

VERIFICATION OF COMPLIANCE

The following mentioned Products have been tested in typical configuration by PSC and were found to comply with the essential requirements of "Council Directive on the Approximation of the Laws of the Member States to Low Voltage Directive(73/23/EEC, 93/68/EEC)"

Equipment:

Type of Product : Cable/DSL 802.11g 54Mbps Wireless Router

Model Number : TEW-431BRP

Produced by:

Manufacture's Name : TRENDware International, Inc.

Manufacture's Address : 3135 Kashiwa Street, Torrance, CA 90505
U.S.A

Applied Standards:

EN60950 : Safety of Information Technology Equipment (2000) including electrical business equipment

Manufacture or his authorized representative within EC shall affix the CE Marking to the products if he ensures the product complies with the relevant harmonized standards and draws up a declaration of conformity. The technical report issued by PSC will support you Affix the CE Marking.

Date : December 16, 2003

Report No : 03CE12L091


Venson Huang/Engineering Manager

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TEST REPORT

Standard applied : EN 60950: 2000
Safety of Information Technology Equipment including
electrical business equipment

Applicant..... TRENDware International, Inc.
Address..... 3135 Kashiwa Street, Torrance, CA 90505 U.S.A
Factory..... Same as Application
Equipment..... Cable/DSL 802.11g 54Mbps Wireless Router
Equipment mobility..... Movable
Trademark..... TRENDware
Model No. TEW-431BRP
Rating:..... Input: 12 V dc, 800 m A
 Output: --
Class of equipment..... Class III

Complied by: Eva Wu
Eva Wu

Approved by: Venson Huang
Venson Huang

Date.....: December 16, 2003

Date.....: December 16, 2003

Test Site.....: 4F-8, No.4, Lane 609, Sec.5 Chung-Hsin Rd., San Chung City,
Taipei Hsien, Taiwan, R.O.C.

Operating condition	continuous
Mains supply tolerance (%).....	12Vdc, Power Supply from DC Source.
Tested for IT power systems	N
IT testing, phase-phase voltage (V) :	N
Mass of equipment (kg).....	Approx. <u>0.3</u> kg
Protection against ingress of water .:	Ordinary
Number of pages (Report)	43
Number of pages (Attachments).....	See Attachments

Attachments:

- Appendix I – Schemetic Diagram
- Appendix II – EuT PCB Layout
- Appendix III – EuT Photographs
- Appendix IV – Others/Specifications

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 testing laboratory.

General Comment:

Brief description of the test sample:

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Cl.	Requirement - Test	Result - Remark	Verdict
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	Information/Comments		
1.6.2	Input test		P
4.1	Stability test		P
4.2.3, 4.2.4	Enclosure Push test		P
4.2.5, 4.2.1	Impact test		P
4.5.1	Heating test		P
5.3.1	Abnormal test		P
5.3.6	Overload of Operator Accessible Connector test		P

Cl.	Requirement - Test	Result - Remark	Verdict
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1	GENERAL		
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1.5	Components		P
1.5.1	Comply with IEC 950 or relevant component standard	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards. (see appended tables)	P
1.5.2	Evaluation and testing of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
	Dimensions (mm) of mains plug for direct plug-in	The equipment is not plug-in type	N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)	The equipment is not plug-in type	N
1.5.3	Thermal controls	See 1.5.2	P
1.5.4	Transformers	No high voltage components used.	N
1.5.5	Interconnecting cables	Except for the insulation material there are no further requirements to the interconnection cable.	P
1.5.6	Capacitors in primary circuits	No X-capacitor	N

Cl.	Requirement - Test	Result - Remark	Verdict
1.5.7	Double or reinforced insulation bridged by components	No component bridged reinforced or double insulation.	N
1.5.7.1	Bridging capacitors	No bridging capacitors provided.	N
1.5.7.2	Bridging resistors	No bridging resistor provided.	N
1.5.7.3	Accessible parts	No bridging capacitors and resistors provided.	N
1.5.8	Components in equipment for IT power systems	Not connected to IT power systems	N

1.6	Power interface		N
1.6.1	AC power distribution systems		
1.6.2	Input current	Power supply from DC source.	N
1.6.3	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	N
1.6.4	Neutral conductor	Only SELV supply, no connection to mains.	N

Cl.	Requirement - Test	Result - Remark	Verdict
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1.5.2	TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
1.PCB	--	--	V-0 or better min. 105°C	UL 94	UL	
2.Power Adaptor	--	--	I/P: 230 Vac 50 Hz O/P: + 12V/0.8A	EN 60950	TUV	
3. Enclosure	--	--	Metal chassis thick 0.8 mm	--	--	

¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance

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1.6.2	TABLE: Input Test					P
fuse #	I _{rated} (A)	U (Vdc)	P (W)	I (A)	I _{fuse} (A)	condition/status
--	0.8	12	8.16	0.68	--	Normal operation

Cl.	Requirement - Test	Result - Remark	Verdict
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1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V)	12 Vdc	P
	Symbol for nature of supply for d.c.	IEC60417, Symbol No. 5031, is used	P
	Rated frequency or frequency range (Hz)	DC Source	P
	Rated current (A)	0.8A	P
	Manufacturer name/Trademark	TRENDware	P
	Type/model	TEW-431BRP	P
	Symbol of Class I	Class III equipment	P
	Other symbols		N
	Certification marks	CE	P
1.7.2	Safety instructions	The users manual contains information for operation, installation, servicing, transport, storage and technical data.	P
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N
1.7.4	Supply voltage adjustment	No voltage/frequency setting.	N
1.7.5	Power outlets on the equipment	No outlet.	N
1.7.6	Fuse identification	No fuseholders used	N

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Cl.	Requirement - Test	Result - Remark	Verdict
1.7.7	Wiring terminals		N
1.7.7.1	Protective earthing and bonding terminals	Class III equipment	N
1.7.7.2	Terminal for a.c. mains supply conductors	Class III equipment	N
1.7.8	Controls and indicators	See below	P
1.7.8.1	Identification, location and marking	The marking and indication of the power switch is located on the switch so that indication of function is clear.	P
1.7.8.2	Colours	The colour is clear that safety is not involved	P
1.7.8.3	Symbols according to IEC 60417 :	No switches or controls.	N
1.7.8.4	Markings using figures :	No indicators for different positions.	N
1.7.9	Isolation of multiple power sources	Only SELV supply	N
1.7.10	IT power system	No connection to mains	N
1.7.11	Thermostats and other regulating devices	No Thermostats provided.	N
1.7.12	Language		—
1.7.13	Durability	The label was subjected to the permanence of marking test. The label was rubbed with cloth for 15 sec. and then again for 15 sec. with the cloth soaked with HEXANE. After test, the marking is readable.	P

Cl.	Requirement - Test	Result - Remark	Verdict
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1.7.14	Removable parts	Marking is not placed on removable parts.	P
1.7.15	Replaceable batteries	No replaceable batteries provided.	N
	Language		—
1.7.16	Operator access with a tool	Only SELV voltages	N
1.7.17	Equipment for restricted access locations	No restricted access location.	N

Cl.	Requirement - Test	Result - Remark	Verdict
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2	PROTECTION FROM HAZARDS		P
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2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in OPERATOR access areas	See below	N
2.1.1.1	Access to energized parts	The equipment is supplied from SELV voltage only	N
	Test by inspection		N
	Test with test finger		N
	Test with test pin		N
	Test with test probe		N
2.1.1.2	Battery compartments.....		N
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N
	Working voltage (V); distance (mm) through insulation		—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	N
2.1.1.5	Energy hazards	No energy hazard in operator access area. The connectors of the equipment only for signal i/p and o/p on a low energy level.	P
2.1.1.6	Manual controls		N
2.1.1.7	Discharge of capacitors in the primary circuit		N
	Time-constant (s); measured voltage (V).....		—

Cl.	Requirement - Test	Result - Remark	Verdict
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2.1.2	Protection in service access areas	No maintenance work in operation mode necessary.	N
2.1.3	Protection in restricted access locations	It is not intended to be used in restricted locations	N

2.2	SELV circuits		P
2.2.1	General requirements	42.4V peak or 60VDC are not exceeded in SELV circuit under normal operation or single fault condition	P
2.2.2	Voltages under normal conditions (V) :	Between any SELV circuits 42.4V peak or 60VDC are not exceeded	P
2.2.3	Voltages under fault conditions (V)..... :	Single fault did not cause excessive voltage in accessible SELV circuits.	—
2.2.3.1	Separation by double or reinforced insulation (method 1)	Supply from SELV circuits	N
2.2.3.2	Separation by earthed screen (method 2)	Supply from SELV circuits	
2.2.3.3	Protection by earthing of the SELV circuit (method 3)	Supply from SELV circuits	N
2.2.4	Connection of SELV circuits to other circuits :	See 2.2.2 and 2.2.3. No direct connection between SELV and any primary circuits	N

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2.3	TNV circuits Equipment is not considered to be connected to TNV.		N
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2.3.1	Limits		N
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N
	Insulation employed		—
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		N
2.4.2	Limit values		—
	Frequency (Hz)		—
	Measured current (mA).....		—
	Measured voltage (V)		—
	Measured capacitance (μ F).....		—
2.4.3	Limited current circuit supplied from or connected to other circuits		N

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2.5	Limited power sources		N
	Inherently limited output		N
	Impedance limited output		N
	Overcurrent protective device limited output		N
	Regulating network limited output under normal operating and single fault condition		N
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N
	Output voltage (V), output current (A), apparent power (VA)		—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		N
2.6.1	Protective earthing		N
2.6.2	Functional earthing		N
2.6.3	Protective earthing and protective bonding conductors		N
2.6.3.1	Size of protective earthing conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.2	Size of protective bonding conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Rated current (A), type and nominal thread diameter (mm).....		N
	Resistance (Ω) of earthing conductors and their terminations, test current (A)		N
2.6.3.4	Colour of insulation		N
2.6.4	Terminals		N
2.6.4.1	Protective earthing and bonding terminals		N
	Rated current (A), type and nominal thread diameter (mm).....	--	—
2.6.4.2	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

Cl.	Requirement - Test	Result - Remark	Verdict
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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		N

2.7	Overcurrent and earth fault protection in primary circuits		N
2.7.1	Basic requirements		N
	Instructions when protection relies on building installation		N
2.7.2	Faults not covered in 5.3		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

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2.8	Safety interlocks No operator accessible areas which presents hazards in the meaning of this standard, no safety interlock is provided.		N
2.8.1	General principles		N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
2.8.5	Interlocks with moving parts		N
2.8.6	Overriding an interlock		N
2.8.7	Switches and relays in interlock systems		N
2.8.7.1	Contact gaps (mm)		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test (V)	(see appended table 5.2)	N
2.8.8	Mechanical actuators		N

2.9	Electrical insulation The unit is supplied from SELV voltage only. Only SELV voltages inside the unit→ no requirement on insulation		N
2.9.1	Properties of insulating materials		N
2.9.2	Humidity conditioning		N
2.9.3	Requirements for insulation		N
2.9.4	Insulation parameters		N
2.9.5	Categories of insulation		N

Cl.	Requirement - Test	Result - Remark	Verdict
2.10	Clearances, creepage distances and distances through insulation		N
2.10.1	General		N
2.10.2	Determination of working voltage		N
2.10.3	Clearances	See below	N
2.10.3.1	General	(see appended table 2.10.3 and 2.10.3)	N
2.10.3.2	Clearances in primary circuit	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.3	Clearances in secondary circuits	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.4	Measurement of transient levels		N
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	N
	CTI tests..... :	CTI rating for all materials of min. 100.	—
2.10.5	Solid insulation		N
2.10.5.1	Minimum distance through insulation	(see appended table 2.10.5)	
2.10.5.2	Thin sheet material		N
	Number of layers (pcs) :		—
	Electric strength test	(see appended table 5.2)	—
2.10.5.3	Printed boards	No applied for	N
	Distance through insulation	(See appended table 2.10.5.1)	N
	Electric strength test for thin sheet insulating material	(see appended table 5.2)	N
	Number of layers (pcs) :		N
2.10.5.4	Wound components	(See appended table 2.10.5.1 and Annex U)	N
	Number of layers (pcs) :		N
	Two wires in contact inside component; angle between 45° and 90°		N

Cl.	Requirement - Test	Result - Remark	Verdict
2.10.6	Coated printed boards	(See appended table 2.10.5.1)	N
2.10.6.1	General	(See appended table 2.10.5.1)	N
2.10.6.2	Sample preparation and preliminary inspection	(See appended table 2.10.5.1)	N
2.10.6.3	Thermal cycling	(See appended table 2.10.5.1)	N
2.10.6.4	Thermal ageing (°C)	(See appended table 2.10.5.1)	N
2.10.6.5	Electric strength test	(See appended table 2.10.5.1)	—
2.10.6.6	Abrasion resistance test	(See appended table 2.10.5.1)	N
	Electric strength test	(see appended table 5.2)	—
2.10.7	Enclosed and sealed parts	(see appended table 5.2)	N
	Temperature $T_1=T_2 = T_{mra} - T_{amb} + 10K$ (°C).....		N
2.10.8	Spacings filled by insulating compound.....		N
	Electric strength test	(see appended table 5.2)	—
2.10.9	Component external terminations	(see appended table 2.10.3 and 2.10.4)	N
2.10.10	Insulation with varying dimensions	(see appended table 2.10.3 and 2.10.4)	N

Cl.	Requirement - Test	Result - Remark	Verdict
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3	WIRING, CONNECTIONS AND SUPPLY		P
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3.1	General		P
3.1.1	Current rating and overcurrent protection	No internal wire for primary power distribution.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges and heatsinks which could damage the insulation and cause hazard.	P
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors	The insulation of the individual conductors are suitable for the application and the working voltage. For the insulation material see 3.1.1	P
3.1.5	Beads and ceramic insulators		N
3.1.6	Screws for electrical contact pressure		N
3.1.7	Non-metallic 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

Cl.	Requirement - Test	Result - Remark	Verdict
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3.1.10	Sleeving on wiring		N
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3.2	Connection to a.c. mains supplies		N
3.2.1	Means of connection		N
3.2.2	Multiple supply connections		N
3.2.3	Permanently connected equipment		N
	Number of conductors, diameter (mm) of cable and conduits		—
3.2.4	Appliance inlets		N
3.2.5	Power supply cords		N
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
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
	D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N

Cl.	Requirement - Test	Result - Remark	Verdict
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3.3	Wiring terminals for connection of external conductors No connection to primary power		N
3.3.1	Wiring terminals		N
3.3.2	Connection of non-detachable power supply cords		N
3.3.3	Screw terminals		N
3.3.4	Rated current (A), cord/cable type, cross-sectional area (mm ²)..... :		N
3.3.5	Rated current (A), type and nominal thread diameter (mm)..... :		N
3.3.6	Wiring terminals design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N

3.4	Disconnection from the a.c. 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	Single-phase equipment		N
3.4.7	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	See below	N
3.5.2	Types of interconnection circuits :	Interconnection circuits of SELV through the output connectors. No ELV interconnection circuits.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	N

Cl.	Requirement - Test	Result - Remark	Verdict
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4	PHYSICAL REQUIREMENTS		P
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4.1	Stability		P
	Angle of 10°	This appliance is of a stable mechanical construction and does not overbalance when tilted to an angle of 10 degrees from its normal upright position	P
	Test: force (N)..... :	Equipment is not a floorstanding unit.	N
4.2	Mechanical strength As there are no hazardous voltages present in the appliance or other hazards foreseeable, the tests of there clauses were not performed but replaced by a construction review only.		N
4.2.1	General		
4.2.2	Steady force test, 10 N		
4.2.3	Steady force test, 30 N		
4.2.4	Steady force test, 250 N		
4.2.5	Impact test		
4.2.6	Drop test		N
4.2.7	Stress relief		N
4.2.8	Cathode ray tubes		N
	Picture tube separately certified	(See separate test report or attached certificate)	N
4.2.9	High pressure lamps	No high pressure lamps provided.	N
4.2.10	Wall or ceiling mounted equipment; force (N) ... :	Not wall or ceiling mounted equipment.	N

Cl.	Requirement - Test	Result - Remark	Verdict
4.3	Design and construction		P
4.3.1	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.3.2	Handles and manual controls; force (N).....:		N
4.3.3	Adjustable controls	None that would cause hazard	N
4.3.4	Securing of parts	No connection likely to be exposed to mechanical stress are provided in unit.	P
4.3.5	Connection of plugs and sockets	Only SELV connector	N
4.3.6	Direct plug-in equipment		N
	Torque (Nm).....:		—
4.3.7	Heating elements in earthed equipment	No heating elements.	N
4.3.8	Batteries		N
4.3.9	Oil and grease		N
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N
4.3.11	Containers for liquids or gases		N
4.3.12	Flammable liquids.....:	No flammable liquids presents.	N
	Quantity of liquid (l).....:		N
	Flash point (°C).....:		N
4.3.13	Radiation; type of radiation	No ionizing radiation or laser presents.	N
	Equipment using lasers	(See separate test report of IEC 60825-1)	N

Cl.	Requirement - Test	Result - Remark	Verdict
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4.4	Protection against hazardous moving parts		P
4.4.1	General	No moving part.	P
4.4.2	Protection in operator access areas	No moving part.	P
4.4.3	Protection in restricted access locations	It is not intended to be used in restricted locations	N
4.4.4	Protection in service access areas	No moving part.	P

4.5	Thermal requirements		P
4.5.1	Temperature rises		N
	Normal load condition per Annex L :	(see appended table)	N
4.5.2	Resistance to abnormal heat		N

4.6	Openings in enclosures Have openings		N
4.6.1	Top and side openings	No hazardous parts	N
	Dimensions (mm) :		—
4.6.2	Bottoms of fire enclosures	No bottom opening.	P
	Construction of the bottom..... :	(see appended table)	—
4.6.3	Doors or covers in fire enclosures	No door or cover within fire enclosure.	N
4.6.4	Openings in transportable equipment		N
4.6.5	Adhesives for constructional purposes		N
	Conditioning temperature/time..... :		—

Cl.	Requirement - Test	Result - Remark	Verdict
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4.5.1	TABLE: Heating Test		P
	test voltage (V)	12Vdc	—
	t1 (°C)	--	—
	t2 (°C)	--	—
temperature rise dT of part/at:		dT (K)	Required dT (K)
Room Ambient		24.2 °C	--
C49 body		33.9	45
U18 body		44.6	65
L14 coil		46.4	65
PCB near U10		45.4	65
U6 body		56.1	65
PCB near SH1		46.3	65
Enclosure		19.4	30

Cl.	Requirement - Test	Result - Remark	Verdict
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4.5.1	TABLE: Heating Test (continue)				N
temperature rise dT of winding:	R ₁ (W)	R ₂ (W)	dT (K)	required dT (K)	insulation class
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--

Comments:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.1 at voltages as described in 1.6.5.

With max. ambient temperature specified as 40°C, therefore, the maximum temperature rise is calculated as follows:

Components with:

- max. absolute temp. of 85°C (Electrolyte capacitor) →dTmax = (85-40)K = 45K

- max. absolute temp. of 105°C (PCB) →dTmax = (105-40)K = 65K

- max. absolute temp. of 105°C (Line choke) →dTmax = (105-40)K = 65K

- when no class of insulation is given, min. insulation class 105°C assumed.

User accessible area:

- material is metal (45K) →dTmx = 45K-(40-25)K = 30K

Cl.	Requirement - Test	Result - Remark	Verdict
4.7	Resistance to fire Electrical parts are not likely to ignite nearby materials. The source provided from SELV circuits and the interconnection cable limited the current, so the components are unlikely to be overheating under fault condition.		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes and testing in Single Fault Conditions. Temperatures see 4.5.1	P
4.7.2	Conditions for a fire enclosure	See 4.7.2.1	P
4.7.2.1	Parts requiring a fire enclosure	dto	P
4.7.2.2	Parts not requiring a fire enclosure		N
4.7.3	Materials		N
4.7.3.1	General	Integrated circuits and small electrical parts mounted on a printed wiring board min. rated V-1.	P
4.7.3.2	Materials for fire enclosures	Enclosure of this unit (movable equipment, <18Kg) with flammability class V1 or better.	P
4.7.3.3	Materials for components and other parts outside fire enclosures	Enclosure of this unit (movable equipment, <18Kg) with flammability class V1 or better.	P
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are V-2, HF-2 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filter assemblies	N
4.7.3.6	Materials used in high-voltage components	No high voltage components used.	N

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Cl.	Requirement - Test	Result - Remark	Verdict
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5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
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5.1	Touch current and protective conductor current		N
5.1.1	General		N
5.1.2	Equipment under test (EUT)		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
	Test voltage (V)		—
	Measured current (mA)		—
	Max. allowed current (mA)		—
5.1.7	Equipment with touch current exceeding 3.5 A		N
5.1.8	Touch currents to and from telecommunication networks		N
5.1.8.1	Limitation of the touch current to a telecommunication network		N
	Test voltage (V)		—
	Measured current (mA)		—
	Max. allowed current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N

5.2	Electric strength		N
5.2.1	General	(see appended table 5.2)	N
5.2.2	Test procedure	(see appended table 5.2)	N

Cl.	Requirement - Test	Result - Remark	Verdict
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5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	No foressable misuse likely to happen	N
5.3.2	Motors	(See appended Annex B)	N
5.3.3	Transformers	No safety isolation transformer	N
5.3.4	Functional insulation		N
5.3.5	Electromechanical components	No electromechanical components.	N
5.3.6	Simulation of faults	Results of the abnormal test see appended table	P
5.3.7	Unattended equipment	None of them are used.	N
5.3.8	Compliance criteria for abnormal operating and fault conditions		P

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Cl.	Requirement - Test	Result - Remark	Verdict
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5.3	TABLE: fault condition tests						P
	ambient temperature (°C)					24°C	—
	model/type of Power Supply						—
	manufacturer of Power Supply						—
	rated markings of Power Supply						—
No.	component No.	fault	test voltage (Vdc)	test time	fuse No.	fuse current (A)	result
1.	Blocked Ventilation	--	12	2.0hrs	--	--	Temperature is stable, no component damage, no hazards.
supplementary information							

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Cl.	Requirement - Test	Result - Remark	Verdict
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6	CONNECTION TO TELECOMMUNICATION NETWORKS		N
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6.1	Protection of telecommunication network service personnel, 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
	Test 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 telecommunication wiring system from overheating		N
	Max. output current (A)		—
	Current limiting method		—

Cl.	Requirement - Test	Result - Remark	Verdict
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A	ANNEX , TESTS FOR RESISTANCE TO HEAT AND FIRE		N
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 g, and of stationary equipment (see 4.7.3.2)		N
A.1.1	Samples, material		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N
A.1.3	Mounting of samples		N
A.1.4	Test flame		N
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.2.6	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 60695-2-2, cl. 4, 8		N
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.3	High current arcing ignition test (see 4.7.3.2)		N
A.3.1	Samples, material		—
	Wall thickness (mm)		—

Cl.	Requirement - Test	Result - Remark	Verdict
A.3.5	Compliance criteria		N
	Sample 1 number of arcs to ignition (pcs)..... :		—
	Sample 2 number of arcs to ignition (pcs)..... :		—
	Sample 3 number of arcs to ignition (pcs)..... :		—
	Sample 4 number of arcs to ignition (pcs)..... :		—
	Sample 5 number of arcs to ignition (pcs)..... :		—
A.4	Hot wire ignition test (see 4.7.3.2)		N
A.4.1	Samples, material		—
	Wall thickness (mm)		—
A.4.5	Compliance criteria		N
	Sample 1 ignition time (s)		—
	Sample 2 ignition time (s)		—
	Sample 3 ignition time (s)		—
	Sample 4 ignition time (s)		—
	Sample 5 ignition time (s)		—
A.5	Hot flaming oil test (see 4.6.2)		N
A.6	Flammability tests for classifying materials V-0, V-1 or V-2		N
A.6.1	Samples, material		—
	Wall thickness (mm)		—
A.6.5	Compliance criteria		N
A.6.6	Permitted retest		N
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HFB		N
A.7.1	Sample, material.....		—
	Wall thickness (mm)		—
A.7.4	Compliance criteria		N
A.7.5	Compliance criteria, HF-2		N
A.7.6	Compliance criteria, HF-1		N
A.7.7	Compliance criteria, HBF		N
A.7.8	Permitted retest, HF-1 or HF-2		N
A.7.9	Permitted retest, HBF		N
A.8	Flammability test for classifying materials HB		N
A.8.1	Samples, material		—
	Sample thickness (mm)		—

Cl.	Requirement - Test	Result - Remark	Verdict
A.8.2	Conditioning of samples; temperature (°C) :		N
A.8.4	Test procedure		N
A.8.5	Compliance criteria		N
A.8.6	Permitted retest		N
A.9	Flammability test for classifying materials 5V		N
A.9.1	Samples, material :		—
	Sample thickness (mm) :		—
A.9.4	Test procedure, test bars		N
A.9.5	Test procedure, test plaques		N
A.9.6	Compliance criteria		N
A.9.7	Permitted retest		N
A.10	Stress relief conditioning (see 4.2.7)		N
	Temperature (°C)..... :	7h at 70°C	—

Cl.	Requirement - Test	Result - Remark	Verdict
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B	ANNEX , MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2) There is no secondary motor provided.		N
B.1	General requirements		N
	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 DC motors in secondary circuits		N
B.7	Locked-rotor overload test for DC motors in secondary circuits		N
B.7.1	Test procedure	(see appended table 5.3)	N
B.7.2	Alternative test procedure; test time (h).....		N
B.7.3	Electric strength test	(see appended table 5.2)	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)		—

Cl.	Requirement - Test	Result - Remark	Verdict
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C	ANNEX , TRANSFORMERS (see 1.5.4 and 5.3.3)		N
	Position	(see appended table 1.5.1)	—
	Manufacturer	(see appended table 1.5.1)	—
	Type	(see appended table 1.5.1)	—
	Rated values	(see appended table 1.5.1)	—
	Temperatures	(see appended table 5.1)	N
	Thermal cut-out		N
C.1	Overload test	see 5.4.3	N
	Conventional transformer		N
C.2	Insulation		N
	Precautions	(see transformer construction check next page)	N
	Retaining of end turns of all windings	dto.	N
	Earthing test at 25	dto.	N
C.3	Electric strength test	(see appended table 5.3)	N

Cl.	Requirement - Test	Result - Remark	Verdict
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G	ANNEX , ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N
G.1	Summary of the procedure for determining minimum clearances		N
G.2	Determination of mains transient voltage (V) :		N
G.3	Determination of telecommunication network transient voltage (V)..... :		N
G.4	Determination of required withstand voltage (V) :		N
G.5	Measurement of transient levels (V)..... :		N
G.6	Determination of minimum clearances :		N

H	ANNEX , IONIZING RADIATION (see 4.3.13)		N
	Ionizing radiation		N
	Measured radiation (mR/h) :		—
	Measured high-voltage (kV) :		—
	Measured focus voltage (kV) :		—
	CRT markings :		—

J	ANNEX , TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal used :		—

K	ANNEX , THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N
K.1	Making and breaking capacity		N
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

Cl.	Requirement - Test	Result - Remark	Verdict
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M	ANNEX , CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N
M.2	Method A		N
M.3	Method B		N
M.3.1	Ringling signal		N
M.3.1.1	Frequency (f)..... :		—
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

U	ANNEX , INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N
	Separate test report		N

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Appendix I - Schemetic Diagram

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Appendix II - EuT PCB Layout

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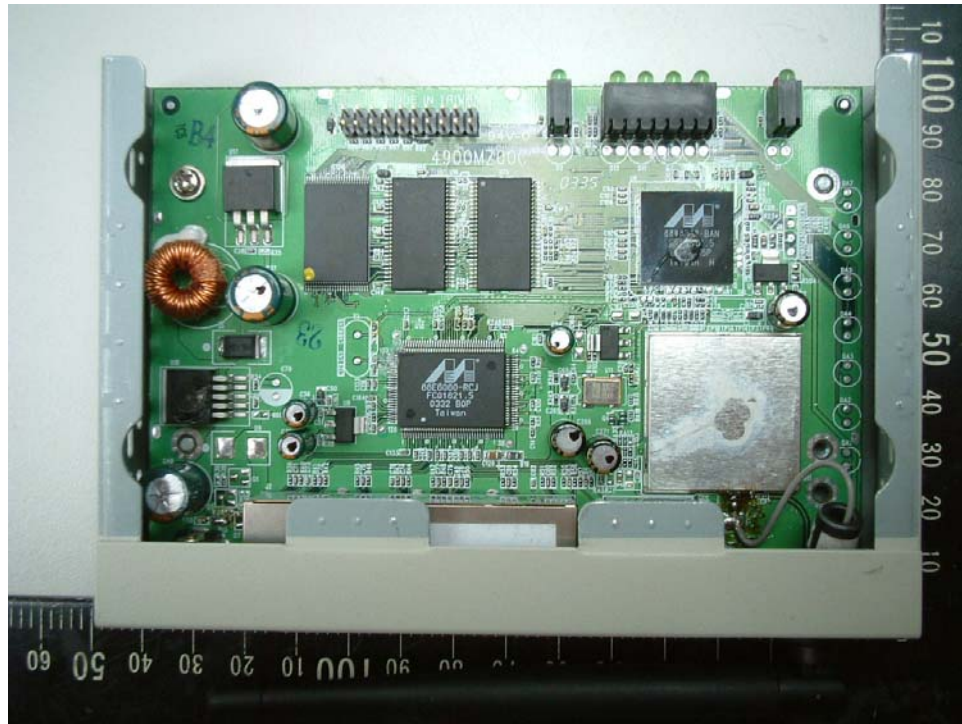
Appendix III - EuT Photographs

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Appendix III - EuT Photographs

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Appendix IV – Others/Specifications