

TRENDware International Inc. LVD REPORT

Applicant : TRENDware International Inc.

Model No : TEW-230APB

Report No: C51LV287



No. 3, Alley 5, Lane 217, Chung Hsiao E. Rd., Sec 3
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Lily Technology Co., Ltd.

Report No	C51LV287
Applicant	TRENDware International Inc. 3135 Kashiwa Street Torrance, CA 90505, USA.
Test item	Low Voltage Directive
Items tested	802.11b 11Mbps Wireless Access Point
Model No.	TEW-230APB
Sample No.	# C51287
Rating	TNV and SELV
Sample received date	11/07/2003
Specifications	EN60950, 2000 / IEC 60950, 3 rd Ed, 1999
Results	As detailed within this report
Prepared by	<u>Flora Shih</u> project engineer
Authorized by	<u>Tony Chen</u> Laboratory Manager
Issue date	Nov. / 17 / 2003 (month / day / year)
Modifications	None
Tested by	Lily Technology Co., Ltd.
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Trade Name	Model Name
TRENDware	TEW-230AP
TRENDware	TEW-230APB

SAFETY TEST RESULTS

The results appear in the following order:

EN60950, 2000 / IEC 60950, 3rd Ed, 1999

Safety of information technology equipment –

The results contained herein apply only to the particular samples tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by Lily Technology Co., Ltd. of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of the Director, Lily Technology Co., Ltd. who reserves the absolute right to agree or reject all or any of the details of any items of publicity for which consent may be sought.

Test Report EN 60950, 2000 / IEC 60950, 3rd Ed, 1999

Equipment mobility.: Movable
Operating condition.: Continuous
Tested for IT power systems.: No
IT testing, phase-phase voltage (V).: N/A
Class of equipment.: Class III
Mass of equipment (kg).: <18kg
Protection against ingress of water.: N/A
Possible test case verdicts: - test case does not apply to the test object.: N - test object does meet the requirement.: P - test object does not meet the requirements.: F
General remarks “(see appended table)” refers to a table appended the report. Throughout this report a point is used as the decimal separator. 1. Safety Strategy - The equipment is powered from SELV by an UL certified AC/DC Adaptor. 2. Testing Environment: All testing was conducted at: - An ambient temperature in the range 25 °C to 35 °C. - A relative humidity in the range 25% to 75% - An air pressure in the range 86KPa to 106Kpa

RESULTS

Report No. : C51LV287

Test date : 11/07/2003, Lily Technology Co., Ltd., TEL : 886-2-8773-6799, Fax : 886-2-8773-6794

Clause	Requirement – Test	Result - Remark	Verdict
1.	GENERAL		
1.1	SCOPE		
1.1.1	Equipment covered by this standard.	The product is within the scope of IEC 60950	--
1.1.2	Additional requirements:		
	Exposure to extreme temperatures, excessive dust, moisture or vibration; to flammable gases; to corrosive or explosive atmospheres.	This equipment is not intended to operate in a “ normal” environment. (Offices and homes).	--
	Electro medical equipment connected to the patient.	This equipment is not an electromedical equipment intended to be physically connected to a patient.	--
	Equipment used in vehicles, ships or aircrafts, in tropical countries, or at elevations > 2000m.	This equipment is intended to operate in a “normal ” environment. (Office and homes)	--
	Equipment intended for use where ingress of water is possible.	This equipment is intended to be used in applications where ingress of water is not regarded possible. The equipment is non- protected according to IEC 60529	--
	IP-classification (IEC 60529) (IP)	IP X0.	--
1.2.2	OPERATING CONDITIONS		
1.2.2.1	Normal load as described in Annex L or as close as possible to the most severe normal use.	The unit is running to communicate and transmit data.	--
1.2.2.2	Rated operating time as assigned by the Manufacturer.	The manufacturer has not declared a rated operating time.	--
1.2.2.3	-1.2.2.5 Continuous operation / Shot-time operation / Inter mitten operation.	The equipment is regarded to be for continuous operation.	--

Clause	Requirement – Test	Result - Remark	Verdict
1.5.	COMPONENTS		
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 IEC component standards. (see appended tables)	P
1.5.2	Evaluation and testing 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 equipment	Not direct plug-in equipment.	N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)		--
1.5.3	Thermal controls		N
1.5.4	Transformers	Transformers used are suitable for their intended application and comply with the relevant requirements of the standard.	N
1.5.5	Interconnecting cables	No interconnection cables.	N
1.5.6	Capacitors in primary circuits	No X-capacitor.	N
1.5.7.1	-1.5.7.3 Double or reinforced insulation bridged by components.		N
1.5.8	Components in equipment for IT power system		N
1.6.	POWER INTERFACE	Class III equipment	N
1.6.1	AC power distribution systems		N

Clause	Requirement – Test	Result - Remark	Verdict
1.6.2	Input current		N
	Test voltage (at each rated voltage or at each end of a rated voltage range)		--
	Measured current		--
	Deviation		--
1.6.3	Voltage limit of hand – held equipments (max. 250V)		N
1.6.4	Neutral conductor		N

1.7.	MARKING AND INSTRUCTIONS		P
1.7.1	Power rating	The equipment marking is located on outside surface of the equipment.	P
	Rated voltage (s) or voltage range(s)	5VDC	--
	Symbol of nature of supply for d.c.		--
	Rated frequency or frequency range		--
	Rated current (A)		--
	Manufacturer		--
	Trademark		--
	Type/model	TEW-230APB	--
	Symbol of Class II	Class III	--
	Certification marks	CE mark	--
1.7.2	Safety instructions	The user's manual contains information for operation, installation, servicing, transport, storage and technical data. Continuous operation.	P

Clause	Requirement – Test	Result - Remark	Verdict
1.7.3	Short duty cycles		N
1.7.4	Supply voltage adjustment	Class III equipment.	N
1.7.5	Power outlets on the equipment	Class III equipment.	N
1.7.6	Fuse identification	No primary fuse.	N
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 ac. mains supply conductors	Class III equipment	N
1.7.8	Controls and indicators		N
1.7.8.1	Identification, location and marking		N
1.7.8.2	Colours	For functional indication LED lights when the equipment is operating.	P
1.7.8.3	Symbols	There are no mains switches in the equipment.	N
1.7.8.4	Markings using figures	No indicators for different positions.	N
1.7.9	Isolation of multiple power sources		N
1.7.10	IT power system		N
1.7.11	Thermostats and other regulating devices		N
1.7.12	Language	User's manual and marking were provided in English Versions in other language will be provided when the equipment will be applied for other national certificated.	P
	Language	English	--
1.7.13	Durability	The marking withstands required tests.	N
1.7.14	Removable parts		N
1.7.15	Replaceable batteries	No lithium batteries	N
1.7.16	Operator access with a tool	No operator access area with tool.	N
1.7.17	Equipment for restricted access location	Equipment not intended for installation in RAL.	N

Clause	Requirement – Test	Result - Remark	Verdict
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2..	PROTECTION FORM HAZARDS		P
2.1.	PROTECTION AGAINST ELECTRIC SHOCK AND ENERGY HAZARDS		P
2.1.1	Protection in operator access areas		N
2.1.1.1	Access to energized parts	Class III equipment.	N
2.1.1.2	Battery compartments		N
2.1.1.3	Access to ELV wiring		N
2.1.1.4	Access to hazardous voltage circuit wiring		N
2.1.1.5	Energy hazards	Class III equipment.	N
2.1.1.6	Manual controls		N
2.1.1.7	Discharge of capacitors in the primary circuit		N
	Time-constant (s)		
2.1.2	Protection in service access areas		N
2.1.3	Protection in restricted access locations		N

2.2.	SELV CIRCUITS		N
2.2.1	General requirement	SELV limits are not exceeded under normal condition and after a single fault.	P
2.2.2	Voltage under normal conditions	Within SELV limits	P
2.2.3	Voltage under fault condition	Moreover a limit of 71 V peak, or 120 V dc. shall not be exceeded.	P
2.2.3.1	-2.2.3.3 Method used for separation	Class III equipment.	N
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other SELV circuits.	P

Clause	Requirement – Test	Result - Remark	Verdict
2.3	TNV CIRCUITS		--
2.3.1	Limits		N
	Type of TNV circuits	No TNV circuits.	N
2.3.2	Separation from other circuits and from accessible parts	Class III equipment.	N
2.3.3	Separation from hazardous voltage	No hazardous voltage.	N
2.3.4	Connection of TNV circuits to other circuits	No TNV circuits.	N
2.3.5	Test for operating voltage generated externally	Test is conducted.	N
2.4.	LIMITED CURRENT CIRCUIT:	2.4.1-2.4.3;No limited current circuits.	N
2.5	LIMITED POWER SOURCE	No Limited power source.	N
2.6.	PROVISIONS FOR EARTHING AND BONDING	2.6.1-2.6.5.8; Class III equipment.	N
2.7.	OVERCURRENT AND EARTH FAULT PROTECTION IN PRIMARY CIRCUITS	Class III equipment	N
2.8.	SAFETY INTERLOCKS	2.8.1-2.8.8; No safety interlocks.	N
2.9	ELECTRICAL INSULATION		
2.9.1	Properties of insulating materials	The insulating materials are inside the approved transformer. No driving belts or couplings used.	N
2.9.2	Humidity conditioning	Humidity treatment performed at 25 °C for 48hrs at 91-95%	N
2.9.3	Requirements for insulation	Please refer to 4.5.1, 5.2 and 2.10	P

Clause	Requirement – Test	Result - Remark	Verdict
2.9.4	Insulation parameters	Application complies with sub-clauses 4.5.1, 5.2 and 2.10	P
2.9.5	Categories of insulation	Insulation is consider to be supplementary insulation.	P

2.10	CLEARANCES, CREEPAGE DISTANCES AND DISTANCE THOUGH INSULATION		
	Normal voltage	120V	--
	Pollution degree	Gr. II	--
	CTI rating	PCB:> 100, Other parts :>100	--
2.10.1	General	Considered. see the following clauses:	--
2.10.2	Determination of working voltages		P
2.10.3	Clearances	See table 2.10	P
2.10.3.1	General	Refer below:	--
	10mm air gap between hazardous voltage and accessible conductive parts of enclosure.		N
	2mm air gap between hazardous voltage and earthed accessible conductive parts of enclosure.		N
2.10.3.2	Clearances in primary circuits	Not applicable.	N
2.10.3.3	Clearances in secondary circuits	See table 2.10	P
2.10.3.4	Measurement of transient levels	Measurement not relevant	P
2.10.4	Creepage distances	Considered	P
2.10.5	Solid insulation	Refer below:	--
2.10.5.1	Minimum distances through insulation	Considered when transformer approval.	P
2.10.5.2	Thin sheet material	Thin sheet insulation used in approval transformer.	N
2.10.5.3	Printed boards	PCB does not serve as insulation barrier.	N

Clause	Requirement – Test	Result - Remark	Verdict
2.10.5.4	Wound components	No wound components without interleaved insulation.	N
	Two wires in contact inside component	No wound components used.	--
2.10.6	Coated printed boards	No special coating in order to reduce distances.	N
2.10.6.1	General		
2.10.6.2	Sample preparation and preliminary inspection		--
2.10.6.3	Thermal cycling		--
2.10.6.4	Thermal ageing		--
2.10.6.5	Electric strength test		--
2.10.6.6	Abrasion resistance test		--
2.10.7	Enclose and sealed parts	No enclosed hermetically sealed components.	N
2.10.8	Spacing filled by insulating compound		N
2.10.9	Components external terminations		P
2.10.10	Insulation with varying dimensions	No such transformer used.	N

3..	WIRING, CONNECTIONS AND SUPPLY		
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3.1.	GENERAL		
3.1.1	Current rating and overcurrent protection	No internal wiring/ interconnection cables.	N
3.1.2	Protection against mechanical damage	No internal wiring.	N
3.1.3	Securing of internal wiring	No internal wiring.	N

Clause	Requirement – Test	Result - Remark	Verdict
3.1.4	Insulation of conductors	No internal wiring.	N
3.1.5	Beads and ceramic insulators	Not used.	N
3.1.6	Screws for electrical contact pressure	No electric screw connection.	N
3.1.7	Non-metallic materials in electrical connections	No contact pressure through insulation material.	N
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections.	N
3.1.9	Termination of conductors	Termination can not become displaced so that clearances and creepage distances can be reduced.	P
	10 N force test		P
3.1.10	Sleeving on wiring	No internal wiring.	N
3.2.	CONNECTION TO A.C. MAINS SUPPLIES	Class III equipment. No direct connection to mains.	N
3.3.	WIRING TERMINALS FOR CONNECTION OF EXTERNAL CONDUCTORS	3.3.1-3.3.8; Class III equipment. No direct connection to mains.	N
3.4.	DISCONNECTION FROM THE A.C. MAINS SUPPLY	Class III equipment. No direct connection to mains.	N
3.5	INTERCONNECTION OF EQUIPMENT		
3.5.1	General requirements	See below	--
3.5.2	Type of interconnection circuits	No TNV circuit.	--
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection	N

Clause	Requirement – Test	Result - Remark	Verdict
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4..	PHYSICAL REOUIAEMENTS		
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4.1.	Stability	Refer below:	--
	Angle of 10°	Unit does not overbalance at 10°	P
	Test: force (20%of the weight of the unit, max. 250N)	Not floor standing.	N
	Test: force (800N)	Not floor standing.	N

4.2.	MECHANICAL STRENGTH		P
4.2.2	Steady force test, 10 N	No hazard, ref. Comment in table 2.10.	P
4.2.3	Internal enclosures 30N 3 ; 5	No internal enclosure.	N
4.2.4	External enclosures 250N 10 ; 5	No hazard. The test is performed at 250N.	P
4.2.5	Impact test	Refer below:	N
	Fall test	No hazard as result form the steel sphere fall test.	N
	Swing test	No hazard as result form the steel sphere swing test.	N
4.2.6	Drop test	Drop test not applicable.	N
4.2.7	Stress relief	Test is carried out at 70 °C / 7h. No risk of shrink age or distortion on enclosures due to release of internal stresses.	P
4.2.8	Cathode ray tubes	CRT is not used in the equipment.	N
4.2.9	High pressure lamps	No high pressure lamps in the equipment.	N
4.2.10	Well or ceiling mounted equipment	Not intended to be mounted on a wall or ceiling.	N

4.3.	DESIGN AND CONSTRUCTION		
4 3 1	Edges and corners	All edges and corners are rounded and/or smoothed.	P
4.3.2	Handles and manual controls	No knobs, grips, handles, lever etc.	N
4.3.3	Adjustable controls	No hazardous adjustable controls.	N

Clause	Requirement – Test	Result - Remark	Verdict
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances is likely to occur.	P
4.3.5	Connection of plugs and sockets	SELV and TNV connectors do not comply with IEC 60320 or IEC 60083.	P
4.3.6	Direct plug-in equipment	Not intended to plug directly into a wall socket-outlet.	N
	Torque (Nm)	Nm	
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N
4.3.8	Batteries	No lithium batteries.	N
4.3.9	Oil and grease	Insulation not in contact with oil or grease.	N
4.3.10	Dust, powders, liquids or gases	The equipment does not generate ionising radiation or use a laser, and does not contain flammable liquids or gases.	N
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	N
4.3.12	Flammable liquids.	The equipment does not contain flammable liquid.	N
	Quantity of liquid	L	
	Flash point	°C	
4.3.13	Radiation	Diffusion LED only.	N

4.4	PROTECTION AGAINST HAZARDOUS MOVING PARTS		
4.4.1	General	Adequate protection against risk of personal injury.	P
4.4.2	Protection in operator access areas	No moving parts.	N
4.4.3	Protection in restricted access areas location.	Not intended for installation in RAL.	N
4.4.4	Protection in service access areas	Unintentional contact is not likely in service access areas.	P

Clause	Requirement – Test	Result - Remark	Verdict
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4.5	THERMAL REQUIREMENTS		
4.5.1	Temper rises	(see appended table)	N
4.5.2	Resistance to abnormal heat		N

4.6	OPENING IN ENCLOSURE		
4.6.1	Top and side openings	Refer below:	
	Top openings	Openings in top are not located above bare parts at hazardous voltage.	P
	Dimensions (mm)		--
	Front, side and rear openings	No front, side or rear openings.	--
	Dimensions (mm)		--
4. 6.2	Bottom of fire enclosures	Protection against emission of flame, molten metal, flaming or glowing particles or drops by the fire enclosure with no bottom opening.	P
4.6.3	Doors and covers in fire enclosure	No door or cover.	N
4.6.4	Opening in transportable equipment		N
4.6.5	Adhesives for constructional purposes	No barrier secured by adhesive inside enclosure.	N
	Conditioning temperature/time	°C /week(s).	--

4.7.	RESISTANCE TO FIRE		
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 is used.	N
4.7.2	Condition for a fire enclosure	Refer below:	P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure is required to cover all parts.	P
4.7.2.2	Parts not requiring a fire enclosure	The fire enclosure is required to cover all parts.	N
4.7.3	Materials	Components and materials have adequate flammability classification, Refer to “List of Critical Components”.	N
4.7.3.1	General	Considered.	P
4.7.3.2	Materials for fire enclosure	Plastic enclosure rating 94HB or better.	N

Clause	Requirement – Test	Result - Remark	Verdict
4.7.3.3	Material for components and other parts outside fire enclosure	No parts outside the fire enclosure.	N
4.7.3.4	Materials for components and other parts inside fire enclosure	Other materials inside fire enclosure are minimum 94V-2 material.	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 used high-voltage components.	N

5.	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		
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5.1	Touch current and simulated abnormal conductions	Class III equipment.	N
5.1.1	General	No applicable.	N
5.1.2	Equipment under test (EUT)		N
5.1.3	Test circuit	Tested for connection to IT power distribution system. (also relevant for TN or TT power distribution system)	--
5.1.4	Application of measuring instrument		N
5.1.5	Test procedure		N
5.1.6	Test measurements		N
	Test voltage		--
	Measured current	mA	--
	Max. allowed current	mA	--
5.1.7	Equipment with earth leakage current exceeding 3.5 A		N
5.1.8	Touch currents to and from telecommunication network.		N

Clause	Requirement – Test	Result - Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network	None of the values measured shall exceed 0.25 mA r.m.s	N
	Test voltage		--
	Measured current		--
	Max. allowed current	≤ 0.25 mA	--
5.1.8.2	Summation of touch currents form telecommunication networks		N
5.2.	ELECTRIC STRENGTH		
5.2.1	-5.2.2 General. Test procedure		N
5.3.	ABNORMAL OPERATING AND FAULT CONDITIONS		N
5.3.1	Protection against overload and abnormal operation		N
5.3.2	Motors	No motors.	N
5.3.3	Transformers		N
5.3.4	Functional insulation	Refer to 5.3.8	N
5.3.5	Electromechanical components	Refer to 5.3.8	N
5.3.6	Simulation of faults	See the enclosure fault condition tests.	N
5.3.7	Unattended equipment		N
5.3.8	Compliance criteria for abnormal operating and fault conditions	Refer below:	--
5.3.8.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.8.2	After the tests	No reduction of clearance and creepage distances, Electric strength test is made on basic and supplementary insulation.	P

Clause	Requirement – Test	Result - Remark	Verdict
6.	CONNECTION TO TELECOMMUNICATION NETWORKS		--
6.1.	PROTECTION OF TELECOMMUNICATION NETWORK SERVICE PERSONNEL, AND USERS OF OTHER EQUIPMENT CONNECTED TO THE NETWORK, FROM HAZARDS IN THE EQUIPMENT.		
6.1.1	Protection from hazardous voltages		N
6.1.2	Separation of the telecommunication network from earth	Refer below:	--
6.1.2.1	Requirements	There are no connections to protective earth.	N
	Test voltage	V	--
	Current in the test circuit	mA	--
6.1.2.2	Exclusions	No exclusions are applicable.	N
6.2	PROTECTION OF THE EQUIPMENT USERS FROM VOLTAGES ON THE TELECOMMUNICATION NETWORKS.		
6.2.1	Separation requirement		N
6.2.2	Electric strength test procedure	6.2.2.2 applied.	N
6.2.2.1	Impulse test		N
6.2.2.2	Steady-state test		N

Clause	Requirement – Test	Result - Remark	Verdict
6.2.2.3	Compliance criteria	No breakdown of insulation during above tests.	N
6.3.	PROTECTION OF TELECOMMUNICATION WIRING SYSTEM FROM OVERHEATING		N
	Maximum output current	A	--
	Current limiting method		--

Clause	Requirement - Test	Result – Remark	Verdict
Annex A	TESTS FOR RESISTANCE TO HEAT ND FIRE	All materials have suitable flame class, no testing required.	N
A.1	Flammability test for fire enclosures of moveable equipment having a total mass exceeding 18kg, and of stationary equipment.		N
A.2	Flammability test for fire enclosures of moveable equipment having a total mass not exceeding 18kg, and for materials located within fire enclosure.		N
A	Tested material		N
	Mounting of samples during test,;		--
	Wall thickness		--
	Sample 1 burning time		N
	Sample 2 burning time		N
	Sample 3 burning time		N
	Material: compliance with the requirements		N
	Manufacturer of tested material		--
	Type of tested material		--
	Additional information		--

Clause	Requirement - Test	Result – Remark	Verdict
Annex B	MOTOR TESTS UNDER ABNORMAL CONDITIONS	No motors in the equipment.	N
	Position		--
	Manufacturer		--
	Type		--
	Rated voltage (V) or current (A)		--
B.2	Max. Temperatures		N
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days)		--
	Electric strength test: test voltage (V)		--
B.6	Running overload test for DC motor in secondary circuits		N
B.7	Locked-rotor overload test for DC motor in secondary circuits		N
B.7.2	Alternative test procedure; test time (h)		N
B.7.3	Electric strength test		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motor		N
B.10	Test for series motors operating voltage (V)		N

Clause	Requirement - Test	Result – Remark	Verdict
Annex C	TRANSFORMERS		N
	Position		--
	Manufacturer		
	Type		--
	Rated values		--
	Method of protection		N
C.1	Overload test	Approved transformer used.	N
	Linear transformer		--
	Ferro-resonant transformer		--
	Transform for switch mode power supply		--
	Type of thermal cut-out		--
C.2	Insulation	The insulation fulfil the requirements in 2.10 and relevant tests of 5.2.2	N
	Precautions taken	See the attached specification for the transformer.	N
	Retaining of end turns of all windings	Secured to the soldering pins with wrapping.	N
	Earthed screen for protective purposes	No earthed screen for protective purposes.	N

APPENDED TABLES

1.5		List of critical components			P
Object/part No	Manufacturer/ Trademark	Type / model	Technical Data	Mark(s) of Conformity	
Plastic enclosure	Applicant's Spec.	---	94V-HB or better	UL R/C	
AC/DC Adaptor	Applicant's Spec.	RH41-0501200DG	I/P: 230VAC 50Hz O/P: 5VDC 1.2A	TUV/ CE	
Alternate AC/DC Adaptor	Applicant's Spec.	RH41-0501200DU	I/P: 120VAC 60Hz O/P: 5.0 VDC 1200mA	CE / UL	
Switch power supply	DVE	DSA-0151A05A (U)	I/P: 200-240VAC 50-60Hz O/P: 5VDC 2.4A	TUV/ CE	
Alternate Switch power supply	DVE	DSA-0151A05A	I/P: 100-120VAC 50/60Hz O/P: 5VDC 2.4A	CE / UL	
Main PCB	Recognized	---	94V-0	UL R/C	

1.6		Input Test			P
Operating Condition	Input Condition	Input Current (A)		Average Power Watts	
	Volts	Rated	Measured		
Max. Normal Load	5	1.2	0.535	2.99	

4.5		Temperature measurements		P
		Test voltage (V).	5 VDC	-
		t1 (°C).		-
Temperature rise dT of part/at:		TEST POINT	Dt (K)	Required dT (K)
T1 body		CH01	16.6	60
U7 body		CH02	37.9	60
U10 body		CH03	29.0	60
U9 body		CH04	24.0	60
U2 body		CH05	22.9	60
CE2 body		CH06	28.4	60
RF module		CH07	18.2	60
Outside enclosure near U7		CH08	10.0	60
Ambient		CH09	25.2	/

4.7		Resistance to Fire		P
Item	UL Recognized		Declared Rating	
PCB			V-0	

APPENDIX –TEST INSTRUMENTS

Inst. ID	Instrument No.	Range Used	Instruments Type
LTC01	THS-ML1	Temperature : 70 °C R. Humidity :. 60%	Temperature Humidity Chambers
LTC02	GPI-615	Cutoff Current:10mA: Voltage:1500VAC	Withstand Voltage Tester
LTC03	GDM-8039	VAC	Digital Multimeter
LTC04	HP OSCILLO SCOPE	DC/AC 0-500 V	54600A
LTC05	CHITAI 2402A	Auto	Digital Power Meter (DC/AC)
LTC06	CHENHWA DC Electronic Load	60V/60A	2600
LTC07	IMADA FB-50	50 KG Resolution: 0.5N	Portable Force Indicator
LTC08	N/A	Ball Impact Test H.: 1.30 m	Steel Sphere
LTC09	OVEN	50-300	Thermal Oven
LTC10	YOKOGAWA HR1300	CH1-CH20	HYBRID Recorder
LTC11	ED&D LT-952HC	20 Ma, 2 mA	Leakage Current Tester
LTC12	GW GFG-813	100 Hz – 10 KHz	13 MHz Function Generator
LTC13	APC AFC-3KB	90V-260V 47-63Hz, 3KVA	AC Power Source
LTC14	GDM 8055	200 Ma (DC A)	Digital Multimeter
LTC15	GDM 8055	20 VAC	Digital Multimeter
LTC16	B&K 4155	12.5 mV/Pa	Microphone
LTC17	B&K ZC0020	Gain: 0dB	Pre-Amplifier
LTC18	B&K TYPE 2230	70-140 dBspl	Precision Sound Level Meter
LTC19	1036-AF	ANSI S3.7-1973	Acoustic Coupling
LTC20	TRC 1102	Press T1 V1	Surge Testor
LTC21	OTS	All	Overvoltage Test Simulator
LTC22	GDM-8039	VAC	Digital Multimeter
LTC23	Lufkin 5m/16'	1 Meter 1.3 Meter	Roll Ruler
LTC24	GW GCT-630	Ohm.& A.	Ground Continuty Tester

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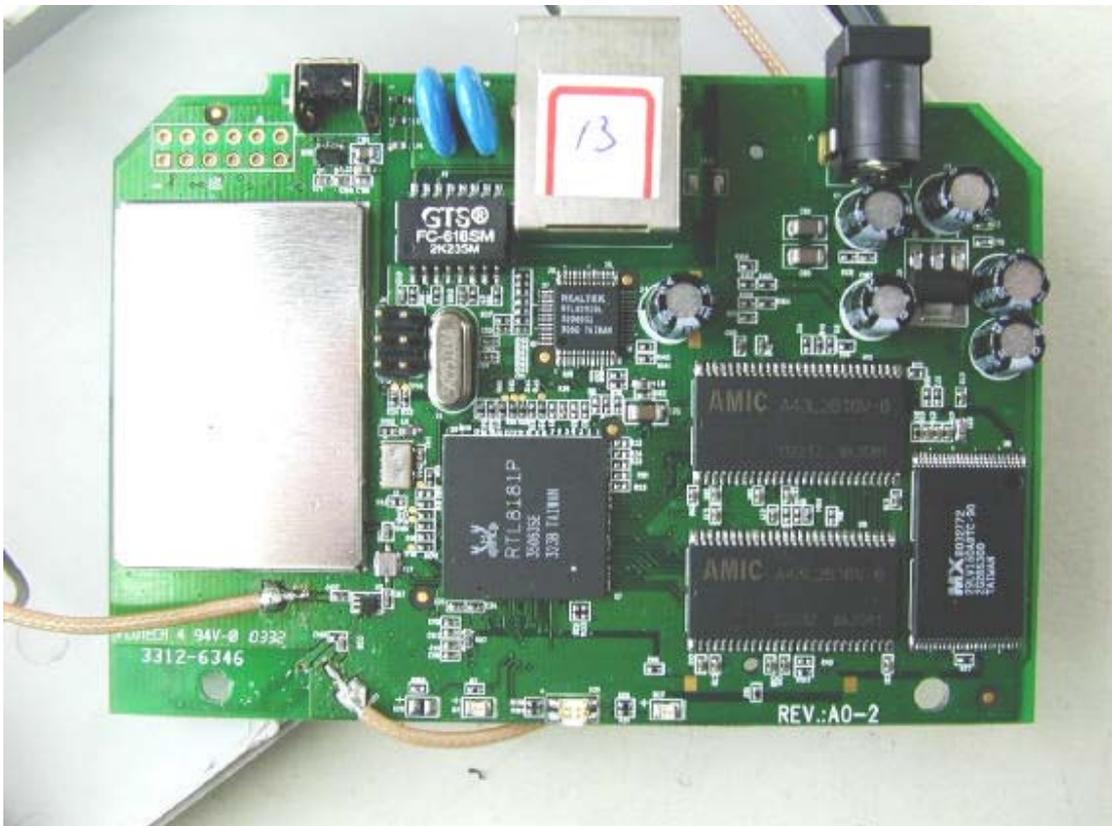
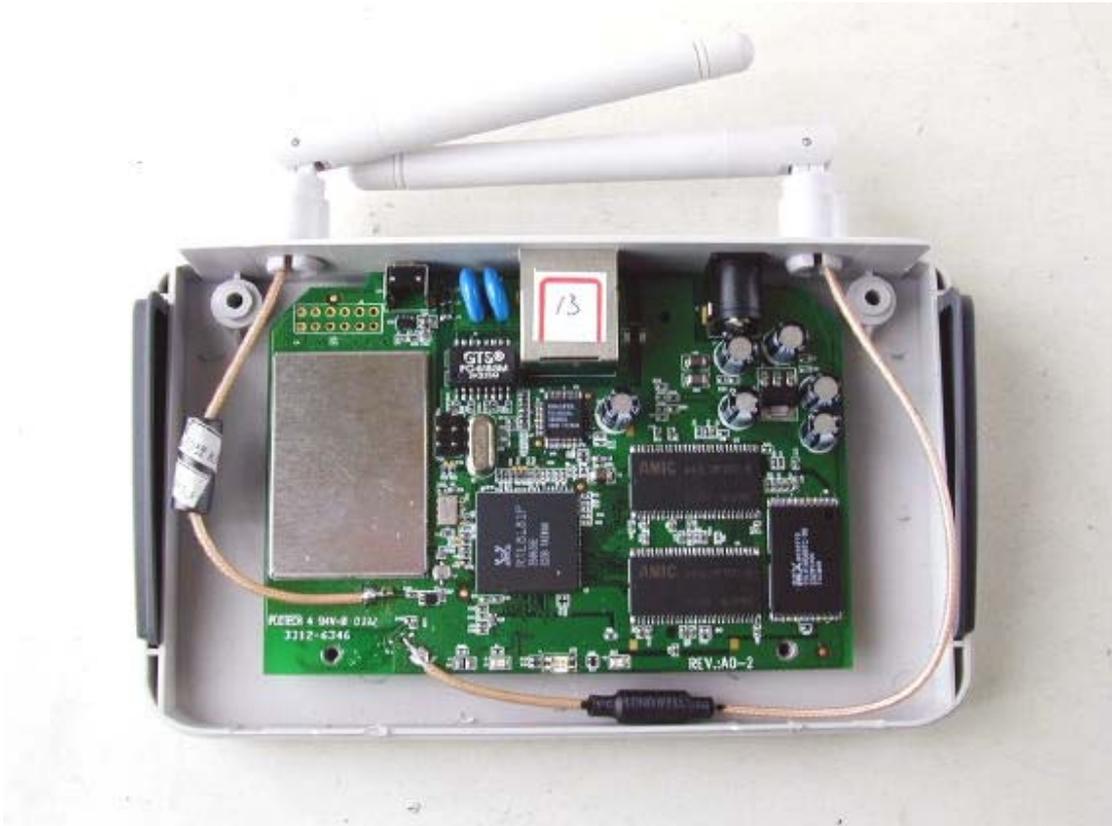
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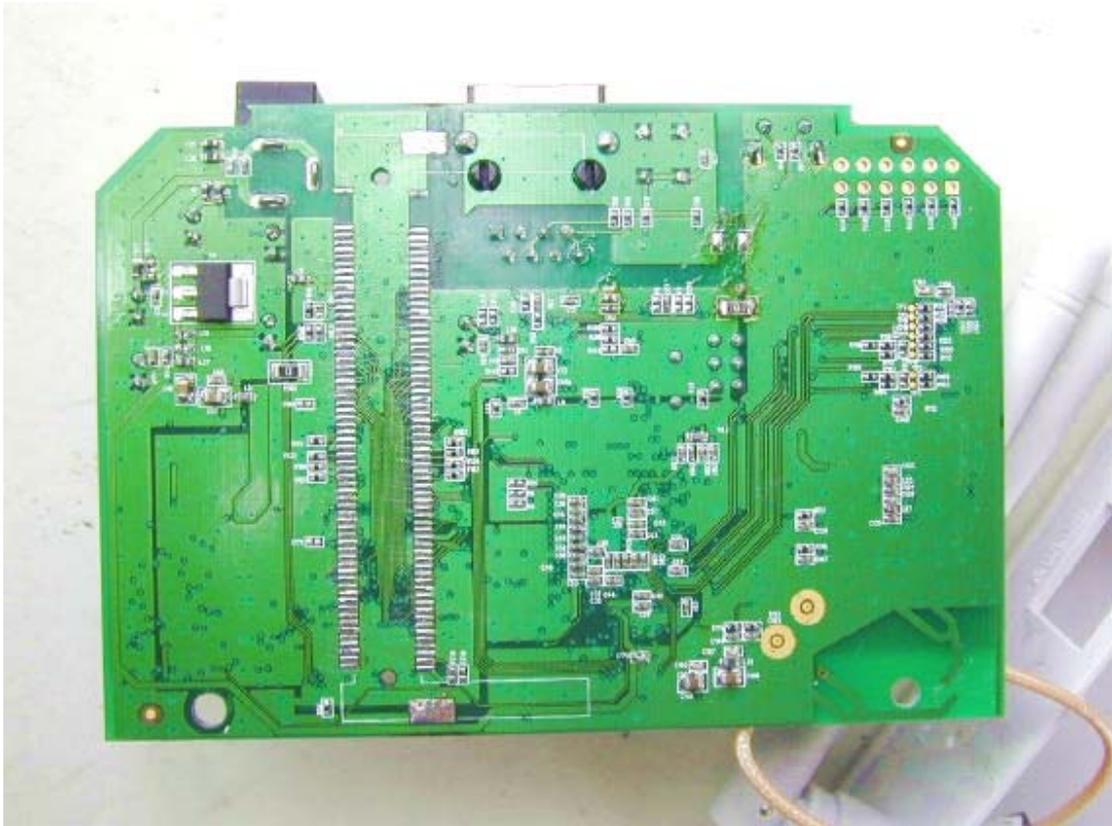
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