABLE: humidity test				P
Test condition:	Temperature	Relative Humidity	Duration	Breakdown (Y/N)	
	30℃	93%	48h	N	
Remark: After humidity test, electric strength test specified in clause 5.2.2 should be applied.					

2.10.2	TABLE: working voltage measurement			N/A
Location	Peak Voltage (V)	RMS Voltage (V)	Comments ¹⁾	
Remark:				

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					N/A
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
Remark:						

3.2.6	TABLE: strain relief test				N/A
Mass(Kg)	Pull force(N)	Duration	Times	Displaced ($\leq 2\text{mm}$)	
Remark:					

4.2.4	TABLE: steady force test ,250N				N/A
Test part	Push force(N)	Duration	Result	Breakdown (Y/N)	
Remark:					

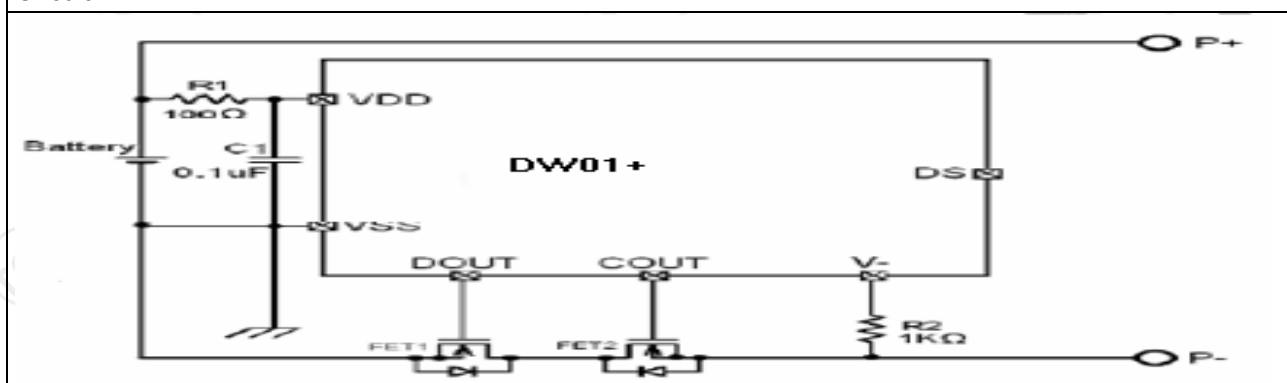
4.2.5	TABLE: impact test				N/A
Test part	method		Result	Breakdown (Y/N)	
				N	

4.2.6	TABLE: drop test				P
Test part	Height (m)		Result		
Top	1.0		No damage		
Side	1.0		No damage		
Bottom	1.0		No damage		

4.2.7	TABLE: stress relief test				P
Temperature (°C)	Duration		Result		
70	7h		No soften		

4.3.6	TABLE:DIRECT PLUG-IN EQUIPMENT-MOMENT TEST		N/A
Torque (N.m)			
Remark: limit≤0.25N.m			

4.3.8	TABLE: Batteries		P
Battery category.....: Lithium Ion Battery			
Manufacturer.....: Dongguan Liliang Electronics Co., LTD			
Type / model.....: 402030			
Voltage.....: 3.7V			
Capacity.....: 180mAh			
Tested and Certified by (incl. Ref. No.): TCT151207B024			
Circuit.....: See Below			



MARKINGS AND INSTRUCTIONS (1.7.12, 1.7.15)	
Location of replaceable battery	Can't be replaceable by user.
Language(s):	English
Close to the battery	Yes
In the servicing instructions	Yes
In the operating instructions	Yes

4.3.8	TABLE: Batteries	P
The tests of 4.3.8 are applicable only when appropriate battery data is not available		Appropriate battery data is available.
Is it possible to install the battery in a reverse polarity position?		No
Temperature		Measured temperature: Ref. 4.5

	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Unintentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. spec.		Meas. current	Manuf. spec.	Meas. current	Manuf. spec.	Meas. current	Manuf. spec.
Max current during normal conditions	--	--	--	0.036	0.36	0.035	0.18	1)	1)
Max current during fault conditions	--	--	--	0.050	0.36	0.043	0.18	1)	1)

supplementary information:

1)--Refer to table 5.3 for test results.

2) Battery polarity can't be reversed according to the design of enclosure and connector.

Test results:	Appropriate battery data is available.	Verdict
- Chemical leaks	No chemical leaks affecting required insulation.	P
- Explosion of the battery	No explosion	P
- Emission of flame or expulsion of molten metal	No emission of flame or expulsion of molten metal.	P
- Electric strength test of equipment after completion of tests	Class III equipment	N/A
supplementary information:		

4.5.1	TABLE: temperature rise measurements			P
	t1 (°C).....:	See below		—
	t2 (°C).....:	See below		—
temperature rise dT of part/at:		4.2VDC(Supply from adapter)	3.7VDC(Supply from battery)	required Tmax (°C)
		Temperature (°C)	Temperature (°C)	
U1		34.5	37.2	130
U2		32.2	35.5	130
Internal wire		32.8	34.9	85
Battery body		34.9	40.6	60
Ambient		25.3	25.2	--

4.5.5	TABLE: ball pressure test of thermoplastics			N/A
	required impression diameter (mm) :	Limit ≤ 2 mm		--
part		test temperature (°C)	impression diameter (mm)	

5.1	ANNEX D – TOUCH CURRENT TEST (SINGLE-PHASE; TN/TT SYSTEM)					N/A	
Terminal A (Switch “s”) of Measuring Instrument Connected to:		Switch “e” Position	Test voltage (V)	Touch Current (mA r.m.s.)			
				Polarity P1/Primary Switch Condition			
				Normal/On	Normal/Off	Reverse/On	Reverse/Off

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			N/A
Test voltage applied between: From/To		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No

5.3.1, 5.3.4, 5.3.7		TABLE: component failure tests				P
	Ambient temperature (°C) :				See below	
Component No.	Fault	Supply vol- tage(V)	Test time	Fuse cur- rent(A)	Observation	
Battery discharge Output “+” – “-”	O-L	3.7VDC	2 hr 15 min	--	Fully discharged, max. temp. measured on cell=41.5°C, no hazards.	
Battery overcharge	O-L	4.2VDC	7 hr	--	Unit shut down, Battery temperature: 38.4°C , Ambient: 25.6 °C, no hazards	
U1(pin5)	o-c	3.7 Vdc	10 mins	--	Unit shut down, no components damaged, no hazards	
Supplementary information:						
S-c = Short-circuit, O-c = Open circuit, Dis = Disconnection, O-I = Overload, o/p = output						

Photo documentation

Photo 1

- ☒ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal

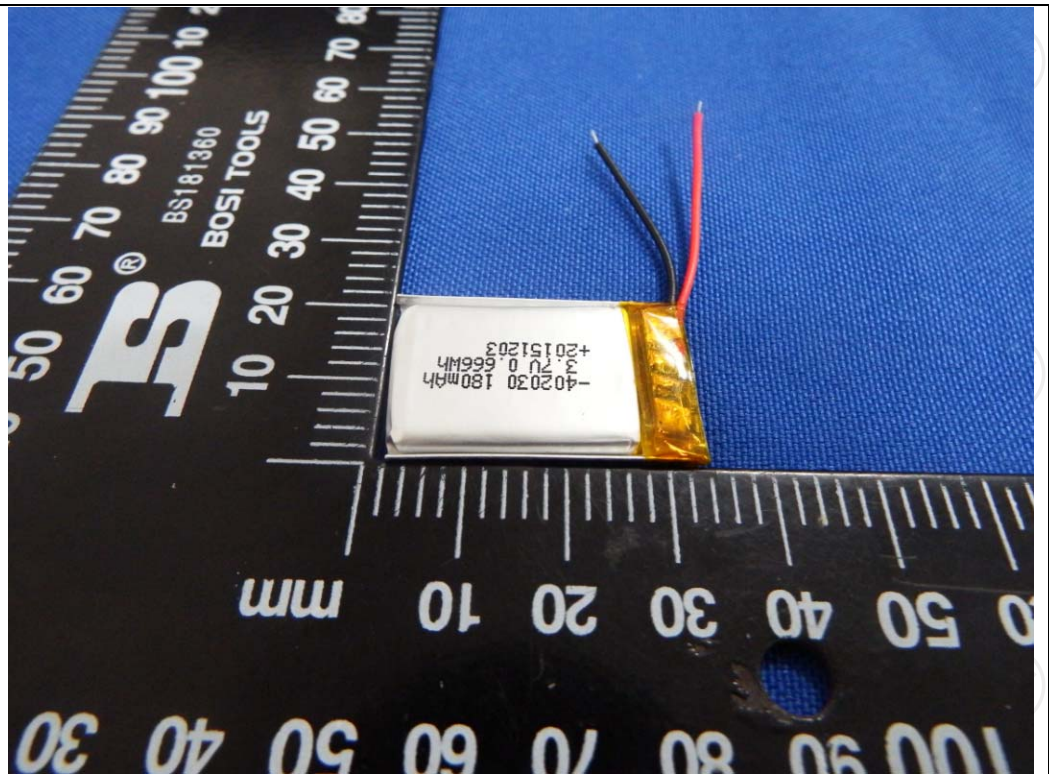


Photo 2

- ☐ front
- ☒ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal

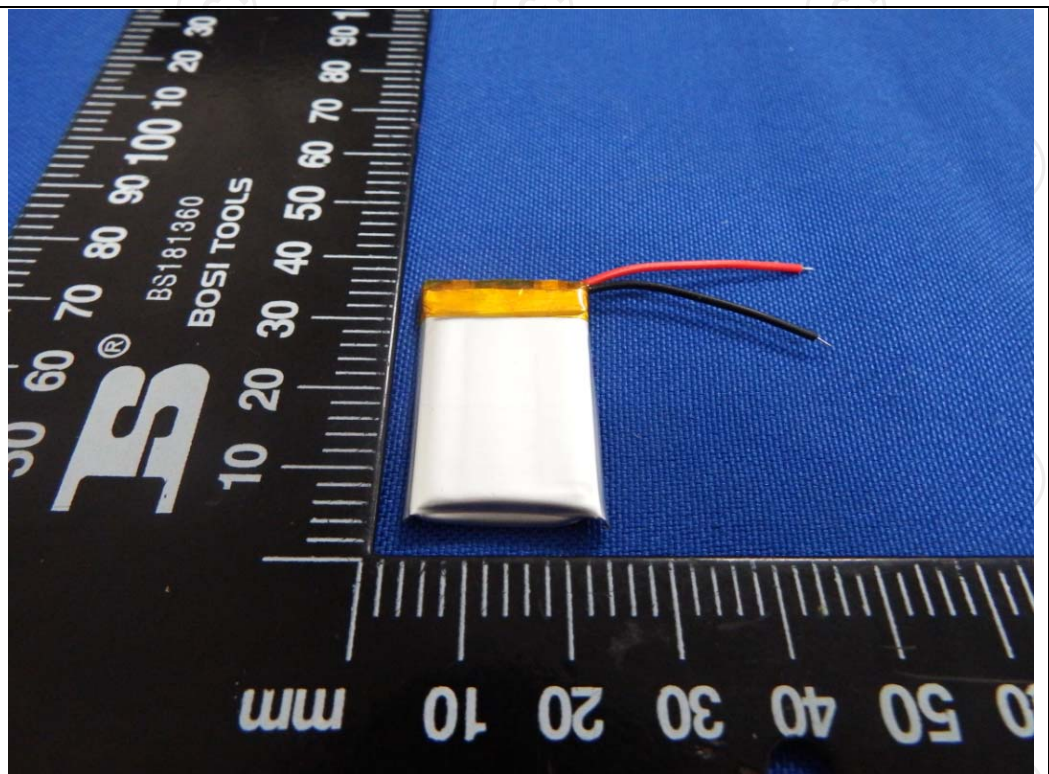


Photo 3

- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal

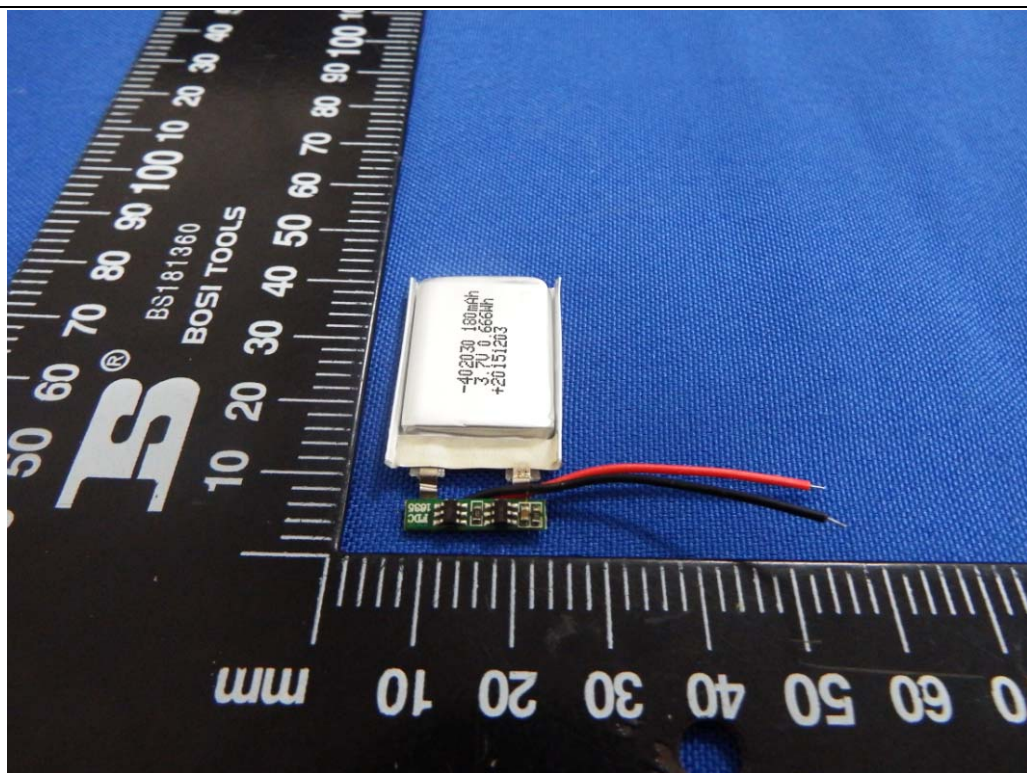
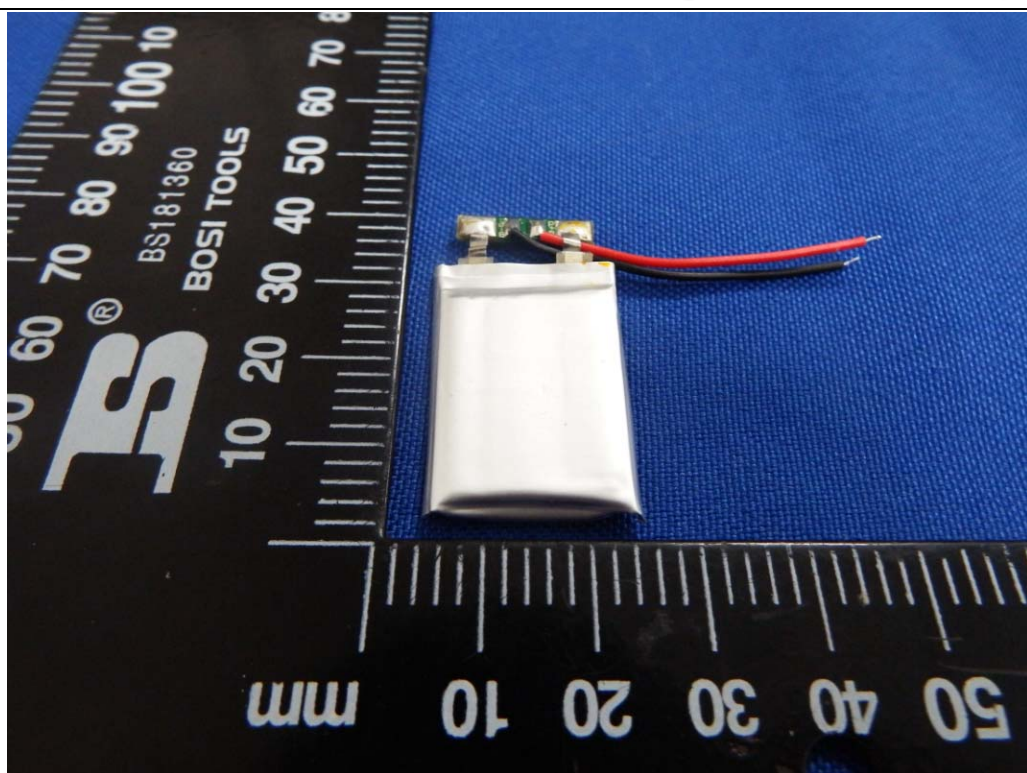


Photo 4

- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal



End of Test Report