



TEST REPORT

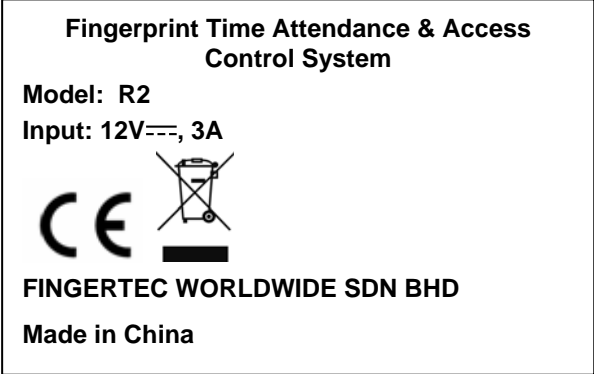


Report No.: NTEK-2012DG1105008S
Product: Fingerprint Time Attendance & Access Control System
Model No.: R2
Applicant: FINGERTEC WORLDWIDE SDN BHD
Address: NO. 6, 8 & 10 JALAN BK 3/2, BANDAR KINRARA PUCHONG
47180 SELANGOR
Issued by: NTEK Testing Technology Co., Ltd.
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TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number.....	NTEK-2012DG1105008S
Tested by (+ signature)	Ethan Chen <i>ethan chen</i>
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Date of issue.....	Nov. 06, 2012
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Testing laboratory	Shenzhen NTEK Testing Technology Co., Ltd.
Address	West of 1/F., Building E, Fenda Science Park, Sanwei, Xixiang, Bao'an District, Shenzhen, Guangdong, China
Testing location	As above
Applicant's name	FINGERTEC WORLDWIDE SDN BHD
Address.....	NO. 6, 8 & 10 JALAN BK 3/2, BANDAR KINRARA PUCHONG 47180 SELANGOR
Test specification:	
Standard	IEC 60950-1:2005 (Second Edition), Am 1: 2009
Test procedure.....	CB Scheme
Non-standard test method.....	N/A
Test Report Form No.	IEC60950_1B
Test Report Form(s) Originator.....	SGS Fimko Ltd
Master TRF	Dated 2010-04
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Test item description.....	Fingerprint Time Attendance & Access Control System
Trade Mark	FINGERTEC
Manufacturer.....	FINGERTEC WORLDWIDE SDN BHD NO. 6, 8 & 10 JALAN BK 3/2, BANDAR KINRARA PUCHONG 47180 SELANGOR
Model/Type reference	R2
Ratings.....	Input: 12V $\overline{=}$, 3A

Summary of testing:	
Tests performed (name of test and test clause): EN 60950-1: 2006+A11:2009+A1:2010+A12:2011. The submitted samples were found to comply with the requirements of above specification.	Testing location: West of 1/F., Building E, Fenda Science Park, Sanwei, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Copy of marking plate
<p>The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.</p> <p>(Additional requirements for markings. See 1.7 NOTE)</p> <div data-bbox="580 1003 1176 1375" data-label="Image"><p>Fingerprint Time Attendance & Access Control System</p><p>Model: R2</p><p>Input: 12V~~, 3A</p><p> </p><p>FINGERTEC WORLDWIDE SDN BHD</p><p>Made in China</p></div> <p>Remark on above marking:</p> <ol style="list-style-type: none">1, The height of CE symbols is more than 5 mm;2, The height of WEEE symbols is more than 7 mm;



Test item particulars	
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains.....	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input checked="" type="checkbox"/> not directly connected to the mains
Operating condition	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	N/A
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	16A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IP20
Altitude during operation (m)	<2000m
Altitude of test laboratory (m)	<2000m
Mass of equipment (kg)	0.85Kg
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A (or N)
- 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. 30, 2012
Date(s) of performance of tests.....	Oct. 31, 2012 – Nov. 04, 2012

General remarks:

The test results presented in this report relate only to the object tested.
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 "(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.

General product information:

- EUT is a Fingerprint Time Attendance & Access Control System manufactured by FINGERTEC WORLDWIDE SDN BHD.
- The EUT is Building-in equipment according to the information technology equipment.
- The maximum operating temperature is 45°C declared by the client.

Abbreviations used in the report:

- normal conditions		N.C.		- single fault conditions	S.F.C
- functional insulation	OP		-	basic insulation	BI
- double insulation		DI		- supplementary insulation	SI
- between parts of opposite polarity	BOP		-	reinforced insulation	RI

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls		N
1.5.4	Transformers		N
1.5.5	Interconnecting cables		N
1.5.6	Capacitors bridging insulation	No such capacitors	N
1.5.7	Resistors bridging insulation	No such resistors	N
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	No such resistors	N
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	No such resistors	N
1.5.8	Components in equipment for IT power systems		N
1.5.9	Surge suppressors		N
1.5.9.1	General		N
1.5.9.2	Protection of VDRs		N
1.5.9.3	Bridging of functional insulation by a VDR		N
1.5.9.4	Bridging of basic insulation by a VDR		N
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N
1.6	Power interface		N
1.6.1	AC power distribution systems		N
1.6.2	Input current	(see appended table 1.6.2)	N
1.6.3	Voltage limit of hand-held equipment	Class III equipment	N
1.6.4	Neutral conductor		N
1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	12V $\overline{=}$ 3A	P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:		N
	Rated voltage(s) or voltage range(s) (V)	See above	P
	Symbol for nature of supply, for d.c. only	$\overline{=}$	P
	Rated frequency or rated frequency range (Hz)		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (mA or A)	See above	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	FINGERTEC WORLDWIDE SDN BHD	P
	Model identification or type reference	R2	P
	Symbol for Class II equipment only		N
	Other markings and symbols	CE Mark	P
1.7.2	Safety instructions and marking	Operating/safety instructions made available to the user.	P
1.7.2.1	General		P
1.7.2.2	Disconnect devices		N
1.7.2.3	Overcurrent protective device	No overcurrent protective device	N
1.7.2.4	IT power distribution systems	Class III equipment N	
1.7.2.5	Operator access with a tool		N
1.2.7.6	Ozone	No ozone	N
1.7.3	Short duty cycles	Continuous operation	N
1.7.4	Supply voltage adjustment		N
	Methods and means of adjustment; reference to installation instructions		N
1.7.5	Power outlets on the equipment	No standard power outlets	N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)		N
1.7.7	Wiring terminals	No such terminals	N
1.7.7.1	Protective earthing and bonding terminals	Class III equipment	N
1.7.7.2	Terminals for a.c. mains supply conductors		N
1.7.7.3	Terminals for d.c. mains supply conductors		N
1.7.8	Controls and indicators		P
1.7.8.1	Identification, location and marking		N
1.7.8.2	Colours		P
1.7.8.3	Symbols according to IEC 60417	No used symbols	N
1.7.8.4	Markings using figures		N
1.7.9	Isolation of multiple power sources	No multiple power sources	N
1.7.10	Thermostats and other regulating devices	No such regulating device.	N
1.7.11	Durability	The marking withstand the required test.	P
1.7.12	Removable parts		N
1.7.13	Replaceable batteries		N
	Language(s)	English	—
1.7.14	Equipment for restricted access locations.....		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	Supplied from SELV only.	P
2.1.1.1	Access to energized parts		N
	Test by inspection		N
	Test with test finger (Figure 2A)		N
	Test with test pin (Figure 2B)		N
	Test with test probe (Figure 2C)		N
2.1.1.2	Battery compartments		N
2.1.1.3	Access to ELV wiring	No ELV circuit	N
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)	(see appended tables 2.10.2 and 2.10.5)	—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage circuit wiring.	N
2.1.1.5	Energy hazards	(see appended tables 2.1.1.5)	P
2.1.1.6	Manual controls		N
2.1.1.7	Discharge of capacitors in equipment		N
	Measured voltage (V); time-constant (s)		—
2.1.1.8	Energy hazards – d.c. mains supply		N
	a) Capacitor connected to the d.c. mains supply		N
	b) Internal battery connected to the d.c. mains supply	N	
2.1.1.9	Audio amplifiers	See cl. 2.1.1.1 See separate test report IEC/EN 60065	N
2.1.2	Protection in service access areas		N
2.1.3	Protection in restricted access locations		N

2.2	SELV circuits		P
2.2.1	General requirements	(see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V)	< 60V d.c.	P
2.2.3	Voltages under fault conditions (V)	< 60V d.c.	P
2.2.4	Connection of SELV circuits to other circuits		N

2.3	TNV circuits		N
2.3.1	Limits	No TNV circuits	N
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N
2.3.2.1	General requirements		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2.2	Protection by basic insulation		N
2.3.2.3	Protection by earthing		N
2.3.2.4	Protection by other constructions		N
2.3.3	Separation from hazardous voltages		N
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N

2.4	Limited current circuits		N
2.4.1	General requirements	No such circuits.	N
2.4.2	Limit values		N
	Frequency (Hz)		—
	Measured current (mA)		—
	Measured voltage (V).....		—
	Measured circuit capacitance (nF or μF).....		—
2.4.3	Connection of limited current circuits to other circuits		N

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

2.6	Provisions for earthing and bonding		N
2.6.1	Protective earthing	Class III equipment	N
2.6.2	Functional earthing		N
2.6.3	Protective earthing and protective bonding conductors		N
2.6.3.1	General		N
2.6.3.2	Size of protective earthing conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG :		—
2.6.3.3	Size of protective bonding conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG :		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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
2.6.3.5	Colour of insulation		N
2.6.4	Terminals		N
2.6.4.1	General		N
2.6.4.2	Protective earthing and bonding terminals		N
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N
2.6.5	Integrity of protective earthing		N
2.6.5.1	Interconnection of equipment		N
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N
2.6.5.3	Disconnection of protective earth		N
2.6.5.4	Parts that can be removed by an operator		N
2.6.5.5	Parts removed during servicing		N
2.6.5.6	Corrosion resistance		N
2.6.5.7	Screws for protective bonding		N
2.6.5.8	Reliance on telecommunication network or cable distribution system		N

2.7	Overcurrent and earth fault protection in primary circuits		N
2.7.1	Basic requirements	No primary circuits.	N
	Instructions when protection relies on building installation		N
2.7.2	Faults not simulated in 5.3.7		N
2.7.3	Short-circuit backup protection		N
2.7.4	Number and location of protective devices		N
2.7.5	Protection by several devices		N
2.7.6	Warning to service personnel.....		N

2.8	Safety interlocks		N
2.8.1	General principles	No safety interlocks used	N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Protection against extreme hazard		N
2.8.5	Moving parts		N
2.8.6	Overriding		N
2.8.7	Switches, relays and their related circuits		N
2.8.7.1	Separation distances for contact gaps and their related circuits (mm)		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test	(see appended table 5.2)	N
2.8.8	Mechanical actuators		N

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Adequate clearances and creepage distances	P
2.9.2	Humidity conditioning	45°C, 93%, 120h, No dielectric breakdown	P
	Relative humidity (%), temperature (°C)		—
2.9.3	Grade of insulation	Functional insulation	P
2.9.4	Separation from hazardous voltages		N
	Method(s) used		—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency.....		N
2.10.1.2	Pollution degrees	Pollution Degree 2	P
2.10.1.3	Reduced values for functional insulation		N
2.10.1.4	Intervening unconnected conductive parts		N
2.10.1.5	Insulation with varying dimensions		N
2.10.1.6	Special separation requirements		N
2.10.1.7	Insulation in circuits generating starting pulses		N
2.10.2	Determination of working voltage		N
2.10.2.1	General		N
2.10.2.2	RMS working voltage		N
2.10.2.3	Peak working voltage		N
2.10.3	Clearances		N
2.10.3.1	General		N
2.10.3.2	Mains transient voltages		N
	a) AC mains supply		N
	b) Earthed d.c. mains supplies		N

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Unearthed d.c. mains supplies		N
	d) Battery operation		N
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.4	Clearances in secondary circuits	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.5	Clearances in circuits having starting pulses	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.6	Transients from a.c. mains supply		N
2.10.3.7	Transients from d.c. mains supply		N
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N
2.10.3.9	Measurement of transient voltage levels		N
	a) Transients from a mains supply		N
	For an a.c. mains supply		N
	For a d.c. mains supply		N
	b) Transients from a telecommunication network :		N
2.10.4	Creepage distances		N
2.10.4.1	General		N
2.10.4.2	Material group and comparative tracking index		N
	CTI tests	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	N
2.10.5	Solid insulation		N
2.10.5.1	General		N
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	N
2.10.5.3	Insulating compound as solid insulation		N
2.10.5.4	Semiconductor devices		N
2.10.5.5.	Cemented joints	(see appended table 2.10.3 and 2.10.4)	N
2.10.5.6	Thin sheet material – General		N
2.10.5.7	Separable thin sheet material		
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N
2.10.5.9	Thin sheet material – standard test procedure		N
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.10	Thin sheet material – alternative test procedure		N
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components		N

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.12	Wire in wound components		N
	Working voltage		N
	a) Basic insulation not under stress		N
	b) Basic, supplementary, reinforced insulation		N
	c) Compliance with Annex U		N
	Two wires in contact inside wound component; angle between 45° and 90°		N
2.10.5.13	Wire with solvent-based enamel in wound components		N
	Electric strength test	(see appended table 2.10.5)	—
	Routine test		N
2.10.5.14	Additional insulation in wound components		N
	Working voltage		N
	- Basic insulation not under stress		N
	- Supplementary, reinforced insulation		N
2.10.6	Construction of printed boards		N
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	N
2.10.6.2	Coated printed boards	(see appended table 2.10.3 and 2.10.4)	N
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	(see appended table 2.10.3 and 2.10.4)	N
2.10.6.4	Insulation between conductors on different layers of a printed board		N
	Distance through insulation	(see appended table 2.10.5)	N
	Number of insulation layers (pcs).....		N
2.10.7	Component external terminations	(see appended table 2.10.3 and 2.10.4)	N
2.10.8	Tests on coated printed boards and coated components		N
2.10.8.1	Sample preparation and preliminary inspection		N
2.10.8.2	Thermal conditioning		N
2.10.8.3	Electric strength test	(see appended table 5.2)	N
2.10.8.4	Abrasion resistance test		N
2.10.9	Thermal cycling		N
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N
2.10.11	Tests for semiconductor devices and cemented joints		N
2.10.12	Enclosed and sealed parts		N
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.1	Current rating and overcurrent protection		P
3.1.2	Protection against mechanical damage		P
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors	(see appended table 5.2)	P
3.1.5	Beads and ceramic insulators		N
3.1.6	Screws for electrical contact pressure		N
3.1.7	Insulating materials in electrical connections		N
3.1.8	Self-tapping and spaced thread screws		N
3.1.9	Termination of conductors		N
	10 N pull test		N
3.1.10	Sleeving on wiring		N
3.2	Connection to a mains supply		N
3.2.1	Means of connection		N
3.2.1.1	Connection to an a.c. mains supply		N
3.2.1.2	Connection to a d.c. mains supply		N
3.2.2	Multiple supply connections		N
3.2.3	Permanently connected equipment		N
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		N
3.2.5	Power supply cords		N
3.2.5.1	AC power supply cords		N
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N
3.2.6	Cord anchorages and strain relief		N
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N
3.2.8	Cord guards		N
	Diameter or minor dimension D (mm); test mass (g) :		—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space		N
3.3	Wiring terminals for connection of external conductors		N
3.3.1	Wiring terminals		N
3.3.2	Connection of non-detachable power supply cords		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.3	Screw terminals		N
3.3.4	Conductor sizes to be connected		N
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		N
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N

3.4	Disconnection from the mains supply		N
3.4.1	General requirement		N
3.4.2	Disconnect devices		N
3.4.3	Permanently connected equipment		N
3.4.4	Parts which remain energized		N
3.4.5	Switches in flexible cords		N
3.4.6	Number of poles - single-phase and d.c. equipment		N
3.4.7	Number of poles - three-phase equipment		N
3.4.8	Switches as disconnect devices		N
3.4.9	Plugs as disconnect devices		N
3.4.10	Interconnected equipment		N
3.4.11	Multiple power sources		N

3.5	Interconnection of equipment		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits		P
3.5.3	ELV circuits as interconnection circuits		N
3.5.4	Data ports for additional equipment		P

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N
	Angle of 10°		N
	Test force (N)		N

4.2	Mechanical strength		P
4.2.1	General		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rack-mounted equipment.	(see Annex DD)	P
4.2.2	Steady force test, 10 N		P
4.2.3	Steady force test, 30 N		N
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test		N
	Fall test		N
	Swing test		N
4.2.6	Drop test; height (mm) :	1000mm±10mm	P
4.2.7	Stress relief test	No danger Parts	N
4.2.8	Cathode ray tubes	No CRT	N
	Picture tube separately certified :	(see separate test report or attached certificate)	N
4.2.9	High pressure lamps	No such lamps	N
4.2.10	Wall or ceiling mounted equipment; force (N) :		N
4.2.11	Rotating solid media		N
	Test to cover on the door.....:		N

4.3	Design and construction		P
4.3.1	Edges and corners		P
4.3.2	Handles and manual controls; force (N) :		N
4.3.3	Adjustable controls	No such controls	N
4.3.4	Securing of parts		N
4.3.5	Connection by plugs and sockets	Non direct plug-in equipment	N
4.3.6	Direct plug-in equipment		N
	Torque :		—
	Compliance with the relevant mains plug standard . :		N
4.3.7	Heating elements in earthed equipment	No heating elements	N
4.3.8	Batteries	(see appended tables 4.3.8)	P
	- Overcharging of a rechargeable battery		P
	- Unintentional charging of a non-rechargeable battery		N
	- Reverse charging of a rechargeable battery	See appended table 4.3.8.	N
	- Excessive discharging rate for any battery	See appended table 4.3.8.	P
4.3.9	Oil and grease	No oil and grease.	N
4.3.10	Dust, powders, liquids and gases	No dust, powders, liquids and gases.	N
4.3.11	Containers for liquids or gases	No containers for liquid and gases.	N
4.3.12	Flammable liquids :	No flammable liquid.	N
	Quantity of liquid (l) :		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Flash point (°C)		N
4.3.13	Radiation		P
4.3.13.1	General		P
4.3.13.2	Ionizing radiation		N
	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	The equipment does not produce UV radiation.	N
	Part, property, retention after test, flammability classification		N
4.3.13.4	Human exposure to ultraviolet (UV) radiation	The equipment does not produce UV radiation.	N
4.3.13.5	Lasers (including laser diodes) and LEDs	LEDs as backlight for LCD display screen.	P
4.3.13.5.1	Lasers (including laser diodes)	(see separate test report of IEC/EN 60825-1 / IEC/EN 60825-2)	N
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)		
4.3.13.6	Other types	The equipment does not generate other types of radiation.	N

4.4	Protection against hazardous moving parts		N
4.4.1	General	No moving parts	N
4.4.2	Protection in operator access areas		N
	Household and home/office document/media shredders	(see Annex EE)	N
4.4.3	Protection in restricted access locations		N
4.4.4	Protection in service access areas		N
4.4.5	Protection against moving fan blades		N
4.4.5.1	General		N
	Not considered to cause pain or injury. a).....		N
	Is considered to cause pain, not injury. b)		N
	Considered to cause injury. c)		N
4.4.5.2	Protection for users		N
	Use of symbol or warning		N
4.4.5.3	Protection for service persons		N
	Use of symbol or warning		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests		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	(see appended table 4.5.5)	N

4.6	Openings in enclosures		N
4.6.1	Top and side openings	No openings	N
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		N
	Construction of the bottom, dimensions (mm)		—
4.6.3	Doors or covers in fire enclosures		N
4.6.4	Openings in transportable equipment		N
4.6.4.1	Constructional design measures		N
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N
4.6.4.3	Use of metallized parts		N
4.6.5	Adhesives for constructional purposes		N
	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	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests	(see appended table 5.3)	N
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure		N
4.7.3	Materials		P
4.7.3.1	General	PCB: V-0. Enclosure: V-1	P
4.7.3.2	Materials for fire enclosures		P
4.7.3.3	Materials for components and other parts outside fire enclosures	No components outside enclosure	N
4.7.3.4	Materials for components and other parts inside fire enclosures		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.5	Materials for air filter assemblies	No air filters in the equipment.	N
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV.	N
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		N
5.1.1	General	(see appended Table 5.1)	N
5.1.2	Configuration of equipment under test (EUT)		N
5.1.2.1	Single connection to an a.c. mains supply		N
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N
5.1.3	Test circuit		N
5.1.4	Application of measuring instrument		N
5.1.5	Test procedure		N
5.1.6	Test measurements		N
	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
5.1.7.1	General.....		N
5.1.7.2	Simultaneous multiple connections to the supply		N
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N
	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) EUT with earthed telecommunication ports		N
	b) EUT whose telecommunication ports have no reference to protective earth		N
5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	N
5.3.2	Motors	(see appended Annex B)	N
5.3.3	Transformers	(see appended Annex C)	N
5.3.4	Functional insulation.....:		P
5.3.5	Electromechanical components		N
5.3.6	Audio amplifiers in ITE	See separate test report IEC/EN 60065	N
5.3.7	Simulation of faults	Without thermostats, Temperature limiters and thermal CUT-OUTS.	P
5.3.8	Unattended equipment	(See appended table 5.3)	N
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N
6.1.1	Protection from hazardous voltages		N
6.1.2	Separation of the telecommunication network from earth		N
6.1.2.1	Requirements	(see appended table 5.2)	N
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N

6.2	Protection of equipment users from overvoltages on telecommunication networks		N
6.2.1	Separation requirements		N
6.2.2	Electric strength test procedure		N
6.2.2.1	Impulse test	(see appended table 5.2)	N
6.2.2.2	Steady-state test	(see appended table 5.2)	N
6.2.2.3	Compliance criteria		N

6.3	Protection of the telecommunication wiring system from overheating		N
	Max. output current (A)		—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N
7.1	General		N
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
7.3	Protection of equipment users from overvoltages on the cable distribution system		N
7.4	Insulation between primary circuits and cable distribution systems		N
7.4.1	General		N
7.4.2	Voltage surge test	(see appended table 5.2)	N
7.4.3	Impulse test	(see appended table 5.2)	N
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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.1.1	Samples.....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C)		N
A.1.3	Mounting of samples		N
A.1.4	Test flame (see IEC 60695-11-3)		N
	Flame A, B, C or D		—
A.1.5	Test procedure		N
A.1.6	Compliance criteria		N
	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.2.1	Samples, material.....:		—
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C)		N
A.2.3	Mounting of samples		N
A.2.4	Test flame (see IEC 60695-11-4)		N
	Flame A, B or C		—
A.2.5	Test procedure		N
A.2.6	Compliance criteria		N
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N
	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.3.1	Mounting of samples		N
A.3.2	Test procedure		N
A.3.3	Compliance criterion		N
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N
B.1	General requirements		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N
B.3	Maximum temperatures	(see appended table 5.3)	N
B.4	Running overload test	(see appended table 5.3)	N
B.5	Locked-rotor overload test		N
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N
B.6.1	General		N
B.6.2	Test procedure		N
B.6.3	Alternative test procedure		N
B.6.4	Electric strength test; test voltage (V)		N
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N
B.7.1	General		N
B.7.2	Test procedure		N
B.7.3	Alternative test procedure		N
B.7.4	Electric strength test; test voltage (V)		N
B.8	Test for motors with capacitors	(see appended table 5.3)	N
B.9	Test for three-phase motors	(see appended table 5.3)	N
B.10	Test for series motors		N
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection		—
C.1	Overload test	(see appended table 5.3)	N
C.2	Insulation	(see appended tables 5.2 and C2)	N
	Protection from displacement of windings.....		N

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
D.1	Measuring instrument		N
D.2	Alternative measuring instrument		N
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		N
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N
G.1	Clearances		N
G.1.1	General		N
G.1.2	Summary of the procedure for determining minimum clearances		N
G.2	Determination of mains transient voltage (V)		N
G.2.1	AC mains supply		N
G.2.2	Earthed d.c. mains supplies		N
G.2.3	Unearthed d.c. mains supplies		N
G.2.4	Battery operation		N
G.3	Determination of telecommunication network transient voltage (V)		N
G.4	Determination of required withstand voltage (V)		N
G.4.1	Mains transients and internal repetitive peaks		N
G.4.2	Transients from telecommunication networks		N
G.4.3	Combination of transients		N
G.4.4	Transients from cable distribution systems		N
G.5	Measurement of transient voltages (V)		N
	a) Transients from a mains supply		N
	For an a.c. mains supply		N
	For a d.c. mains supply		N
	b) Transients from a telecommunication network		N
G.6	Determination of minimum clearances		N
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N
	Metal(s) used		—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N
K.1	Making and breaking capacity		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
K.2	Thermostat reliability; operating voltage (V)		N
K.3	Thermostat endurance test; operating voltage (V) ...		N
K.4	Temperature limiter endurance; operating voltage (V)		N
K.5	Thermal cut-out reliability		N
K.6	Stability of operation	(see appended table 5.3)	N

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

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N
M.1	Introduction		N
M.2	Method A		N
M.3	Method B		N
M.3.1	Ringling signal		N
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
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N
M.3.2.2	Tripping device		N
M.3.2.3	Monitoring voltage (V)		N

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
N.1	ITU-T impulse test generators		N
N.2	IEC 60065 impulse test generator		N

P	ANNEX P, NORMATIVE REFERENCES		—
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N
	a) Preferred climatic categories		N
	b) Maximum continuous voltage		N
	c) Pulse current		N
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N
R.2	Reduced clearances (see 2.10.3)		N
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N
S.1	Test equipment		N
S.2	Test procedure		N
S.3	Examples of waveforms during impulse testing		N
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N
		See separate test report	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N
		See separate test report	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N
V.1	Introduction		N
V.2	TN power distribution systems		N
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N
W.1	Touch current from electronic circuits		N
W.1.1	Floating circuits		N
W.1.2	Earthed circuits		N
W.2	Interconnection of several equipments		N
W.2.1	Isolation		N
W.2.2	Common return, isolated from earth		N
W.2.3	Common return, connected to protective earth		N
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
X.1	Determination of maximum input current		N
X.2	Overload test procedure		N
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N
Y.1	Test apparatus		N
Y.2	Mounting of test samples		N
Y.3	Carbon-arc light-exposure apparatus		N
Y.4	Xenon-arc light exposure apparatus		N
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		N
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N
CC.1	General		N
CC.2	Test program 1.....		N
CC.3	Test program 2.....		N
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N
DD.1	General		N
DD.2	Mechanical strength test, variable N.....		N
DD.3	Mechanical strength test, 250N, including end stops.....		N
DD.4	Compliance.....		N
EE	ANNEX EE, Household and home/office document/media shredders		N
EE.1	General		N
EE.2	Markings and instructions		N
	Use of markings or symbols.....		N
	Information of user instructions, maintenance and/or servicing instructions.....		N
EE.3	Inadvertent reactivation test.....		N
EE.4	Disconnection of power to hazardous moving parts:		N
	Use of markings or symbols.....		N
EE.5	Protection against hazardous moving parts		N
	Test with test finger (Figure 2A)		N
	Test with wedge probe (Figure EE1 and EE2)		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
PCB HANNST	AR BOARD CORP	Various V-0,	130°C	UL796	UL E89382
Plastic enclosure	Various Various	V-1	105°C	UL 94	UL

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I rated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
12	0.63	3	7.4	--	--	Normal

Supplementary information:

2.1.1.5	TABLE: max. V, A, VA test				N/A
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	

supplementary information: test on battery

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			N
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
--	--	--	--	
--	--	--	--	
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
--	--	--	--	
--	--	--	--	
--	--	--	--	
--	--	--	--	

supplementary information:

2.5	TABLE: limited power sources				N
Circuit output tested:					--
Measured Uoc (V) with all load circuits disconnected:					
	I _{sc} (A)		VA		
	Meas.	Limit	Meas.	Limit	
Normal condition	--	--	--	--	
Single fault:	--	--	--	--	
Single fault:	--	--	--	--	
Single fault:	--	--	--	--	
supplementary information:					
Sc=Short circuit, Oc=Open circuit					

2.10.2	Table: working voltage measurement			N
Location	RMS voltage (V)	Peak voltage (V)	Comments	
--	--	--	--	
--	--	--	--	
--	--	--	--	
supplementary information:				

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						N
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:--							
--	--	--	--	--	--	--	
--	--	--	--	--	--	--	
Basic/supplementary:							
--	--	--	--	--	--	--	
--	--	--	--	--	--	--	
Reinforced:--							
--	--	--	--	--	--	--	
--	--	--	--	--	--	--	
Supplementary information:							

2.10.5	TABLE: Distance through insulation measurements					N
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
--		--	--	--	--	--
--		--	--	--	--	--
Supplementary information:						

4.3.8	TABLE: Batteries								
The tests of 4.3.8 are applicable only when appropriate battery data is not available									N/A
Is it possible to install the battery in a reverse polarity position?									N
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--
Test results:									
- Chemical leaks									Verdict
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information:--									

4.3.8	TABLE: Batteries								N/A
Battery category									
Manufacturer									
Type / model.....									
Voltage									
Capacity.....									
Tested and Certified by (incl. Ref. No.).....									--
Circuit protection diagram:									

--

4.5	TABLE: Thermal requirements						P
Supply	voltage (V)	12V	--			--	—
	Ambient T _{min} (°C)	26.6	--			--	—
	Ambient T _{max} (°C)	27.0	--			--	—
Maximum measured temperature T of part/at::		T (°C)				Allowed T _{max} (°C)	
1. PCB near U116	45.2	63.2	--	--	--	130	
2. Battery body	34.1	52.1	--	--	--	Ref.	
4. Enclosure inside (near U116)	41.5	59.5	--	--	--	--	
5. Enclosure outside (near U116)	34.5	52.5	--	--	--	95	
6. Screen	33.1	51.1	--	--	--	95	
7. Ambient	27.0	45	--	--	--	--	
Supplementary information:--							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information:							

4.5.5	TABLE: Ball pressure test of thermoplastic parts						N
	Allowed impression diameter (mm)	≤ 2 mm				--	—
Part				Test temperature (°C)	Impression diameter (mm)		
--				--	--		
--				--	--		
Supplementary information:							

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Enclosure V	arious	Various	0.81	V-1	UL	
PCB HANNST	AR BOARD CORP	PCB	0.84	V-0	UL	

Supplementary information:

5.1	TABLE: touch current measurement	N	
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
--	--	--	--
--	--	--	--
supplementary information:--			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			N
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No	
Functional:--				
--	--	--	--	
--	--	--	--	
Basic/supplementary:--				
--	--	--	--	
--	--	--	--	
Reinforced:--				
--	--	--	--	
--	--	--	--	
Supplementary information:				

Supplementary information:

5.3		TABLE: Fault condition tests					P
		Ambient temperature (°C)				25°C	—
		Power source for EUT: Manufacturer, model/type, output rating				--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse(Yes/No)	Fuse current (A)	Observation	
1.U1 pin 1-6	S-C	12	30min.	No	--	No high temperature, no fire, no explosion, no abnormal appearance	
2. D6	S-C	12	420min.	No	--	No high temperature, no fire, no explosion, no abnormal appearance	
3. C3	S-C	12	420min.	No	--	No high temperature, no fire, no explosion, no abnormal appearance	

Photos



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5

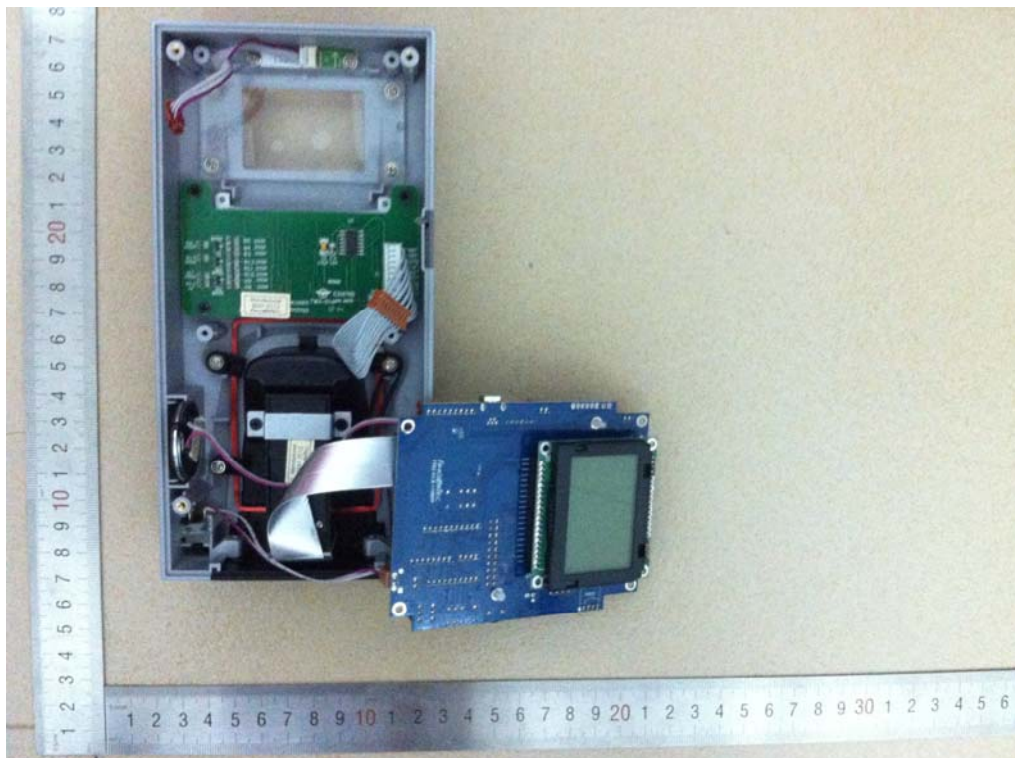


Fig. 6

==== End of Test Report ====