

IEC SYSTEM FOR CONFORMITY TESTING  
AND CERTIFICATION OF ELECTRICAL  
EQUIPMENT (IECEE)  
CB SCHEME

SYSTÈME CEI D'ESSAIS DE CONFORMITÉ  
ET DE CERTIFICATION DES EQUIPEMENTS  
ELECTRIQUE (IECEE)  
METHODE OC

## CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product

*Produit*

Name and address of the applicant

*Nom et adresse du demandeur*

Name and address of the manufacturer

*Nom et adresse du fabricant*

Name and address of the factory

*Nom et adresse de l'usine*

Rating and principal characteristics

*Valeurs nominales et caractéristiques principales*

Trade mark (if any)

*Marque de fabrique (si elle existe)*

Model/type Ref.

*Ref. de type*

Additional information (if necessary)

*Information complémentaire (si nécessaire)*

A sample of the product was tested and found  
to be in conformity with

*Un échantillon de ce produit a été essayé et a été  
considéré conforme à la*

as shown in the Test Report Ref. No.

which form part of this certificate

*comme indiqué dans le Rapport d'essais numéro  
de référence*

*qui constitue une partie de ce certificat*

This CB Test Certificate is issued by the National Certification Body

*Ce Certificat d'essai OC est établi par l'Organisme National de Certification*

17 inch LCD Monitor

Compal Electronics, Inc.  
No. 581, Jui-Kuang Rd.  
NEIHU, TAIPEI 114, TAIWAN, R.O.C.

Compal Electronics, Inc.  
No. 581, Jui-Kuang Rd.  
NEIHU, TAIPEI 114, TAIWAN, R.O.C.

Compal Electronics (China) Co., Ltd.  
Tong Feng East Road, Kunshan  
Economic Technical Development Zone, KUNSHAN, JIANGSU, P.R.  
CHINA

Input Rating : AC100-240V, 50/60Hz, 1.2A  
Protection Class: I

1)COMPAL, 2) HITACHI trademark

1) JX77XX, 2) CML174XXX (X=0-9, A-Z or blank)

For differences between the models, refer to the test report

### PUBLICATION

IEC 60950:1991+A1+A2+A3+A4  
inclusive CENELEC Common Modifications  
National differences see test report

### EDITION

12003264 001



TÜV Rheinland Japan Ltd.  
3-19-5 Shin-Yokohama  
222-0033 Japan

Date 06.09.2002

Signature

Dipl.-Ing. W. Herlitschke

# TEST REPORT

## IEC 950

### Safety of information technology equipment

#### Report

Reference No.....: <12003264 001>

Compiled by (+ signature) .....: *M. Matsubara*

Approved by (+ signature).....: *M. Kena*

Date of issue .....: Sep., 04, 2002

Contents .....: 75 pages

.....:  
This report is based on a blank test report that was prepared by KEMA using information obtained from the TRF originator (see below).

#### Testing laboratory

Name.....: TÜV Rheinland Japan Ltd., Yokohama Laboratories

Address .....: Festo Bldg. 5F, 1-26-10 Hayabuchi, Tsuzuki-Ku,  
Yokohama 224-0025, Japan

Testing location .....: TÜV Rheinland Japan Ltd., Yokohama Laboratories

#### Client

Name.....: Compal Electronics, Inc.

Address .....: No. 581, Jui-Kuang Rd., Neihu, Taipei 114, Taiwan, R.O.C.

#### Test specification

Standard .....: IEC 60950:1991 + A1:1992 + A2:1993 + A3:1995 + A4:1996  
EN 60950:1992 + A1:1993 + A2:1993 + A3:1995 + A4:1997 + A11:1997  
EMKO-TSE(74-SEC)207/94, AS 3260, GB 4943

Test procedure .....: CB-scheme

Procedure deviation .....: Argentina, Austria, Australia, Belgium, Brazil, China, The Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, India, Ireland, Japan, Israel, Italy, The Republic of Korea, The Netherlands, Norway, Poland, Portugal, Russian Federation, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom

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



**Test Report Form/blank test report**

Test Report Form No. ....: I950\_\_D/97-06

TRF originator.....: FIMKO

Master TRF .....: reference No. I950 D, dated 97-02

Copyright reserved to the bodies participating in the Committee of Certification Bodies (CCB) and/or the bodies participating in the CENELEC Certification Agreement (CCA).

**Test item**

Description.....: 17" LCD Monitor

Trademark .....: 1). COMPAL, 2). HITACHI trade mark

Model and/or type reference .....: 1). JX77XX, 2). CML174XXX (X = 0-9, A-Z or blank)

Manufacturer.....: Same as client

Rating(s).....: 100-240V ~, 50/60Hz, 1.2A

.....:

**Particulars: test item vs. test requirements**

Equipment mobility..... : Movable equipment

Operating condition..... : Continuous

Tested for IT power systems..... : Yes (for Norway)

IT testing, phase-phase voltage (V)..... : IT, 230V for Norway

Class of equipment ..... : Class I

Mass of equipment (kg) ..... : 4.75kg

Protection against ingress of water..... : IPX0

**Test case verdicts**

Test case does not apply to the test object ..... : N(.A.)

Test item does meet the requirement..... : P(ass)

Test item does not meet the requirement ..... : F(ail)

..... :

**Testing**

Date of receipt of test item ..... : Sep., 2002

Date(s) of performance of test..... : Sep., 2002

..... :

**General remarks**

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

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

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

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

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

Factory:

1. Compal Electronics (China) Co., Ltd.

Tong Feng East Road, Kunshan Economic Technical Development Zone, Kunshan, Jiangsu, P.R. China

Comments:

*Brief description of the test sample:*

The equipment models JX77XX and CML174XXX, where X can be 0-9, A-Z or blank for marketing purpose, are 17.0" LCD Monitor for general office use.

Model CML174XXX is identical to model JX77XX except for model designation and trade mark for marking purpose only.

The built-in power supply models JM777 and JM778 are not certified components, which were manufactured by Lien Chang Co. The model JM778 is similar to model JM777 except for without speaker.

The test samples were pre-production sample without serial numbers.

Copy of the marking plate :

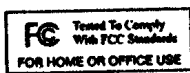
# COMPAL

Model: JM777

Rating: 100-240V~, 50/60Hz, 1.2A

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canada ICES-003, Class/Classe B



E133458  
Information  
Technology  
Equipment  
1K87  
PRC



Made in China

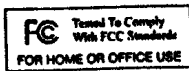
# HITACHI

Model: CML174SXx

Rating: 100-240V~, 50/60Hz, 1.2A

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canada ICES-003, Class/Classe B



E133458  
Information  
Technology  
Equipment  
1K87  
PRC



Made in China

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict

1	GENERAL		P
---	---------	--	---

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 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)		N
1.5.3	Transformers	Transformers used are suitable for their intended application and comply with the relevant requirements of the standard and particularly Annex C.	P
1.5.4	High voltage components (component; manufacturer; flammability) .....	No high voltage components used.	N
1.5.5	Interconnecting cables	Interconnection cable for signal output to other devices and signal input from accessories are carrying only SELV voltages on an energy level below 240VA.  → Except for the insulation material, there are no further requirements to the interconnection cable.	P

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
1.5.6	Mains Capacitors	X2 capacitor according to IEC 60384-14:1993 with 21 days damp heat test.	<b>P</b>

1.6	Power interface		<b>P</b>
1.6.1	Steady state input current	Highest load according to 1.2.2.1 for this equipment is the operation with the max. horizontal frequency, full white pattern, max. brightness and contrast. (Results see appended table)	<b>P</b>
	Current deviation during normal operating cycle	< + 10%	<b>P</b>
1.6.2	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	<b>N</b>
1.6.3	Neutral conductor insulated from earth and body	The neutral is not identified in the equipment. Basic insulation for rated voltage between earthed parts and primary phases.	<b>P</b>
1.6.4	Components in equipment intended for IT power system	Phase to earth designed in according to phase-to-phase working voltage. The Y2 type capacitor used between phase-to-earth.	<b>P</b>
1.6.5	Mains supply tolerance (V) .....	+ 10%, -10%  Documentation specifies a rating of AC 100-240V at 50/60Hz. Relevant tests were done with the range of 90-264V at 50/60Hz.	<b>P</b>

1.7	Marking and instructions		<b>P</b>
1.7.1	Rated voltage (V) .....	100-240V ~	<b>P</b>
	Symbol of nature of supply for d.c. ....	Mains from AC source	<b>N</b>
	Rated frequency (Hz) .....	50/60Hz	<b>P</b>
	Rated current (A) .....	1.2A	<b>P</b>
	Manufacturer .....	Not shown	<b>N</b>

## IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
	Trademark .....	1). COMPAL 2). HITACHI	<b>P</b>
	Type/model .....	1). JX77XX 2). CML174XXX (X = 0-9, A-Z or blank)	<b>P</b>
	Symbol of Class II .....	Class I equipment.	<b>N</b>
	Certification marks .....	TÜV Rheinland GS mark, other see copy of marking plate.	<b>N</b>
1.7.2	Safety instructions	The user's manual contains information for operation, installation, servicing, transport, storage and technical data.	<b>P</b>
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	<b>N</b>
1.7.4	Marking for voltage setting/frequency setting ....	Full voltage range.	<b>N</b>
1.7.5	Marking at power outlets .....	No outlet.	<b>N</b>
1.7.6	Marking at fuseholders .....	Fuse marking label near fuse holder : T2A, 250V F801 WARNING: CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY WITH SAME TYPE AND RATINGS OF FUSE.	<b>P</b>
1.7.7.1	Protective earthing terminals	Appliance inlet used.	<b>N</b>
1.7.7.2	Terminal for external primary power supply conductors	The equipment with appliance inlet is intended to be used with the detachable type power supply cord.	<b>N</b>
1.7.8.1	Identification and location of switches and controls .....	The markings and indications of the power switch is located that indication of function is clearly.	<b>P</b>



## IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
1.7.8.2	Colours of controls and indicators .....	<p>The colours used for LED are indicating the following function:</p> <p>- green LED (power On position)</p> <p>As green is reserved according to IEC60073 for safe function or "On" conditions, this indicator does comply with this standard.</p> <p>In standby or suspend mode, the colour changes to yellow.</p> <p>In off mode, the colour changes to amber.</p> <p>This is a warning that the monitor should be switched off to save power.</p>	<b>P</b>
1.7.8.3	Symbols according to IEC 417 .....	Marking for rocker type switch according IEC 60417, No. 5007-a and No. 5008-a (line and circle) and functional switch according IEC 60 417, No. 5009 (line inside half circle ).	<b>P</b>
1.7.8.4	Figures used for marking .....	No indicators for different positions.	<b>N</b>
1.7.8.5	Location of markings and indications for switches and controls .....	The marking for the switch is located adjacent the switch knob.	<b>P</b>
1.7.9	Isolation of multiple power sources .....	Only one supply from the mains.	<b>N</b>
1.7.10	Instructions for installation to IT power system	The instructions will be provided when national approval.	<b>N</b>
1.7.11	Instructions when protection relies on building installation	Connected to the mains by pluggable type A.	<b>N</b>
1.7.12	Marking when leakage current exceeds 3,5 mA	Leakage current does not exceed 3.5mA.	<b>N</b>
1.7.13	Indication at thermostats and regulating devices	No adjustable thermostats.	<b>N</b>

IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
1.7.14	Language of safety markings/instructions	User’s manual provided in English. Safety warning text in German. Rating marking in English. Version in other languages will be provided when national approval.	<b>P</b>
	Language .....	English	—
1.7.15	Durability and legibility	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15s and then again for 15s with the cloth soaked with petroleum spirit.  After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting of the label edge.	<b>P</b>
1.7.16	Removable parts	No marking placed on removable part.	<b>P</b>
1.7.17	Warning text for replaceable lithium batteries	No lithium battery	<b>N</b>
	Language .....		—
1.7.18	Operator access with a tool .....	No operator access area with tool.	<b>N</b>
1.7.19	Equipment for restricted access locations .....	No restricted access location.	<b>N</b>

<b>2</b>	<b>PROTECTION FROM HAZARDS</b>	<b>P</b>
----------	--------------------------------	----------

2.1	Protection against electric shock and energy hazards		<b>P</b>
2.1.1	Access to energized parts	See below	<b>P</b>
2.1.2	Protection in operator access areas	No access with test finger to any parts with only basic insulation to ELV or hazardous voltage.  The test pin can not touch hazardous voltage through any openings within the appliance.	<b>P</b>

IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
	Test by inspection .....	dto	<b>P</b>
	Test with test finger .....	dto	<b>P</b>
	Test with test pin .....	dto	<b>P</b>
2.1.3.1	Insulation of internal wiring in an ELV circuit accessible to operator	No ELV wiring in operator accessible area.	<b>N</b>
	Working voltage (V); distance (mm) through insulation .....		<b>N</b>
2.1.3.2	Operator accessible insulation of internal wiring at hazardous voltage	No hazardous voltage wiring in operator accessible area.	<b>N</b>
2.1.4.1	Protection in service access areas	No maintenance work in operation mode necessary.	<b>N</b>
2.1.4.2	Protection in restricted access locations	The unit is not intended to be used in restricted locations	<b>N</b>
2.1.5	Energy hazard in operator access area	Energy does not exceed 240VA between any two points in accessible parts (o/p) connector of secondary circuit	<b>P</b>
2.1.6	Clearances behind conductive enclosures	Refer to 4.2.	<b>P</b>
2.1.7	Shafts of manual controls	None at ELV or hazardous voltage.	<b>N</b>
2.1.8	Isolation of manual controls		<b>N</b>
2.1.9	Conductive casings of capacitors	Casings of capacitors are considered as if directly connected to the respective circuitry. None at hazardous voltage accessible	<b>P</b>
2.1.10	Risk of electric shock from stored charge on capacitors connected to mains circuit	No risk of electric shock, see below.	<b>P</b>
	Time-constant (s); measured voltage (V) .....	< 1s (see attached tables)	—

2.2	Insulation		<b>P</b>
2.2.1	Methods of insulation	The insulation materials provided in the equipment with adequate thickness and adequate creepage distance over their surface and clearance distance through air.	<b>P</b>

IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
2.2.2	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used	<b>P</b>
2.2.3	Humidity treatment	Total time elapsed: 120 hours	<b>P</b>
	Humidity (%) .....	95% R.H.	—
	Temperature (°C) .....	40°C	—
2.2.4	Requirements for insulation	Please refer to 5.3, 2.9 and 5.1.	<b>P</b>
2.2.5	Insulation parameters	Both parameters were considered.	<b>P</b>
2.2.6	Categories of insulation	The adequate levels of safety insulation is provided and maintained to comply with the requirements of this standard.	<b>P</b>
2.2.7.1	General rules for working voltages	The rms and the peak voltage were measured on switching power supply. The unit was connected to a 240V TN power system and secondary ground was maintained during measurement.  (Results see appended table.)	<b>P</b>
2.2.7.2	Clearances in primary circuits	Considered	<b>P</b>
2.2.7.3	Clearances in secondary circuits	See 5.4.4.	<b>P</b>
2.2.7.4	Creepage distances	Considered	<b>P</b>
2.2.7.5	Electric strength tests	Considered	<b>P</b>
2.2.8.1	Bridging capacitors	No component bridged reinforced or double insulation.	<b>N</b>
2.2.8.2	Bridging resistors	No bridging resistors.	<b>N</b>
2.2.8.3	Accessible parts		<b>N</b>
2.3	Safety extra-low voltage (SELV) circuits		<b>P</b>
2.3.1	Voltage (V) of SELV circuits under normal operating conditions and after a single fault .....	42.4V peak or 60VDC are not exceeded in SELV circuit under normal operation or single fault condition.	—

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
2.3.2	Voltage (V) between any two conductors of SELV circuit(s) and for Class I equipment between any conductor of SELV circuit and equipment protective earthing terminal under normal operating conditions .....	Between any SELV circuits 42.4V peak or 60VDC are not exceeded.	<b>P</b>
2.3.3	Voltage (V) of SELV in the event of a single failure of basic or supplementary insulation or of a component .....	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V DC were not exceed and SELV limits not for longer than 0.2 seconds, see abnormal results 5.4.	—
	Method used for separation .....	Method 1 and 2	<b>P</b>
2.3.4	Additional constructional requirements	In multiway connectors and other cable ties prevent contact to hazardous parts in case of loosening of connection or conductor breakage.  IEC 60083 and IEC 60320 connectors are not used in SELV.	<b>P</b>
2.3.5	Connection of SELV circuits to other circuits	See 2.3.2 and 2.3.3.  No direct connection between SELV and any primary circuits.	<b>N</b>
2.3.8	Construction of SELV circuits		<b>N</b>
2.3.9	SELV circuits connected to other circuits		<b>N</b>

2.4	Limited current circuits		<b>P</b>
2.4.2	Frequency (Hz) .....	The peak drop voltage was measured with a scope at a 2kΩ resistor.  Results see appended table.	—
	Measured current (mA) .....	See above.	<b>P</b>
2.4.3	Measured voltage (V) .....	> 450V	—
	Measured capacitance (μF) .....	< 0.1μF	<b>P</b>
2.4.4	Measured voltage (V) .....	< 15000V	—

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
	Measured charge ( $\mu\text{C}$ ) .....	< 45 $\mu\text{C}$	<b>P</b>
2.4.5	Measured voltage (V) .....		—
	Measured energy (mJ) .....		<b>N</b>
2.4.6	Limited current circuit supplied from or connected to other circuits .....		<b>P</b>

2.5	Provisions for earthing		<b>P</b>
2.5.1	Class I equipment	Basic insulated conductive parts touchable in operator area are earthed reliable.	<b>P</b>
	Warning label for service personnel		<b>N</b>
2.5.2	Protective earthing in Class II equipment	Class I equipment	<b>N</b>
2.5.3	Switches/fuses in earthing conductors	No switches or fuses in earthing conductor.	<b>P</b>
2.5.4	Assured earthing connection for Class I equipment in systems comprising Class I and Class II equipment	This LCD monitor has its own earthing connection. Any other units connected via the signal cable to the monitor shall provide SELV only. The equipment does not comprise class I and class II.	<b>P</b>
2.5.5	Green/yellow insulation	Green/yellow wire from inlet to metal chassis and Green/Yellow wire is fixed reliably on the metal chassis with ring terminal, starwasher and screw or nuts.	<b>P</b>
2.5.6	Continuity of earth connections	It is not possible to disconnect earth without disconnecting mains as an appliance inlet is used.	<b>P</b>
2.5.7	Making and breaking of protective earthing connections	Plug or inlet, earthing connected before and disconnected after hazardous voltage. No other operator removable parts.	<b>P</b>
2.5.8	Disconnection protective earthing connections	It is not necessary to disconnect earthing except for the removing of the earthed parts itself.	<b>P</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
2.5.9	Protective earthing terminals for fixed supply conductors or for non-detachable power supply cords	Pluggable equipment, type A	<b>N</b>
2.5.10	Corrosion resistance	All safety earthing connections in compliance with Annex J.	<b>P</b>
2.5.11	Resistance ( $\Omega$ ) of protective earthing conductors $\leq 0.1 \Omega$	$< 0.1 \Omega$ , see below	<b>P</b>
	Test current (A) .....	(see appended table)	—
2.6	Disconnection from primary power		<b>P</b>
2.6.1	General requirements	The appliance inlet is considered to be the disconnect device.	<b>P</b>
2.6.2	Type of disconnect device .....	Appliance inlet.	<b>P</b>
2.6.3	Disconnect device in permanently connected equipment	Pluggable equipment type A.	<b>N</b>
2.6.4	Parts of disconnect device which remain energized	When plug or inlet is disconnected no remaining parts with hazardous voltage in the equipment	<b>P</b>
2.6.5	Switches in flexible cords	No isolation switch provided.	<b>N</b>
2.6.6	Disconnection of both poles simultaneously for single-phase equipment	The appliance inlet disconnects both poles simultaneously.	<b>P</b>
2.6.7	Disconnection of all phase conductors of supply in three-phase equipment	Single phase	<b>N</b>
2.6.8	Marking of switch acting as disconnect device		<b>N</b>
2.6.9	Installation instructions if plug on power supply cord acts as disconnect device		<b>N</b>
	Language .....		—
2.6.11	Interconnected equipment	Interconnection to other devices by secondary output cable only.	<b>N</b>
2.6.12	Multiple power sources	Only one supply connection provided.	<b>N</b>
2.7	Overcurrent and earth fault protection in primary circuits		<b>P</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
2.7.1	Basic requirements	Equipment relies on 16A rated fuse or circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short circuit. Overcurrent protection is provided by the built-in device fuse.	<b>P</b>
2.7.2	Protection against faults not covered in 5.4	The protection devices are well dimensioned and mounted.	<b>P</b>
2.7.3	Short-circuit backup protection	Pluggable equipment type A, the building installation is considered as providing short circuit protection.	<b>P</b>
2.7.4	Number and location of protective devices .....	Overcurrent protection by one built-in fuse.	<b>P</b>
2.7.5	Protection by several devices	Only one fuse.	<b>N</b>
2.7.6	Warning to service personnel	With reversible plug to the mains, hazardous voltage may be still presented in the equipment after the internal fuse opens. However, as it is considered that the plug to the mains will be disconnected during service work, no marking were requested.	<b>P</b>

2.8	Safety interlock <i>No operator accessible areas which presents hazards in the meaning of this standard.</i>		<b>N</b>
2.8.2	Design		<b>N</b>
2.8.3	Protection against inadvertent reactivation		<b>N</b>
2.8.4	Reliability		<b>N</b>
2.8.5	Overriding an interlock		<b>N</b>
2.8.6.1	Contact gap (m) .....		<b>N</b>
2.8.6.2	Switch performing 50 cycles		<b>N</b>
2.8.6.3	Electric strength test: test voltage (V) .....		<b>N</b>



IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
2.8.7	Protection against overstress		<b>N</b>
2.9	Clearances, creepage distances and distances through insulation		<b>P</b>
	Nominal voltage (V) .....	max. AC 240V	—
	General		<b>P</b>
2.9.2	Clearances	See below	<b>P</b>
2.9.2.1	Clearances in primary circuits	(see appended table 2.9.2 and 2.9.3)	<b>P</b>
2.9.2.2	Clearances in secondary circuits	In compliance with clause 5.4.4.	<b>N</b>
2.9.3	Creepage distances	(see appended table 2.9.2 and 2.9.3)	<b>P</b>
	CTI tests .....	CTI rating for all materials of min. 100.	—
2.9.4.1	Minimum distances through insulation	(see appended table 2.9.4)	<b>P</b>
2.9.4.2	Thin sheet material	The thin sheet materials of polyester tape used in main transformer T801.	<b>P</b>
	Number of layers (pcs) .....	3 layers.	<b>P</b>
	Electrical strength test: test voltage (V) .....	3000Vac applied on any combination of two layers.	<b>P</b>
2.9.4.3	Printed boards	Not applied for.	<b>N</b>
	Distance through insulation .....		<b>N</b>
	Electric strength test at voltage (V) for thin sheet insulating material .....		<b>N</b>
	Number of layers (pcs) .....		<b>N</b>
2.9.4.4	Wound components without interleaved insulation		<b>N</b>
	Number of layers (pcs) .....		<b>N</b>
	Two wires in contact inside component; angle between 45° and 90°		<b>N</b>
	Routine testing for finished component		<b>N</b>
2.9.5	Distances (mm) on coated printed boards .....	No coated printed wiring boards.	<b>N</b>
	Routine testing for electric strength		<b>N</b>

IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
2.9.6	Enclosed and sealed parts	No hermetically sealed components.	<b>N</b>
	Temperature T1 (°C) .....		<b>N</b>
	Humidity % .....		<b>N</b>
2.9.7	Spacings filled by insulating compound	Photocoupler is approved component. No other component applied for. (see appended table 2.9.4 and 5.3)	<b>P</b>
	Temperature T1 (°C) .....		<b>N</b>
	Humidity % .....		<b>N</b>
2.9.8	Component external terminations	(see appended table 2.9.2 and 2.9.3)	<b>P</b>
2.9.9	Insulation with varying dimensions	Insulation kept homogenous.	<b>N</b>

2.10	Interconnection of equipment		<b>P</b>
2.10.1	General requirements	See below.	<b>P</b>
2.10.2	Type of interconnection circuits .....	Interconnection circuits of SELV through the connector for the video signal i/p. No ELV interconnection circuits.	<b>P</b>
2.10.3	ELV circuits as interconnection circuits	No ELV interconnection.	<b>N</b>

2.11	Limited power source		<b>N</b>
	Use of limited power source .....	Supplied from the mains.	<b>N</b>

3	WIRING, CONNECTIONS AND SUPPLY		<b>P</b>
---	--------------------------------	--	----------

3.1	General		<b>P</b>
3.1.1	Cross-sectional area of internal wiring/interconnecting cables	All internal wires are UL recognized wiring that is PVC insulated, rated VW-1, min. 80°C, 300V. Internal wiring gauge is suitable for current intended to be carried.	<b>P</b>
	Protection of internal wiring and interconnecting cables	No internal wire for primary power distribution.	<b>N</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
3.1.2	Wireways	Wires do not touch sharp edges and heatsinks which could damage the insulation and cause hazard.	<b>P</b>
3.1.3	Fixing of internal wiring	Internal wires with only basic isolation are routed so that they are not close to any live bare components. The wires are secured by solder pins and quick connect terminals so that a loosening of the terminal connection is unlikely.	<b>P</b>
3.1.4	Fixing of uninsulated conductors	Securely held on PCB. No hazard.	<b>P</b>
3.1.5	Insulation of internal wiring	The insulation of the individual conductors are suitable for the application and the working voltage. For the insulation material see 3.1.1.	<b>P</b>
3.1.6	Wires coloured green/yellow only for protective earth connection	See 2.5.5.	<b>P</b>
3.1.7	Fixing of beads and similar ceramic insulators	Not used.	<b>N</b>
3.1.8	Required electrical contact pressure	Electrical connections screwed two or more complete threads into metal. No screws of insulating material for electrical connections, or where supplementary or reinforced insulation could be impaired by a metal replacement.	<b>P</b>
3.1.9	Reliable electrical connections	All current carrying and safety earthing connections are metal to metal.	<b>P</b>
3.1.10	End of stranded conductor	No risk of stranded conductors coming loose.	<b>P</b>
3.1.11	Use of spaced thread screws/thread-cutting screws	No self tapping screws are used.	<b>P</b>
3.2	Connection to primary power		<b>P</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
3.2.1	Type of connection .....	Appliance inlet.	<b>P</b>
	Design of product with more than one supply connection .....	The appliance inlet in equipment only for one mains connection.	<b>N</b>
3.2.2	Provision for permanent connection .....	See clause 3.2.1	<b>N</b>
	Size (mm) of cables and conduits .....		<b>N</b>
3.2.3	Appliance inlet	The appliance inlet complies with IEC 60320 and is located at the rear of the unit. The power cord can be inserted without difficulties and does not support the unit.	<b>P</b>
3.2.4	Type and cross-sectional area (mm <sup>2</sup> ) of power supply cord .....	No power cord provided for CB testing. An approved cord set will provided when submitted for national approval.	<b>N</b>
3.2.5	Cord anchorage		<b>N</b>
	Test: 25 times; 1 s; pull (N) .....		—
	Longitudinal displacement ≤ 2 mm .....		<b>N</b>
3.2.6	Protection of power supply cord	No parts under this unit likely to damage the power supply cord. No sharp edges	<b>P</b>
3.2.7	Cord guard		<b>N</b>
	D (mm) .....		—
	Test: mass (g) .....		—
	Radius of curvature of the cord ≤ 1,5 D		<b>N</b>
3.2.8	Supply wiring space		<b>N</b>
3.3	Wiring terminals for external power supply conductors <i>Unit with detachable power supply cord, connected on appliance inlet.</i>		<b>N</b>
3.3.1	Terminals		<b>N</b>
3.3.2	Special non-detachable cord		<b>N</b>
	Type of connection .....		—
	Pull test at 5 N		<b>N</b>

IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
3.3.3	Screws and nuts		<b>N</b>
3.3.4	Fixing of conductors		<b>N</b>
3.3.5	Connection of connectors		<b>N</b>
3.3.6	Size of terminals		<b>N</b>
	Nominal thread diameter (mm) ..... :		<b>N</b>
3.3.7	Protection against damage of conductors		<b>N</b>
3.3.8	Terminal location		<b>N</b>
3.3.9	Test with 8 mm stranded wire		<b>N</b>

<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		<b>P</b>
----------	------------------------------	--	----------

4.1	Stability and mechanical hazards		<b>P</b>
4.1.1	Stability tests		<b>P</b>
	Angle of 10°	This appliance is of a stable mechanical construction and does not overbalance when tilted to an angle of 10° from its normal upright position.	<b>P</b>
	Test: force (N) .....:	Not floor standing.	<b>N</b>
4.1.2	Protection against personal injury	No moving parts.	<b>P</b>
4.1.3	Warning and means provided for stopping the moving part .....:	No moving parts.	<b>N</b>
4.1.4	Edges and corners	Edges and corners of the enclosure are rounded.	<b>P</b>
4.1.5	Enclosure of a high pressure lamp	No lamp with cold pressure of 0.2MPa or hot pressure of 0.4MPa.	<b>N</b>

4.2	Mechanical strength and stress relief		<b>P</b>
4.2.1	General	See below	<b>P</b>
4.2.2	Internal enclosures 30 N ± 3 N; 5 s		<b>N</b>
4.2.3	External enclosures 250 N ± 10 N; 5 s	250N applied to outer enclosure. No energy or other hazards.	<b>P</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
4.2.4	Steel ball tests		<b>P</b>
	Fall test	500g steel sphere ball fall, from 1.3m height onto outer enclosure.	<b>P</b>
	Swing test	500g steel sphere ball as pendulum onto outer plastic enclosure.	<b>P</b>
4.2.5	Drop test	Not hand-held.	<b>N</b>
4.2.6	Heat test for enclosures of moulded or formed thermoplastic materials: 7 h; T (°C) .....	After 7h at 70°C and cooling down to room temperature, no shrinkage, distortion or loosening of enclosure parts was noticeable on the LCD monitor. The test was conducted with both enclosure materials.	<b>P</b>
4.2.7	Compliance criteria	No safety relevant damages.	<b>P</b>
4.2.8	Mechanical strength of cathode ray tubes	Unit does not employ a cathode ray tube.	<b>N</b>

4.3	Construction details		<b>P</b>
4.3.1	Changing of setting for different power supply voltages	Full range circuit, no necessary adjustment.	<b>P</b>
4.3.2	Adjustment of accessible control devices	No control.	<b>N</b>
4.3.4	Prevention of dangerous concentration of dust, powder, liquid and gas	Equipment in intended use not considered to be exposed to these.	<b>N</b>
4.3.5	Fixing of knobs, grips, handles, levers		<b>P</b>
	Test: force (N) .....	30N on switch.	<b>P</b>
4.3.6	Driving belts/couplings shall not ensure electrical insulation	Not used for insulation.	<b>N</b>
4.3.7	Retaining of sleeves	Sleevings on wiring reliable kept in position by cable ties or by the use of heatshrink sleeving.	<b>P</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
4.3.9	Protection of loosening parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection, solder pins, cable ties and heatshrunken tubing are used.	<b>P</b>
4.3.11	Resistance to oil and grease	Insulation not in contact with oil or grease.	<b>N</b>
4.3.12	Protection against harmful concentration of ionizing radiation, ultraviolet light, laser or flammable gases (for laser see IEC 825-1)	No ionizing radiation or laser or flammable liquids presents. LED power is far below LED class 1 limit.	<b>P</b>
4.3.13	Securing of screwed connections	No connection likely to be exposed to mechanical stress are provided in unit.	<b>P</b>
4.3.15	Openings in the top of enclosure	< 1mm in width regardless of length	<b>P</b>
	Dimensions (mm) .....	(see appended table)	—
4.3.16	Openings in the sides of enclosure	< 1mm in width regardless of length	<b>P</b>
	Dimensions (mm) .....	(see appended table)	—
4.3.17	Interchangeable plugs and sockets		<b>N</b>
4.3.18	Torque test for direct plug-in equipment		<b>N</b>
	Additional torque (Nm) .....		<b>N</b>
4.3.19	Protection against excessive pressure		<b>N</b>
4.3.20	Protection of heating elements in Class I equipment	No heating elements.	<b>N</b>
4.3.21	Protection of lithium batteries		<b>N</b>
	Construction of protection circuit .....		<b>N</b>
4.3.22	Ageing of barrier/screen secured with adhesive		<b>N</b>
	Day 1: temperature (°C); time (weeks) .....		<b>N</b>
	Day 8/22/57: a) temperature (°C) for 1 h b) temperature (°C) for 4 h c) temperature (°C) over 8 h .....		<b>N</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
	Day 9/23/58: a) relative humidity (%) for 72 h b) temperature (°C) for 1 h c) temperature (°C) for 4 h d) temperature (°C) over 8 h .....		<b>N</b>

4.4	Resistance to fire		<b>P</b>
4.4.1	Methods of achieving resistance to fire	Use of materials with the required flammability classes.	<b>P</b>
4.4.2	Minimizing the risk of ignition	Electrical parts are not likely to ignite nearby materials. Parts not protected against overheating under fault conditions.	<b>P</b>
	Printed board: manufacturer; type; flammability :	see 1.5.1 appended table	<b>P</b>
4.4.3	Flammability of materials and components	See below.	<b>P</b>
4.4.3.2	Material and component: manufacturer; type; flammability .....	Internal components except small parts are V-2 or better.	<b>P</b>
4.4.3.3	Exemptions .....	Considered.	<b>P</b>
4.4.3.4	Wiring harnesses: manufacturer; flammability ....	Insulating material consists of PVC.	<b>P</b>
4.4.3.5	Cord anchorage bushings: manufacturer; flammability .....	No cord anchorage bushings	<b>N</b>
4.4.3.6	Air filter assemblies: manufacturer; flammability :	No air filter assemblies	<b>N</b>
4.4.4	Enclosures and decorative parts: manufacturer; flammability .....	Protective enclosure with decorative parts. Enclosure of this unit (movable equipment, < 18Kg) with flammability class V-0. Base with flammability class HB min.	<b>P</b>



IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
4.4.5	Conditions for fire enclosures	With having the following components: <ul style="list-style-type: none"> <li>■ components with windings</li> <li>■ wiring</li> <li>■ semiconductor devices, transistors, diodes, integrated circuits</li> <li>■ resistors, capacitors, inductors</li> </ul> the fire enclosure is required.	<b>P</b>
4.4.5.1	Components which require fire enclosure: manufacturer; flammability .....	See above.	<b>P</b>
4.4.5.2	Components not requiring fire enclosure .....	See 4.4.5.1.	<b>N</b>
4.4.6	Fire enclosure construction	Protection against emission of flame, molten metal, flaming or glowing particles or drops by the fire enclosure.  Numerous openings in bottom of the enclosure of any size under the internal barrier (PCB) with the flammability class of V-0 or better.  Measured size of these openings: See appended table.	<b>P</b>
4.4.7	Doors and covers in fire enclosures	No door or cover in fire enclosure.	<b>N</b>
4.4.8	Flammable liquids	No flammable liquids in this unit.	<b>N</b>

5	THERMAL AND ELECTRICAL REQUIREMENTS	<b>P</b>
---	-------------------------------------	----------

5.1	Heating	<b>P</b>
	Heating tests	(see appended table) <b>P</b>

5.2	Earth leakage current	<b>P</b>
-----	-----------------------	----------

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
5.2.1	General	The leakage current was measured from primary to PE.	<b>P</b>
5.2.2	Leakage current	(see attached tables)	<b>P</b>
	Test voltage (V) .....	(see attached table)	—
	Measured current (mA) .....	(see attached table)	—
	Max. allowed current (mA) .....	3.5mA	—
5.2.3	Single-phase equipment	See 5.2.2	<b>P</b>
	Test voltage (V) .....		—
	Measured current (mA) .....		—
	Max. allowed current (mA) .....		—
5.2.4	Three-phase equipment	Single phase equipment.	<b>N</b>
	Test voltage (V) .....		—
	Measured current (mA) .....		—
	Max. allowed current (mA) .....		—
5.2.5	Equipment with earth leakage current exceeding 3,5 mA	Leakage current does not exceed 3.5mA.	<b>N</b>
	Test voltage (V) .....		—
	Measured current (mA) .....		—
	Max. allowed current (mA) .....		—
	Cross-sectional area (mm <sup>2</sup> ) of internal protective earthing conductor .....		—
	Warning label		<b>N</b>

5.3	Electric strength		<b>P</b>
5.3.1	General	All tests voltages were applied for 1 minute in the chamber after the humidity test of 2.2.3 and in warm conditions after the heating test of 5.1.  No isolation breakdown was observed (results see appended tables).	<b>P</b>
5.3.2	Test procedure	(see appended table)	<b>P</b>

IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
5.4	Abnormal operating and fault conditions		<b>P</b>
5.4.2	Motors	No motor.	<b>N</b>
5.4.3	Transformers	With the shorted o/p of the transformer, the unit in cycle protection.  No high temp. of the transformer are to be expected or to be observed.  Result of the short tests see 5.4 appended tables.	<b>P</b>
5.4.4	Compliance of operational insulation		<b>P</b>
	Method used .....	Method c).  Results of short test, see 5.4 appended table.	<b>P</b>
5.4.5	Electromechanical components in secondary circuits	No electromechanical components.	<b>N</b>
5.4.6	Other components and circuits	Results see appended table.	<b>P</b>
5.4.7	Test in any expected condition and foreseeable misuse	Ventilation openings covered test: Results see appended table. No hazards.  Beside this, no other foreseeable misuse possible.	<b>P</b>
5.4.8	Unattended use of equipment having thermostats, temperature limiters etc.	None of them are used.	<b>N</b>
5.4.9	Compliance	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test primary → SELV and primary → PE were passed.	<b>P</b>
5.4.10	Ball-pressure test of thermoplastic parts; impression shall not exceed 2 mm	Phenolic bobbin material used for T801, L801 and L802 accepted without test. Others, see 5.4.10 table.	<b>P</b>
6	CONNECTION TO TELECOMMUNICATION NETWORKS <i>Equipment is not intended be connected to TNV.</i>		<b>N</b>

IEC 950			
---------	--	--	--

Clause	Requirement – Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

6.1	General		<b>N</b>
6.2	TNV circuits		<b>N</b>
6.2.1.1	Limits of the TNV circuits		<b>N</b>
6.2.1.1 a)	TNV-1 circuits		<b>N</b>
6.2.1.1 b)	TNV-2 and TNV-3 circuits		<b>N</b>
6.2.1.2	Separation from other circuits and from accessible parts		<b>N</b>
	Voltage (V) in SELV circuits, TNV-1 circuits and accessible conductive parts in event of single insulation fault or component failure .....		<b>N</b>
6.2.1.3	Operating voltages generated externally		<b>N</b>
	Voltage (V) in SELV circuit, TNV-1 circuit or accessible conductive part .....		<b>N</b>
6.2.1.4	Separation from hazardous voltages .....		<b>N</b>
	Insulation between TNV circuit and circuit at hazardous voltage		<b>N</b>
	Method used .....		<b>N</b>
6.2.1.5	Connection of TNV circuits to other circuits		<b>N</b>
	Insulation (mm) between TNV circuit supplied conductively from secondary circuit and hazardous voltage circuit .....		<b>N</b>
6.2.2.1	Protection against contact with bare conductive parts of TNV-2 and TNV-3 circuits		<b>N</b>
	Test with test finger		<b>N</b>
	Test with test probe		<b>N</b>
6.2.2.2	Battery compartments		<b>N</b>
	Marking next to door/on door		<b>N</b>

6.3	Protection of telecommunication network service personnel, and users of other equipment connected to the telecommunication network, from hazards in the equipment		<b>N</b>
6.3.1	Protection from hazardous voltages		<b>N</b>
6.3.2	Use of protective earthing		<b>N</b>
	Language of installation instructions .....		<b>N</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
6.3.3.1	Insulation between TNV circuit and parts or circuitry that may be earthed		<b>N</b>
6.3.3.2	Exclusions .....		<b>N</b>
6.3.4.1	Limitation of leakage current (mA) to telecommunication network .....		<b>N</b>
6.3.4.2	Summation of leakage currents from telecommunication network .....		<b>N</b>

6.4	Protection of equipment users from voltages on the telecommunication networks		<b>N</b>
6.4.1	Separation requirements		<b>N</b>
6.4.2	Test procedure		<b>N</b>
6.4.2.1	Impulse test: separation between TNV-1 circuits/TNV-3 circuits and:		<b>N</b>
6.4.2.1 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 2,5 kV		<b>N</b>
6.4.2.1 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,5 kV		<b>N</b>
6.4.2.1 c)	circuitry which is provided for connection of other equipment; test at 1,5 kV		<b>N</b>
6.4.2.2	Electric strength test: separation between TNV-1 circuits/TNV-3 circuits and:		<b>N</b>
6.4.2.2 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 1,5 kV		<b>N</b>
6.4.2.2 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,0 kV		<b>N</b>
6.4.2.2 c)	circuitry which is provided for connection of other equipment; test at 1,0 kV		<b>N</b>
6.4.2.3	Compliance criteria		<b>N</b>

6.5	Protection of telecommunication wiring system from overheating		<b>N</b>
	Maximum continuous output current (A) .....		<b>N</b>

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		<b>P</b>
A.1	Flammability test for fire enclosures of moveable equipment having a total mass exceeding 18 kg, and of stationary equipment		<b>N</b>
A.2	Flammability test for fire enclosures of moveable equipment having a total mass not exceeding 18 kg, and for materials located within fire enclosures		<b>P</b>
A.3	High current arcing ignition test		<b>N</b>
A.3.6	Number of arcs .....		<b>N</b>
A.4	Hot wire ignition test		<b>N</b>
A.4.6	Ignition time (s) .....		<b>N</b>
A.5	Hot flaming oil test		<b>N</b>
A.6	Flammability test for classifying materials V-0, V-1 or V-2		<b>N</b>
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HBF		<b>N</b>
A.8	Flammability test for classifying materials HB		<b>N</b>
A.9	Flammability test for classifying materials 5V		<b>N</b>
A	Tested material		<b>N</b>
	Preconditioning: 7 days (168 h); temperature (°C) :		—
	Mounting of samples during test .....		—
	Wall thickness .....		—
	Sample 1 burning time .....		<b>N</b>
	Sample 2 burning time .....		<b>N</b>
	Sample 3 burning time .....		<b>N</b>
	Material: compliance with the requirements		<b>N</b>
	Manufacturer of tested material .....		—
	Type of tested material .....		—
	Additional information .....		—

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS		<b>N</b>
B.1	General requirements		<b>N</b>
	Position .....		—
	Manufacturer .....		—
	Type .....		—

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
	Rated voltage (V) or current (A) .....		—
B.2	Test conditions		N
B.3	Maximum 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	Test time (h) .....		N
B.7.3	Test time (h) .....		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors		N
	Test voltage (V) .....		—

C	ANNEX C, TRANSFORMERS		P
	Position .....	T801 on SPS	—
	Manufacturer .....	LI TAI	—
	Type .....	PT-000332	—
	Rated values .....	class B	—
	Temperatures	(see appended table 5.4)	P
	Thermal cut-out	No thermal cut-out.	N
C.1	Overload test	(see 5.4.3)	P
	Conventional transformer		N
C.2	Insulation		P
	Precautions .....	(see transformer construction check)	P
	Retaining of end turns of all windings	dto	P
	Earthing test at 25 A		N
C.3	Electric strength test	(see 5.3)	P

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict

C.2	Safety isolation transformer			<b>P</b>
Construction details:				
Transformer T801				
Mfr.: LI TAI				
Type : PT-000332				
Recurring peak voltage		500V 0-p		
Required clearance for reinforced				
insulation (from table 3 and 4)		4.0mm + 0.4 mm		
Effective voltage rms		260 V		
Required creepage for reinforced				
insulation (from table 6 with condition 7)		5.4mm		
Measured min. creepages				
Location		inside (mm)	outside (mm)	
prim-sec		6.6	6.4	
prim-core		3.3	3.5	
sec-core		3.3	3.5	
prim-prim		%	%	
Measured min. clearances				
Location		inside (mm)	outside (mm)	
prim-sec		6.6	6.4	
prim-core		3.3	3.5	
sec-core		3.3	3.5	
prim-prim		%	%	
Construction:				



IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict
Concentric windings on EE-30 type bobbin, three layers insulation between primary and secondary windings. Distance tape is at least 3.3mm at both sides of transformer. Core is fixed with two layers insulation tape to keep insulation. Winding ends additionally fixed with tape, outer winding is primary. Tubing on winding exit ends all pins are provided.			
Pin numbers			
Prim.		4→1, 3→2→5, 4→shield	
Sec.		9,10→7; 9,10→11,12; 11,12→8	
Bobbin			
Material		Chang Chun, phenolic type T375J	
Thickness		min. 0.8mm	
Electric strength test			
With AC 3000V after humidity treatment			
Result		pass	

H	ANNEX H, IONIZING RADIATION		N
	Ionizing radiation		N
	Measured radiation .....		—
	Measured high-voltage (kV) .....		—
	Measured focus voltage (kV) .....		—
	CRT markings .....		—
	Certified by .....		—
	Standard used .....		—

U	ANNEX U, INSULATED WINDING WIRES FOR USE AS MULTIPLE LAYER INSULATION		N
	See separate test report		N

IEC 950			
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	mark(s) of conformity <sup>1)</sup>	
LCD Monitor						
Switch power supply	Lien Chang	JM777, JM778	I/P:100-240, 47-63Hz,1.2 A. O/P: 5Vdc, 1.5A max.; 12Vdc, 2.2A max.	---	---	
LCD Panel	AU	M170EN05	17", TFT-LCD 1280X1024	---	---	
Enclosure Material	LG	GN5008HF	V-0 or better thickness 2.0 mm	UL 94	UL	
	LG	AF312T	V-0 or better thickness 2.0 mm	UL 94	UL	
	Bayer AG	FR2000	V-0 or better thickness 2.0 mm	UL 94	UL	
	DOW	Celex5200 HF	V-0 or better thickness 2.0 mm	UL 94	UL	
	Cheil	VH-0815 +	V-0 or better	UL 94	UL	
	Cheil	NH-1000T +	V-0 or better	UL 94	UL	
Base Material	Various	Various	HB	UL 94	UL	
Power Switch	Solteam	OR-P series	250Vac, 6.0A	VDE0630	UL, CSA, D, N, F, S, VDE	
DC/AC Inverter	Lien Chang	JM777, JM778	I/P: DC13.8V, 2.3A max O/P: 1700Vrms, 3.7mA max	---	---	
-DC/AC Inverter transformer (T970, T971)	Lien Chang	IT-0161	Class 130°C	---	---	
P.C.B	Various	Various	V-0 or better, Class 105°C	UL 94	UL	

IEC 950					
Clause	Requirement – Test			Result - Remark	Verdict
Mylar	Various	Various	V-2 or better thickness 0.4mm	UL 94	UL
two Speaker (optional)	---	---	2W, 4 ohm	---	---
Switch power supply					
AC Inlet (P801)	Rong Feng	RF-190	2.5A, 250 Vac	IEC 60320	VDE, UL, CSA, NEMKO
	Rong Feng	SS-120	10A, 250 Vac	IEC 60320	VDE, UL, CSA, NEMKO
	Solteam	ST-01	10A, 250 Vac	IEC 60320	VDE, UL, CSA, NEMKO
	Iralways	0711-2	10A, 250 Vac	IEC 60320	VDE, UL, CSA, NEMKO
	Rich Bay	R-307, R-30790	2.5A, 250 Vac	IEC 60320	VDE, UL, CSA, NEMKO
	Rich Bay	F-301SN	10A, 250 Vac	IEC 60320	VDE, UL, CSA, NEMKO
	Znang Jiagang Jua Fang	1-F-301	10A, 250Vac	IEC-60320	VDE, UL, CSA, NEMKO
Primary – connector (P802)	Aces	88228	250Vac, 7A max	---	UL, CSA
	Sin Sheng	24183BS series	250Vac, 7A max	VDE 0627	UL, CSA, TÜV
	Chyao Shiunn	JS-1120	250Vac, 7A max	VDE 0627	UL, CSA, TÜV
	Taiwan King	PVHI	250Vac, 7A max	VDE 0627	UL, CSA, TÜV
AC Fuse (F801)	LiteFuse	LT-5 Series	T2A, 250V	IEC60127-3	VDE, UL, CSA
	BelFuse	MRT, MRTP	T2A, 250V	IEC60127-3	VDE, UL, CSA, SEMKO
	Save Fusetech	SR-5	T2A, 250V	IEC60127-3	VDE, UL, SEMKO
	Wickmann	TR-5	T2A, 250V	IEC60127-3	VDE, UL, SEMKO
Thermistor (RT801)	---	---	8ohm, 5A	---	---

IEC 950					
Clause	Requirement – Test			Result - Remark	Verdict
Varistor (VA801)	Gerarrate Technical	GNR07D471K	300Vac, 385Vdc	---	UL, CSA
	Song Long	Z71KD07	300Vac, 385Vdc	---	UL, CSA
	Centra	CNR-10D471K	300Vac, 385Vdc	---	UL, CSA
	Centra	CNR-07D471K	300Vac, 385Vdc	---	UL, CSA
	Joyin	JVR-10N471K	300Vac, 385Vdc	---	UL, CSA
	Joyin	JVR-07N471K	300Vac, 385Vdc	---	UL, CSA
	Wujin Thinking	TVR10471	300Vac, 385Vdc	---	UL, CSA
	Wujin Thinking	TVR07471	300Vac, 385Vdc	---	UL, CSA
	Wa sin	VZ10D471K	300Vac, 385Vdc	---	UL, CSA
	Wa sin	VZ07D471K	300Vac, 385Vdc	---	UL, CSA
	Sino-American	SAS-471KD10	300Vac, 385Vdc	---	UL, CSA
	Chau-Lian	MOV471KD10	300Vac, 385Vdc	---	UL, CSA
Line filter (L801, L802)	LI TAI	LF-000329	Class 130°C	---	---
X-Capacitors (C801, C802) (optional)	Cheng Tung	CTX	Max. 0.47uF, Min 250Vac	IEC 60381-14/1993	VDE, SEV, FI, UL
	Chiefcon	CKX	Max. 0.47uF, Min 250Vac	IEC 60381-14/1993	VDE, SEV, FI, UL
	Carli	MPX	Max. 0.47uF, Min 250Vac	IEC 60381-14/1993	VDE, SEV, FI, UL
	Iskra	KNB1530 KNB1560 KNB1562 KNB1563	Max. 0.47uF, Min 250Vac	IEC 60381-14/1993	VDE, SEV, FI, UL
	Arcotronics	..47...	Max. 0.47uF, Min 250Vac	IEC 60381-14/1993	VDE, SEV, FI, UL

IEC 950					
Clause	Requirement – Test		Result - Remark		Verdict
	Pilkor	PCX2 335M PCX2 337	Max. 0.47uF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Dain	MPX	Max. 0.47uF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	UTX	HQX	Max. 0.47uF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Jenn Fu	MPX	Max. 0.47uF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Matsushita	ECQUG	Max. 0.47uF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
Bleeder Resistors (R801, R802)	---	---	510K 1/4W	---	---
Y- Capacitors Y1 type for (C800, C803, C804) (optional)	TDK	CD	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Murata	KX	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	EVOX RIFA	PHE	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
Y- Capacitors Y2 type for (C803, C804) (optional)	TDK	CD, CS	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Murata	KX, KH	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Jyh Chung	JD	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	EVOX RIFA	PHE	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Samsung	AA	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Pan Overseas	AC	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL
	Welson	KL	Max. 4700pF, Min 250Vac	IEC 60381- 14/1993	VDE, SEV, FI, UL

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict

	Sam Wha	SC	Max. 4700pF, Min 250Vac	IEC 60381-14/1993	VDE, SEV, FI, UL
	Ease	SY	Max. 4700pF, Min 250Vac	IEC 60381-14/1993	VDE, SEV, FI, UL
	BC	DN	Max. 4700pF, Min 250Vac	IEC 60381-14/1993	VDE, SEV, FI, UL
Bridge Diode (BD801)	---	---	Min, 500V, 2A	---	---
Ripple Capacitor (C805)	---	Electrolytic can type	100uF, 400V, 105°C	---	---
Main Transformer (T801)	LI TAI	PT-000332	Class B	applicable parts in IEC 60950 and according to IEC 60085	accepted by TÜV Rheinland
Photo coupler (U800)	COSMO	KP1010	di = 0.5	VDE 0884	VDE, FI
	Toshiba	TLP 621, TLP721	di = 0.8	VDE 0884	VDE, FI
	Sharp	PC817	di > 0.4	VDE 0884	VDE, FI
	Lite-on	LTV817	di = 0.8	VDE 0884	VDE, FI
	Vishay	TCET 1100/ TCET 1101	di = 0.6	VDE 0884	VDE, FI
	Vishay	TCET 1102/ TCET 1103	di = 0.6	VDE 0884	VDE, FI
	Vishay	TCET 1104/ TCET 1105	di = 0.6	VDE 0884	VDE, FI
	Vishay	TCET 1106/ TCET 1107	di = 0.6	VDE 0884	VDE, FI
	Vishay	TCET 1108/ TCET 1109	di = 0.6	VDE 0884	VDE, FI
	Matsushita	ON 3171	di = 0.6	VDE 0884	VDE, FI
	QT	H11A817X	di > 1	VDE 0884	VDE, FI

<sup>1)</sup> an asterisk indicates a mark which assures the agreed level of surveillance

1.6	TABLE: electrical data (in normal conditions)	<b>P</b>
-----	---	----------

IEC 950						
Clause	Requirement – Test				Result - Remark	Verdict
fuse #	I <sub>rated</sub> (A)	U (V)/F(Hz)	P (W)	I (A)	I <sub>fuse</sub> (A)	condition/status
F1	--	90/ 60	42.1	0.71	0.71	Normal conditions
F1	--	90/ 50	42.0	0.71	0.71	Dto
F1	1.2	100/ 60	41.5	0.65	0.65	Dto
F1	1.2	100/ 50	41.4	0.64	0.64	Dto
F1	1.2	240/ 60	39.6	0.30	0.30	Dto
F1	1.2	240/ 50	39.6	0.31	0.31	Dto
F1	--	254/ 60	39.5	0.29	0.29	Dto
F1	--	254/ 50	39.4	0.29	0.28	Dto
F1	--	264/ 50	39.7	0.29	0.29	Dto
F1	--	264/ 60	39.7	0.28	0.28	Dto

2.1.10	TABLE: discharge test				P
Condition	$\tau$ calculated (s)	$\tau$ measured (s)	t u→ 0V (s)	comments	
switch on	0.959	0.126	--	V <sub>PK</sub> = 348V, V <sub>37%</sub> = 126V	
switch off	--	0.408	--	V <sub>PK</sub> = 348V, V <sub>37%</sub> = 128V	
Overall capacity: 0.94 $\mu$ F (C801 = C802 = 0.47 $\mu$ F)					
Discharge resistor: 1020k $\Omega$ (R801 = R802 = 510k $\Omega$ )					

2.2.7	Table: working voltage measurement			P
Location	RMS Voltage (V)	Peak Voltage (V)	Comments <sup>1)</sup>	
T801 pin 1 – 7	216	392		
pin 1 – 8	216	360		
pin 1 – 9, 10, Earth	218	412		
pin 1 – 11, 12	216	390		
pin 3 – 7	209	372		
pin 3 – 8	211	396		

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict

pin 3 – 9, 10, Earth	208	334	
pin 3 – 11, 12	208	358	
pin 4 – 7	215	360	
pin 4 – 8	216	358	
pin 4 – 9, 10, Earth	216	346	
pin 4 – 11, 12	216	350	
pin 5 – 7	252	500	
pin 5 – 8	245	492	
pin 5 – 9, 10, Earth	<b>260</b>	492	*
pin 5 – 11, 12	253	<b>500</b>	*

Input voltage: 240V, 60Hz

<sup>1)</sup> an asterisk indicates the highest measured working voltage.

2.3.2	TABLE: Hazardous voltage measurement			P
Transformer	Location	Max. Voltage		Voltage Limitation
		Peak	DC	Components
T801	Pin 7 – 9, 10 (Earth)	30.6	--	--
T801	Pin 8 – 9, 10 (Earth)	57.6	--	--
		--	12.5	D841
	Pin 11 – 9, 10 (Earth)	25.4	--	--

2.3.2	TABLE: SEL voltage measurement		
Location	Voltage measured (V)	Comments	
+ 12V - RTN	0	D841 shorted	

Note:

- The working voltage of the other transformer secondary windings did not exceed the limiting values during normal and single-fault condition.



IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict

2.4	TABLE: limited current circuit measurement					P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
J970 pin 1 – 4	38.0	19.0	52.08	36.45	with normal condition	
J970 pin 1 – 4	34.0	17.0	51.65	35.75	with C970 shorted	
J970 pin 1 – 4	38.8	19.4	51.75	36.21	with C914 shorted	
J970 pin 1 – 4	42.0	21.0	51.49	36.04	with R973 shorted	
T970 pin 7 - 10	0	0	--	--	with normal condition, unit shut down, no hazards	
J970 pin 1 – Earth	41.2	20.6	51.49	36.04	with normal condition	
J970 pin 1 – Earth	0	0	--	--	with C970 shorted, unit shut down, no hazards	
J970 pin 1 – Earth	0	0	--	--	with C914 shorted, unit shut down, no hazards	
J970 pin 1 – Earth	42.8	21.4	51.76	21.4	with R973 shorted	
J970 pin 4 – Earth	7.4	3.7	51.56	36.09	with normal condition	
J970 pin 4 – Earth	0	0	--	--	with C970 shorted, unit shut down, no hazards	
J970 pin 4 – Earth	7.6	3.8	51.84	36.28	with C914 shorted	
J970 pin 4 – Earth	7.6	3.8	51.86	36.30	with R973 shorted	
Output measured with an 2 kΩ resistor as load.						

2.5.11	TABLE: ground continue test		P
Location	Resistant measured (Ω)	Comments	
Signal connector to inlet ground pin	0.007	25A/1 min	
Signal connector to inlet ground pin	0.009	30A/2 min	
Earth pin of Inlet to trace C800	0.015	25A/1 min	
Earth pin of Inlet to trace C800	0.019	30A/2 min	

IEC 950

Clause	Requirement – Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

Test current = 25A or 30A

2.9.2 and 2.9.3	TABLE: clearance and creepage distance measurements					P
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
Primary components (with 10N) → earth on SPS	<420	<250	2.0	↓	2.5	↓
near F801				4.7		4.7
Primary components (with 10N) → secondary components (with 10N) on SPS	<420	<250	4.0	↓	5.0	↓
C805 to L1				5.2		5.2
BD801 to L3				9.2		9.2
C802 to L3				7.6		7.6
P802 to C974				9.0		9.0
D802 to R842				9.8		9.8
J13 to U802				11.8		11.8
Primary traces → earthed trace on SPS	<420	<250	2.0	↓	2.5	↓
under P801				2.9		2.9
under C803, C804				6.8		6.8
under C800				7.0		7.0
Primary traces → secondary trace on SPS	<420	<250	4.0	↓	5.0	↓
C802 to L3				7.0		7.0
BD801 to L3				6.8		6.8
R800 to R985				7.8		7.8
under U800				6.1		6.1
C810 to J21				6.4		6.4
R813 to J21				6.9		6.9
Primary traces → secondary trace under T802	<500	<260	2.2	7.2	2.7	7.2

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict

<p>Note:</p> <ol style="list-style-type: none"> <li>1) Operational insulation shorted, see 5.4.4.</li> <li>2) One insulation sheet provided between the SPS soldered side and metal shielding (135mm x 90mm, 0.4mm thickness).</li> <li>3) One insulation sheet provided between the SPS components side and metal chassis (135mm x 90mm, 0.4mm thickness).</li> <li>4) Output secondary wires of CN301 should be keep insulation to primary parts.</li> <li>5) Output secondary wires of CN4 should be keep insulation to primary parts.</li> <li>6) Secondary wires were fixed on PCB by soldered and soldered pin.</li> <li>7) C805, D842, D843, R806, RT801 and C809 will be fixed in position by non-chemical bonding glue.</li> </ol>			
---	--	--	--

2.9.4.1	TABLE: distance through insulation measurements			<b>P</b>
distance through insulation di at/of:	U r.m.s. (V)	test voltage (V)	required di (mm)	di (mm)
photo coupler (reinforced insulation)	250	3000	0.4	approved comp.
mylar sheet (reinforced insulation)	250	3000	0.4	0.4
See appended table 1.5.1 for details of distance through insulation.				

4.3.15/16 & 4.4.6	Table: enclosure openings		<b>P</b>
Location	Size (mm)	Comments	
Top	max. 28.0 x 0.8mm	64 openings	
Side (rear)	max. 9.5 x 0.8mm	126 openings	
Side (front)	max. 23.0 x 1.4mm	20 openings of speaker. (No bare parts at hazardous voltage in located)	
Bottom	None		

IEC 950						
Clause	Requirement – Test	Result - Remark			Verdict	
5.1	TABLE: temperature rise measurements				<b>P</b>	
	test voltage (V) .....	a) 100V-10% b) 240V + 10%			—	
	t1 (°C) .....				—	
	t2 (°C) .....				—	
temperature rise dT of part/at:		dT (K)		required dT (K)		
Test voltage		a)	b)	--		
U4 body		39.8	40.2	--		
U6 body		32.9	33.6	--		
PCB near PT801 (105°C)		32.9	24.0	65		
L801 coil (130°C)		45.2	27.4	90		
L801 core (130°C)		37.4	24.9	90		
L802 coil (130°C)		38.9	25.2	90		
L802 core (130°C)		34.4	23.3	90		
C805 body (105°C)		28.9	21.7	65		
Q801 heatsink		43.1	41.4	--		
T801 coil (class B)		59.5	60.7	70		
T801 core (class B)		55.8	59.0	70		
T970 body (130°C)		57.9	56.1	90		
T971 body (130°C)		61.8	60.7	90		
Enclosure inside		16.7	16.4	--		
Enclosure outside (70°C)		9.1	9.3	55		
Ambient		24.7°C	24.3°C	--		
temperature rise dT of winding:		R <sub>1</sub> (Ω)	R <sub>2</sub> (Ω)	dT (K)	required dT (K)	insulation class

IEC 950			
Clause	Requirement – Test	Result - Remark	Verdict

<p>Comments:</p> <p>The temperatures were measured under worst case normal mode as described in 1.6.1 at voltages described in 1.6.5. The worst case normal mode is defined with max. brightness /contrast and the max. horizontal frequency of the monitor.</p> <p>With a specified ambient temperature of 40°C, the max. temperature rise is calculated as follows:</p> <p>Winding components:</p> <p>- class B → <math>dT_{max} = 95K - 10K - (40-25)K = 70K</math></p> <p>Electrolytic capacitor or components with:</p> <p>- max. absolute temp. of 85°C → <math>dT_{max} = (85-40) K = 45K</math></p> <p>- max. absolute temp. of 105°C → <math>dT_{max} = (105-40) K = 65K</math></p> <p>- max. absolute temp. of 130°C → <math>dT_{max} = (130-40) K = 90K</math></p> <p>Touchable surfaces:</p> <p>- with a max. temperature rise of 70K → <math>dT_{max} = 70K - (40-25) K = 55K</math></p>
---

5.2	TABLE: leakage current measurement			<b>P</b>
Condition	current L→G (mA)	current N→G (mA)	comments	
Fuse in, switch on	0.73	0.83		
Fuse in, switch off	0.02	1.5		
Fuse out, switch on	0.02	1.5		
Input voltage : 264V Input frequency : 60Hz Overall capacity: C800 = C803 = C804 = 4700pF				

5.3	TABLE: electric strength measurements		<b>P</b>
test voltage applied between:	test voltage (V)	breakdown	
Primary and secondary	DC 4242	No	
Primary and ground	DC 2461	No	
T801 primary and secondary	AC 3000	No	
T801 primary and core	AC 1740	No	
T801 secondary and core	AC 1740	No	
1 layer of insulation tape used in T801	AC 3000	No	



IEC 950			
---------	--	--	--

Clause	Requirement – Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

Mylar sheet	AC 3000	No

<b>5.4</b>	<b>TABLE: fault condition tests</b>						<b>P</b>
	ambient temperature (°C) .....					25.5°C	—
	model/type of power supply .....					JM777	—
	manufacturer of power supply .....					Lien Chang	—
	rated markings of power supply .....					See table 1.5.1	—
No	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
1.	C801	s-c	240	1 sec	F801	0	Fuse opened, no hazards
2.	BD801	s-c	240	1 sec	F801	0	Fuse opened, no hazards
3.	Q801 pin 1 – 2	s-c	240	1 sec	F801	0	Fuse opened, Q801, R800, U800 damaged, no hazards
4.	Q801 pin 1 – 3	s-c	240	1 sec	F801	0.01	Unit shut down, no components damaged, no hazards
5.	Q801 pin 2 – 3	s-c	240	1 sec	F801	0.01	Q801, R800 damaged, no hazards
6.	U800 pin 1 – 2	s-c	240	1.3 hr	F801	0.6→0.1	T801 coil = 90.9°C, T801 core = 78.0°C, ambient = 26.7 °C, no hazards
7.	U800 pin 3 – 4	s-c	240	1 sec	F801	0.01	Unit shut down, no components damaged, no hazards
8.	U800 pin 1	open	240	1.4 hr	F801	0.6→0.1	C843, C843A, C844, C844A, C845 damaged, T801 coil = 54.3°C, T801 core = 52.8°C, ambient = 26.2°C, no hazards



IEC 950							
Clause	Requirement – Test					Result - Remark	Verdict
9.	T801 pin 8 – 11	s-c	240	1.3 hr	F801	0.14→0.08	Unit went into cycle protection, no components damaged, T801 coil = 57.0°C, T801 core = 55.4°C, ambient = 26.6 °C, no hazards
10.	T801 pin 11 – 10	s-c	240	1.3 hr	F801	0.33	Unit operated normally, no components damaged, T801 coil = 91.7°C, T801 core = 78.5°C, ambient = 26.6°C, no hazards
11.	T801 pin 10 – 7	s-c	240	0.9 hr	F801	0.25→0.08	Unit went into cycle protection, no components damaged, T801 coil = 56.1°C, T801 core = 50.4°C, ambient = 26.9 °C, no hazards
12.	D841	s-c	240	1.2 hr	F801	0.13→0.06	Unit went into cycle protection, no components damaged, T801 coil = 59.2°C, T801 core = 53.6°C, ambient = 26.9 °C, no hazards
13.	D842	s-c	240	0.8 hr	F801	0.2→0.06	Unit went into cycle protection, no components damaged, T801 coil = 51.7°C, T801 core = 47.1°C, ambient = 26.1 °C, no hazards
14.	D843	s-c	240	0.9 hr	F801	0.2→0.06	Unit went into cycle protection, no components damaged, T801 coil = 45.7°C, T801 core = 42.2°C, ambient = 26.1°C, no hazards
15.	+5V to Earth	o-l	240	2.8 hr	F801	--	Overload to 2.0A, unit operated normally, T801 coil = 96°C, T801 core = 87°C, ambient = 25.7°C, no hazards
16.	+5V to Earth	s-c	240	1 sec	F801	0.01	Unit shut down, no components damaged, no hazards

IEC 950							
Clause	Requirement – Test					Result - Remark	Verdict
17.	D841 to Earth	o-l	240	4.7 hr	F801	--	Overload to 6.14A, unit went into cycle protection, T801 coil = 122°C, T801 core = 95°C, ambient = 27.3°C, no hazards
18.	D842 to Earth	o-l	240	3.7 hr	F801	--	Overload to 3.5A, D842 damaged, T801 coil = 128°C, T801 core = 120°C, ambient = 25.2°C, no hazards
19.	D843 to Earth	o-l	240	5.8 hr	F801	--	Overload to 6.14A, unit went into cycle protection, T801 coil = 125°C, T801 core = 95°C, ambient = 29.7°C, no hazards
20.	Opening	blocke d	240	10 hr	--	--	Temp. was stabled, T801 coil = 86.1°C, T801 core (class B) = 85.4°C, T970 body (130°C) = 88.8°C, T971 body (130°C) = 91.4°C, ambient = 27.9°C, no components damaged, no hazards
In fault column, where s-c = short-circuited, dis = disconnected, o-l = over-loaded							

5.4.10	TABLE: ball pressure test of thermoplastics		P
	required impression diameter (mm) .....	≤ 2 mm	—
part	test temperature (°C)	impression diameter (mm)	
Connector material (Aces, type 88228) of P802	125	0.9	



National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	EN 60950:1992 + A1:1993: + A2:1993 + A3:1995 + A4:1997 + A11:1997 TEST REPORT  (IEC Publication 60950 2nd edition, 1991 + Amd.1,1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)  CENELEC common modification, Special National condition, Nation deviation and other information according to CB Bulletin No. 101A, December 2001		<b>P</b>
<p><b>EXPLANATION FOR ABBREVIATIONS</b></p> <p>C = CENELEC common modification, S = Special National condition, D = National deviation, F = Other information, AT = Austria, GB = Great Britain, CH = Switzerland, DE = Germany, DK = Denmark, FI = Finland, FR = France, NO = Norway, SE = Sweden.</p> <p>P = Pass, F = Fail, N = Not applicable. place in the column to the right.</p>			
1.2.4.1 S	(DK). Certain types of Class I appliances (see sub-clause 3.2.1) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets.	No power cord provided.	<b>N</b>
1.5.1 D	(SE). Add the following:  NOTE: Switches containing mercury such as thermostats, relay and level controllers are not allowed.		<b>N</b>
1.6.4 S	(NO). Note 2: In Norway, due to the IT power system used, capacitors are required to be rated for the applicable phase-to-phase voltage (230V)	Considered, see report IEC 60950.	<b>P</b>
1.7.2 S	(NO). Note 4: In Norway, if separation between the mains and a communication system/network, other than public telecommunication networks, relies upon connection to safety earth, the equipment shall have a marking stating that is must be connected to an earthed mains socket-outlet.  NOTE: For requirements to be connected to a public telecommunication network, see 6.2.1.4.	Required texts will be printed on label and affix to unit when national approval.	<b>N</b>
1.7.2 S	(SE). If the separation between the mains and a SELV terminal relies upon connection to the safety earth, the apparatus shall have a marking stating that it must be connected to an earthed mains socket-outlet when a SELV circuit is connected to network passing both unearthed and earthed electrical environment. The marking text shall be in Swedish and as follows: "Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk".	Required texts will be printed on label and affix to unit when national approval.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.2 D	(DK). Supply cords of Class I appliances, which are delivered without a plug, must be provided with a visible tag with the following text: "Vigtigt. Lederen med grøn/gul isolation må Kun tilsluttes en klemme mærket  eller  ". If essential for the safety of the appliance, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning".	No power cord provided.	<b>N</b>
1.7.2 C	Delete note 4.	Deleted	<b>N</b>
1.7.5 S	(DK). Socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a when used on Class I equipment.	No socket outlet.	<b>N</b>
1.7.5 D	(DK). Class II appliances shall not be fitted with socket-outlets for providing power to other appliances.	Class I equipment.	<b>N</b>
1.7.14 D	(DE). Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labor equipment, also for imported technical labor equipment shall be written in German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	LCD monitor, not a technical labor equipment.	<b>N</b>
1.7.17 D	(CH). (Ordinance on environmentally hazardous substances SR 814.013) Annex 4.10 of SR 814.013 applies for batteries.	No battery inside.	<b>N</b>
2.3.3 C	Delete Method 4 and the line in note 1 relating to this method	Deleted.	<b>N</b>
2.3.6 C	Delete the note.	Deleted.	<b>N</b>
2.3.5 S	(NO). In Norway, marking and insulation requirements according to subclause 1.7.2, Note 4, and 6.2.1.4, Note 2, apply.	No marking required.	<b>N</b>
2.3.6 S	(FR). Method 3 is not acceptable.	Method 3 is not used.	<b>P</b>
2.3.7 C	Replace the text of this sub-clause by: Void.	Replaced.	<b>N</b>
2.3.9 S	(NO). Marking and insulation requirements according to this annex, subclauses 1.7.02 and 6.2.01.4 b) apply.	No marking required.	<b>N</b>
2.5.2 S	(DK, NO) Add after the first paragraph: the above exception is not acceptable in pluggable equipment type A "	Added, no exception applied.	<b>N</b>
2.5.2 C	Delete the note.	Deleted.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1 C	<p>Replace the text of this sub-clause by: Basic requirements</p> <p>To protect against excess current, short-circuits and earth faults in primary circuits, protective devices shall be included either as integral parts of the equipment or as a part of the building installation, subject to all of the following a), b), c) and d):</p> <p>(a) Except as detailed in (b) and (c), protective devices necessary to comply with the requirements of Sub-clause 5.4 shall be included as integral parts of the equipment.</p> <p>(b) For components in series with the mains input to the equipment such as the supply cord, appliance coupler, RFI filter and switch, short circuit and earth fault protection may be provided with protective devices in the installation.</p> <p>(c) It is permitted for equipment with rated current exceeding 16A, which is pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breaker, is fully specified in the installation instruction</p> <p>(d) If reliance is placed on protection in the building installation, the installation instructions shall comply with Sub-clause 1.7.11 except that for pluggable equipment Type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet and 1.7.11 does not apply.</p>	Replaced.	<b>P</b>
2.7.2 C	Replace the text of this sub-clause by: Void.	Replaced.	<b>N</b>
2.8.4 C	Delete the note.	Deleted.	<b>N</b>
2.9.1 S	(NO). Note 3: In Norway, due to the IT power systems used, the mains supply voltage is considered to be equal to the phase-to-phase voltage.	Mains voltage as reference voltage.	<b>P</b>
2.9.4.2 C	<p>Amend the last line on page 117a as follows –</p> <p>Solvent-based enamel coating on winding wire is not considered to be insulation in thin sheet material.</p> <p>Add a new sentence below the text on page 117a as follows –</p> <p>Requirements for wound components are given in 2.9.4.4.</p>		<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.9.4.4 C	<p>Modify the title as follows –</p> <p>2.9.4.4 Wound components</p> <p>Replace the first paragraph and the two dashed paragraphs as follows –</p> <p>Unless one of the following situations applies, interleaved BASIC, SUPPLEMENTARY or REINFORCED INSULATION complying with 2.9.4.1 or 2.9.4.2 shall be provided between the windings.</p> <ul style="list-style-type: none"> <li>- the insulation on the winding wire complies with 2.9.4.1; or</li> <li>- the winding wire complies with annex U; or</li> <li>- the insulation between the windings is provided for separation between ZNV circuits and other parts in compliance with 6.4.1.</li> </ul> <p>Note – Examples of insulation of winding wire complying with annex U are polyamide and FEP.</p>		<b>N</b>
2.11 C	Delete notes 1, 2 and 3.	Deleted.	<b>N</b>
3.2.1 S	<p>(DK). Supply cords of single phase appliances having a rated current not exceeding 10A shall be provided with a plug according to the Heavy Current Regulations Section 107-2-D1.</p> <p>Class I equipment provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a rated current exceeding 10A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations Section 107-1-D1 or EN 60309-2.</p>	No power cord provided.	<b>N</b>
3.2.1 S	<p>(DK). Supply cords of single phase appliances having a rated current not exceeding 10A shall be provided with a plug according to the Heavy Current Regulations Section 107-2-D1.</p> <p>Class I equipment provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a rated current exceeding 10A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations Section 107-1-D1 or EN 60309-2.</p>	No power cord provided.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.1 S	(CH). Supply cords of equipment having a rated current not exceeding 10A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets SEV 6532-2,1991 Plug type 15 3P+N+PE 250/400V, 10A SEV 6533-2,1991 Plug type 11 L+N 250V, 10A SEV 6534-2,1991 Plug type 12 L+N+PE 250V, 10A EN 60 309 applies for plugs for currents exceeding 10A	No power cord provided.	<b>N</b>
3.2.2 C	Delete the note and in table 10, delete the values in parentheses.	Deleted.	<b>N</b>
3.2.4 S	(GB). A power supply cord with conductor of 1.25mm <sup>2</sup> is allowed for equipment with rated current over 10A and up to and including 13A.	Rated current below 10A.	<b>N</b>
3.2.4 C	Replace "60245 IEC 53" by "H05 RR-F", "60227 IEC 52" by "H03 VV-F or H03 VVH2-F" and "60227 IEC 53" by "H05 VV-F or H05 VVH2-F". In table 11, replace the first four lines by the following: Up to and including 6 0.75 <sup>1)</sup> Over 6 up to and including 10 1.0 (0.75) <sup>2)</sup> Over 10 up to and including 16 1.5 (1.0) <sup>3)</sup> In the conditions applicable to table 11, delete the words "in some countries" in condition 1). In the Note delete the second sentence.	Replaced.	<b>N</b>
3.3.5 C	In table 13, replace the fourth and the fifth lines by: Over 10 up to and including 16 1.5 to 2.5 1.5 to by 4	Replaced.	<b>N</b>
3.3.5 S	(GB). The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10A and up to and including 13A is: 1.25mm <sup>2</sup> to 1.5mm <sup>2</sup> nominal cross-sectional area.	No power cord provided.	<b>N</b>
4.3.18 S	(GB). This test should be performed using an appropriate socket-outlet with an earthing contact.	Not direct plug-in equipment.	<b>N</b>
4.4.4 C	Delete note 2.	Deleted.	<b>N</b>
5.4.9 S	(NO). Note: In Norway, the electric strength test includes testing of basic insulation in Class I pluggable equipment type B and permanently connected equipment.	Considered.	<b>P</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
6.1 S	(CH).Protective means in the equipment shall not prevent transient surge protection in the telecommunication network from operating properly (d.c. spark-over voltage of the surge suppressor installed in the telecommunication network: approx. 245V).	No TNV.	<b>N</b>
6.2.1.2 C 6.2.1.3C	Add at the end of the sub-clause: This sub-clause only applies to TNV circuits normally operating in excess of the limits of SELV circuits.	No TNV.	<b>N</b>
6.2.1.2 S	(SE). Supplementary insulation for a primary circuit is required between any TNV circuit and any circuit that has a connection to a protective earthing terminal.  In Sweden, this requirement does not apply to permanently connected equipment or pluggable equipment Type B.	No TNV.	<b>N</b>
6.2.1.2 S	(NO). In Norway, supplementary insulation for a primary circuits is required between any TNV circuit and any circuit that has a connection to a protective earthing terminal.  This requirement does not apply to permanently connected equipment or to pluggable equipment type B, installed in areas where equipotential bonding has been applied, e.g. a telecommunication Central Office.	No TNV.	<b>N</b>
6.2.1.4 C	Delete the notes.	No TNV.	<b>N</b>
6.2.1.4 S	(NO). Note 2: In Norway, method b) is not permitted. Insulation between parts conductively connected to the supply mains and parts connected to a public telecommunication network shall comply with the requirements for double or reinforced insulation.	No TNV.	<b>N</b>
6.2.1.4b) S	(FI). Method b) is permitted only for permanently connected equipment or for pluggable equipment Type B.	No TNV.	<b>N</b>
6.2.1.5 S	(NO). Note 2: In Norway, requirements according to 6.2.1.4, Note 2, apply	No TNV.	<b>N</b>
6.3.3. S	(NO). In Norway, 6.3.3 is applicable for pluggable equipment type A and B and for permanently connected equipment.	No TNV.	<b>N</b>
6.3.3.1 S	(SE). In Sweden, requirements according to this annex ZB, subclause 6.2.1.2 apply.	No TNV.	<b>N</b>
6.3.3.1 S	(NO). In Norway, requirements according to subclause 6.2.1.2, national difference, 6.2.1.4, Note 2, and 6.3.3.2, Note 1, applied.	No TNV.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
6.3.3.2 S	(NO). Note 1: In Norway, exclusions are applicable for permanently connected equipment and pluggable equipment Type B only.	No TNV.	<b>N</b>
6.4.1 C	Delete note 2.	No TNV.	<b>N</b>
6.4.2.1 C	Delete note 2.	No TNV.	<b>N</b>
6.4.2.1 D	(AT). Equipment shall comply with $U_c = 2.0\text{kV}$ in cases b) and c).	No TNV.	<b>N</b>
Annex H. D	<p>(DE)</p> <p>a) A license is required by those who operate an X-ray emission source.</p> <p>b) A license in accordance with clause 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV, if</p> <p>1) the local dose rate at a distance of 0.1m from the surface does not exceed <math>1\text{ }\mu\text{v/h}</math> and</p> <p>2) it is adequately indicated on the X-ray emission source that</p> <p>i) X-rays are generated and</p> <p>ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer.</p> <p>c) A license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV, if</p> <p>1) the X-ray emission source has been granted a type approval and</p> <p>2) it is adequately indicated on the X-ray emission source that</p> <p>i) X-ray are generated,</p> <p>ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local does rate in accordance with the type approval is not exceeded and</p> <p>iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer.</p>	No CRT.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>d) Furthermore, a license in accordance with clause 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV, if</p> <p>1) the X-rays are generated only by intrinsically safety CRTs complying with Enclosure III, No.6,</p> <p>2) the values stipulated in accordance with Enclosure III, bi, 6.2 are limited by technical measures and specified in the device and</p> <p>3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.</p>		
Annex P C	<p>Replace the text of this annex by:</p> <p>See annex ZA.</p>	Replaced.	<b>N</b>
Annex Q C	<p>Add for IEC 60529:</p> <p>Note: Endorsed by EN 60529:1991 (not modified)</p> <p>Add for IEC 60707</p> <p>Note: Endorsed by HD441:1983 (not modified)</p> <p>Add for IEC 61058-1:</p> <p>Note: Endorsed by EN 61058:1992 (not modified).</p>	Added.	<b>N</b>



National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	EMKO-TSE(74-SEC)207/94 TO EN 60950:1992 + A1:1993 + A2:1993 + A3:1995 + A4:1997 + A11:1997 TEST REPORT  (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)  Nordic Explanations, and other information not covered by Appendix EN 60950:1992, + A1:1993 + A2:1993 + A3:1995 + A4:1997 + A11:1997.		<b>P</b>
<p><b>EXPLANATION FOR ABBREVIATIONS</b></p> <p>NF = Nordic Explanations and other information. DK = Denmark, FI = Finland, NO = Norway, SE = Sweden.</p> <p>P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.</p>			
1.2.02.01 NF	(DK,FI,NO,SE). The heating test of separate power supplies of personal computers is carried out according to their rated output values marked on the power supplies.	Not a separated power supply unit.	<b>N</b>
1.5.01 NF	(DK,FI,NO,SE). The following capacitors are accepted across the mains:  1) X1 capacitor which complies with Publication IEC 60 384-14.  2) X2 capacitor which complies with Publication IEC 60 384-14 and which has been subjected to a pulse test according to § 12.11.2, except the value of the voltage is reduced to 2.5 kV.  3) X2 capacitor which complies with Publication IEC 60 384-14 in case the endurance test of § 12.11.2 has been modified so that the resistor of 220Ω through which the voltage of 1000 V rms is applied to the capacitor under test, is short circuited.  4) Capacitor which complies with Publication HD 195 S6, § 14.2.	X2 capacitor comply with this clause (see report IEC 60950 report).	<b>P</b>
1.5.02 NF	(DK,FI,NO,SE). Transient protection components shall be installed in such a way that insulation for protection against electric shock will not be bridge. This means that transient protection components must not be connected to safety earthed parts in pluggable equipment or to other accessible parts.	No transient protection components connected to safety earthed parts.	<b>P</b>
	-3.2.3 (DK,FI,NO,SE). Interconnection couplers in accordance with EN 60 320-2-2 are accepted. Outlets of non-standard types are not accepted.	No outlet.	<b>N</b>
1.7.01 NF	-1st dash (DK). When supplied in Denmark the appliances shall be set to 230 V .	Included in the voltage range.	<b>P</b>
	-5th dash (DK). The equipment may instead be provided with a marking indicating name, trademark or identify of the responsible vendor.	Refer to CB report page 4.	<b>P</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.1.04 NF	(DK,FI,NO,SE). For monitors, warning label is not required for repairing area, neither the partial shielding against contact although the voltage is > 42.4 V peak or > 60 V d.c.	No warning label required.	<b>N</b>
2.5.11 NF	(DK,FI,NO,SE). Due to installation fuses of 16A, the earth resistance shall always be controlled at 25 A.	Earthing test conducted at 25A, see IEC 60950 report.	<b>P</b>
2.6.06 NF	(DK,FI,NO,SE). The plug is regarded to be a disconnect device and therefore a single pole mains switch is acceptable (TC 74-WG 8's recommendation).	Appliance inlet is considered as disconnect device.	<b>N</b>
2.6.11 NF	(DK,FI,NO). The warning label on an appliance with two or several supply connections shall be in the official language of the country in question.	Only one supply from the mains.	<b>N</b>
	(DK,FI,NO). UPS-appliances can be fitted with a signal lamp instead of a warning label, under the condition that the function and location of the signal lamp is correct. Audible signal is not acceptable as warning.	Equipment is not a UPS.	<b>N</b>
2.7.03 NF	(DK,FI,NO,SE). A single-pole protective device is acceptable.	Only one fuse on live phase.	<b>P</b>
2.9.01 NF	(DK,FI,NO,SE). Pollution Degree 3 is considered applicable for the following equipment which is within the scope of this standard: Document Shredder Machines.	Equipment is not a shredding machine.	<b>N</b>
4.2.07 NF	(DK,FI,NO,SE). If there are visible cracks on the apparatus after the mechanical strength test, the apparatus is not rejected, if it still complies with the other requirements of subclause 4.2.7.	No visible crack.	<b>N</b>
4.4.04 NF	(DK,FI). Fire enclosure is required if the available power exceeds the values of a limited power source. The limited power source shall incorporate an isolating transformer and shall comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Not required.	<b>N</b>
	(NO). A fire enclosure is not required in spots of the equipment where the available power does not exceeded 50 VA and the available voltage 42.4 V (peak) or 60 V d.c.	Not required.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
5.4.06 NF	(DK,FI,NO,SE). Faults need not to be carried out in circuits which are supplied by an isolating transformer and which comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Supplied from the mains.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	China National Differences according to CB Bulletin, No. 101A, December 2001  REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		<b>P</b>
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.4.5, 1.6.5	The minimum supply tolerance is –10%, +6%; GB4943 sub-clause 1.4.5 and 1.6.5: The minimum supply tolerance is –10%, +10% according to Chinese situation.	See IEC 60950 test report.	<b>P</b>
	IEC standard for plug is IEC 60083.  The Chinese National standard for Plugs is GB1002-1996, which is not equivalent with IEC60083.	No power cord set provided.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Japanese National Differences according to CB Bulletin No. 101A, December 2001  REPORT (IEC Publication 60950 : 1991 + A1 + A2 + A3 + A4)		<b>P</b>
EXPLANATION FOR ABBREVIATIONS P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
2.9.2.1	Delete entire column headed by [Nominal mains supply voltage ≤150V (Transient rating 1500V)] in Table 3.  Delete > 150V from column headed by “Nominal mains supply voltage > 150V, ≤300V (Transient rating 2500V)” in Table 3.	Clearance distance from column 2 taken (≤300V)	<b>P</b>
2.9.2.2	Delete entire column headed by “Nominal mains supply voltage ≤150V (Maximum transient in secondary circuit 800V see condition 6)” in Table 5	Clearance distance from column 2 taken (≤300V)	<b>P</b>
2.9.4.4	Replacement: The following shall replace the entire existing paragraphs:  Title: Wounded components  BASIC, SUPPLEMENTARY, DOUBLE or REINFORCED INSULATION is permitted in a wounded component using one of the following a), b), or c) constructions or the wounded component must use interleaved insulation which complies with 2.9.4.1 or 2.9.4.2:  a) the winding wire is insulated with insulation complying with 2.9.4.1 other than solution based type enamel coatings.  b) the winding wire is insulated with extruded multi-layers or wrapped layers of tape (each layer can be tested for electric strength) which complies with 2.9.4.1 and complies with annex U.  c) the winding wire is insulated with extruded multi-layers or wrapped layers of tape (test can be only performed on finished winding wire) and complies with annex U.		<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>Note 1 – see also 6.4.1.</p> <p>As to c), the number of constructional layers applied to the conductor to determine the grade of insulation of the winding wire shall not be less than as follows:</p> <ul style="list-style-type: none"> <li>- if BASIC INSULATION is required, a minimum of two layers or one extruded layer</li> <li>- if SUPPLEMENTARY INSULATION is required, a minimum of two layers or two extruded layers</li> <li>- if REINFORCED INSULATION is required, a minimum of three layers or three extruded layers</li> </ul> <p>As to b) and c), in case the CREEPAGE DISTANCES between wrapped layers of tape are less than Table 6 under Pollution degree 1, the distance between layers must be reliably cement together with insulation compound complying with 2.9.7 and with the test voltage in annex U.2 (Type tests) increased to 1.6 times.</p> <p>Note 2 – In case one layer of material is wrapped 50% or more, it is considered as two layers</p> <p>Where two insulated wires or one bare wire and one insulated wire are contacted inside the component and cross each other at an angle between 45° and 90°, physical separation shall be provided, for example in the form of insulating sleeving or sheet material, or by applying two times of the specified insulating layer(s), to relieve mechanical stress at the crossover point.</p> <p>The finished component shall pass ROUTINE TESTING for electric strength using the value of test voltage in 5.3.</p> <p>Compliance is checked by visual inspection and measurement, and as specified in annex U. However, the tests are not repeated if the material data sheets confirm compliance with annex U.</p>		
5.1	<p>Addition:</p> <p>Add the following to 5) as specified in “Conditions applicable to table 16, parts 1 and 2”</p> <p>With regards to 1), insulating materials complying with Japanese requirement (Refer to Japanese difference for current IEC 60335-1 (3<sup>rd</sup> Edition) in CB Bulletin 94B), can be taken of data for that material to determine the appropriate maximum temperature rise.</p>	For other than those complied with IEC standards, refer to added condition 8) below.	<b>P</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
Annex U	<p>Replacement:</p> <p>ANNEX U (normative)</p> <p>Insulated winding wires for use without interleaved insulation (see 2.9.4.4)</p> <p>This annex specifies winding wire whose insulation may be used to provide BASIC, SUPPLEMENTARY or REINFORCED INSULATION in wound components without interleaved insulation.</p> <p>This annex applies to round winding wire whose diameter is between 0.2mm and 1.00mm. With regard to other size, refer to IEC 60851.</p>	Replaced.	<b>N</b>
	<p>U.1 Wire construction</p> <p>If the wire is insulated with two or more spirally wrapped layers of tape, the overlap of layers shall be adequate to ensure continued overlap during manufacture of the wound component. In order to maintain the overlap of layers, wire insulation layer of wrapped layers of tape must be adequately secured.</p>		<b>N</b>
	<p>U.2 Type tests</p> <p>Unless it specifies, the wire shall pass the following six TYPE TESTS U.2.1 to U.2.4, carried out at a temperature between 15°C and 35°C and a relative humidity between 45% and 75%. Refer to the IEC 60851 first edition.</p>		<b>N</b>
	<p>U.2.1 Electric strength</p> <p>Test 13 of IEC 60851-5 (1988), 4.3.1 (test for twisted wire pairs), with a test voltage 2 times of appropriate voltage in Table 18 of this standard or 6kVr.m.s. whichever is the greater.</p>		<b>N</b>

National Deviation																					
Clause	Requirement – Test	Result – Remark	Verdict																		
	<p>U.2.2 Adherence and flexibility</p> <p>Test 8 of IEC 60851-3, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>Table U.2.2.2 – Mandrel</p> <table border="1"> <thead> <tr> <th>Nominal diameter of conductor (mm)</th> <th>Mandrel diameter (mm±0.2mm)</th> </tr> </thead> <tbody> <tr> <td>0.20 – 0.34</td> <td>4.0</td> </tr> <tr> <td>0.35 – 0.49</td> <td>6.0</td> </tr> <tr> <td>0.50 – 0.74</td> <td>8.0</td> </tr> <tr> <td>0.75 – 1.00</td> <td>10.0</td> </tr> </tbody> </table> <p>The tension of winding wire while wire is wrapped around the mandrel, should be calculated so that it is equivalent to 118MPa±10% (118N/mm²±10%) from winding wire radial.</p>	Nominal diameter of conductor (mm)	Mandrel diameter (mm±0.2mm)	0.20 – 0.34	4.0	0.35 – 0.49	6.0	0.50 – 0.74	8.0	0.75 – 1.00	10.0		<b>N</b>								
Nominal diameter of conductor (mm)	Mandrel diameter (mm±0.2mm)																				
0.20 – 0.34	4.0																				
0.35 – 0.49	6.0																				
0.50 – 0.74	8.0																				
0.75 – 1.00	10.0																				
	<p>U.2.3 Heat shock</p> <p>Test 9 of IEC 60851-6, 3.1 and IEC 60851-3, 5.1.1.1, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>The temperature of oven is specified in the following Table U.2.3.</p> <p>Table U.2.2 shows and explains required mandrel diameter and tension.</p> <p>Test must be performed at room ambient after taking out from oven.</p> <p>Table U.2.3 – Oven Temperature</p> <table border="1"> <thead> <tr> <th>Class</th> <th>A</th> <th>E</th> <th>B</th> <th>F</th> <th>H</th> </tr> </thead> <tbody> <tr> <td></td> <td>(105)</td> <td>(120)</td> <td>(130)</td> <td>(155)</td> <td>(180)</td> </tr> <tr> <td>Oven Temp.</td> <td>200</td> <td>215</td> <td>225</td> <td>240</td> <td>260</td> </tr> </tbody> </table> <p>(°C±2°C)</p>	Class	A	E	B	F	H		(105)	(120)	(130)	(155)	(180)	Oven Temp.	200	215	225	240	260		<b>N</b>
Class	A	E	B	F	H																
	(105)	(120)	(130)	(155)	(180)																
Oven Temp.	200	215	225	240	260																
	<p>U.2.4 Retention of electric strength after bending</p> <p>Test 13 of IEC 60851-5 (1988), 4.6.1 c, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>Table U.2.2 shows and explains required mandrel diameter and tension.</p>		<b>N</b>																		
	<p>U.3 Routine test</p> <p>Winding wire is subjected to electric strength test during the production in accordance with U.3.1 and U.3.2 by wire manufacturer.</p>		<b>N</b>																		



National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>U.3.1 Full-length test</p> <p>Winding wire is subjected to electric strength test during the production for full wire length, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. or 4.2kV peak minimum.</p>		<b>N</b>
	<p>U.3.2 Audit test</p> <p>Test must be carried out according to IEC 60851-5 (1988) for twisted wire pairs. Electric strength test, with a test voltage 2 times of appropriate voltage in Table 18 of this standard or 6kVr.m.s. or 8.4kV peak minimum.</p>		<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Korean National Differences according to CB Bulletin, No. 101A, December 2001  REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		<b>P</b>
EXPLANATION FOR ABBREVIATIONS P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
General	LIMITATIONS - Voltage ratings  As national supply voltage is subject to be increased to 220V, an appliance rated 220V is to be allowed to obtain type approval in Korea. Either an appliance rated 110V or 220/110V is not allowed. When an appliance is supplied in Korea, it shall be set to and marked with 220V.  But free voltage appliance by SMPS (Switching Mode Power Supply) is allowed and it shall be marked with "100-220V".	Rated 100-240V.	<b>P</b>
General	LIMITATIONS – Frequency  Only appliances having supply frequency of 60Hz or a frequency range including 60Hz are accepted. When an appliance is supplied in Korea, it shall be set to and marked with 60Hz.	Certified in the 50/60Hz frequency range.	<b>P</b>
General	LIMITATIONS - Instruction  Instruction manuals and appliance markings related to safety, including nameplate shall be in Korean or graphical symbols in IEC Publication 60417.	Instruction manual will be in Korean.	<b>N</b>
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirements (KSC 8305).	Shall be evaluated in national approval.	<b>N</b>
7	Addition:  Radio frequency interference  The apparatus shall comply with the relevant CISPR requirements.	The CISPR requirements have to be considered when national approval.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Singapore National Differences according to CB Bulletin, No. 101A, December 2001  REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		<b>P</b>
EXPLANATION FOR ABBREVIATIONS P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
General	IT Power Systems are not allowed in the Republic of Singapore and all clauses related to IT Power Systems are not applicable.	IT Power System is not for Singapore.	<b>P</b>
2.2.3	(a) After the first paragraph, insert the following:  Conditions described in IEC Publication 60068-2-3: Test Ca: Damp Heat, Steady State (temperature: 40 ± 2°C, relative humidity: 90% to 95%) shall apply to insulation to be used under tropical conditions. The duration of the humidity conditioning is 5 days (120h) under tropical conditions.  (b) At the end of the last paragraph, insert the following note:  NOTE: The additional requirement on humidity conditioning is drawn from Clause 10.2 of IEC 60065:1985.	See IEC 60950 report.	<b>P</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Israel National Differences according to CB Bulletin, No. 101A, December 2001  REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		<b>P</b>
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.2.12.1	TN Power Distribution:  The mains system in Israel is TN-S or TN-C or TN-C-S.	Considered.	<b>P</b>
1.7	Marking and Instructions:  The package of the equipment shall be marked in Hebrew, and shall include: (a) The name of the manufacturer (b) The country of production (c) The year of production (d) The name and the address of the importer (e) The marking shall be on a rectangular label (of at least 50mm X 24mm) (f) The letters height should be at least 2mm (g) The color of the label shall be in contrast to the color of the package.	Shall be evaluated in national mark approval.	<b>N</b>
1.7.14	Language:  All instructions and warnings concerning safety should be in the Hebrew language	Shall be evaluated in national mark approval.	<b>N</b>
2.101	EMC:  The equipment shall comply with SI 961 part 6 (CISPR 22 + 24)	Shall be provided and evaluated in national mark approval.	<b>N</b>
3.2.2	Permanently connected equipment:  Additional note below table 10:  In Israel the diameter of the conduit shall comply with the Electricity Law.		<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict

APPENDIX	Australian National Differences according to CB Bulletin No. 101A, December 2001 (AS/NZS 3260-1993)  REPORT (IEC Publication 60950 2 <sup>nd</sup> edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		<b>P</b>
----------	---	--	----------

**EXPLANATION FOR ABBREVIATIONS**

P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.

1.2.12.2	Add: "TT power systems are not permitted in Australia or New Zealand."	Added.	<b>N</b>
1.2.12.3	Add: "IT power systems are not permitted in Australia or New Zealand."  Note: Australia and New Zealand principally use multiple-earthed neutral (MEN) systems but allow TN-C for installations using metal-sheathed cables.	Added.	<b>N</b>
1.5.1	Add to paragraph 1: "or the other relevant Australian or New Zealand Standard."	Added.	<b>P</b>
1.5.2	Add to the first and third dashed items after the words "IEC component standard": "or the other relevant Australian or New Zealand Standard."	Added.	<b>P</b>
1.7.14	Add to paragraph 1: "In Australia and New Zealand all safety instructions shall be in English."	User manual is in English.	<b>P</b>
2	Add after clause 2: "For the limit of direct current from a.c. appliances, refer to AS/NZS Appendix 3."	See Appendix 3.	<b>N</b>
3.2.2	Substitute for table 10: "For sizes of cables and conduits in Australia, refer to AS 3000."	No power cord provided.	<b>N</b>
3.2.4	Substitute for table 11: "For sizes of conductors in power supply cords use following Table 11:  <b>Table 11</b> <b>Sizes of conductors in power supply cords</b> Rated current (A)      Cross-section area (mm <sup>2</sup> ) > 0.2 ≤ 3                      0.5* > 3 ≤ 7.5                        0.75 > 7.5 ≤ 10                        1 > 10 ≤ 16                        1.5 > 16 ≤ 25                        2.5 > 25 ≤ 32                        4 > 32 ≤ 40                        6 > 40 ≤ 63                        10  * This nominal cross-section area is only allowed for class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug, does not exceed 2m (0.5mm <sup>2</sup> three-core supply flexible cords are not permitted; see Note 2 to table 2.17 of AS/NZS 3191).	No power cord provided.	<b>N</b>
4.4.1	For the Australian alternative resistance to fire test, refer to Appendix 2."	Not applied for Appendix 2.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
6.4.2	Replace the first paragraph by: “In Australia, compliance with 6.4.1 is checked by both the test of 6.4.2.1 and 6.4.2.2”. Delete the fourth paragraph ‘The choice of tests....manufacturer’.	No TNV.	<b>N</b>
6.4.2.1	Replace Clause 6.4.2.1 by: <i>Impulse test</i> The electrical separation is subjected to ten impulses of alternating polarity, using the impulse test generator of Annex N. The interval between successive impulses is 60s and the initial voltage $U_i$ is: - in case (a) of 6.4.1, 7kV for hand-held telephones and for handsets; and 2.5kV for other equipment; and - in case (b) and (c) 1.5kV. Notes: 1 The 7 kV impulse is to simulate measured lighting surges in typical Australian rural and semi-rural network lines. 2 The value of 2.5kV has been chosen primarily to ensure adequacy of the insulation concerned, but not necessarily to simulate likely overvoltages.	Not applied for Appendix 2.	<b>N</b>
6.4.2.2	Replace Clause 6.4.2.2 by: <i>Electric strength test</i> The electrical separation is subjected for 60s to a substantially sinusoidal voltage having a frequency of 50Hz or 60Hz, or to a d.c. voltage equal to the peak value of the prescribed a.c. voltage. The a.c. test voltage is: - in case (a) of 6.4.1 3kV - in case (b) and (c) 1.5kV. The voltage is gradually raised from zero to the prescribed voltage and then held at that value for 60s. NOTE: 1. Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. 2. The 3 kV and 1.5kV values have been determined considering the low frequency induced voltages from the power supply distribution system.	No TNV.	<b>N</b>
Annex A	Add. after Annex title: Alternative resistance to fire test-determination if ignitability and combustion propagation	Not applied for this Appendix.	<b>N</b>
Appendix 2	Add. Appendix ALTERNATE RESISTANCE TO FIRE TEST DETERMINATION OF IGNITABILITY AND COMBUSTION PROPAGATION	Not applied for this Appendix.	<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.0	GENERAL This test is an alternative to the testes in Annex A to allow approval of equipment which has inadequate documentation to verify having been tested to Annex A.		<b>N</b>
X2.1	SOLID INSULATION MATERIALS AND NON-METALLIC ENCLOSURES		<b>N</b>
X2.1.1	GENERAL REQUIREMENTS Parts of non metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs wiring insulation and other parts not likely to be ignited or to propagate flames from inside the equipment. Compliance is checked by the tests of Clauses X2.1.2, X2.1.3 and X2.1.4 as applicable and if necessary by the test of X2.2		<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.1.2	<p><b>NON-METALLIC MATERIAL</b></p> <p>Relevant parts of non-metallic material are subjected to the glow-wire test of AS/NZS 3350.1, the test being made at a temperature of 550°C.</p> <p>The 550°C glow-wire test need not be carried out on parts which are made of material classified as FH 3-40 mm/min or better according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be thicker than the relevant part.</p> <p>Insulating material of winding bobbins and formers are subject to the glow-wire test of AS/NZS 3350.1, the test being made a temperature of 650°C.</p> <p>Base material of printed circuit boards with any coating or encapsulation to the needle-flame test of AS/NZS 3350.1, however, flames shall have extinguished with 15s of removal of the test flame. The flame shall be applied to an edge of the board having the lowest heat sink effect, with the board orientated in its normal position of use and at a point, if possible, not less than 10mm from a corner.</p> <p>The needle-flame test is not carried out on base material which is made of material classified as FV-0 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than that of the relevant printed circuit board.</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>1. The test is not carried out on printed circuit boards contained in a metal enclosure that prevents flames or burning droplets from escaping.</li> <li>2. If the printed circuit board is tested with components mounted and a component ignites during the test, this would not constitute a failure of the printed circuit board material unless it is ignited by the component.</li> </ol>		<b>N</b>



National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.1.3	<p><b>ATTENDED EQUIPMENT</b></p> <p>For equipment which is operated while attended, parts of insulating material supporting, in contact with or in close proximity to current carrying connections, other than those in SELV circuits are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 650°C. However parts of insulating material supporting, in contact with or in close proximity to screw connections which carry a current exceeding 0.5A during normal operation and which are likely to be made or remade during installation, user maintenance or when replacing a supply cord assembled with the appliance by Type X attachment, are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 750°C.</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>1. The test is not carried out on parts supporting welded connections.</li> <li>2. 'In close proximity' is considered to be a distance not exceeding 3mm.</li> </ol>		<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.1.4	<p><b>UNATTENDED EQUIPMENT</b></p> <p>For equipment which is operated while unattended, parts of insulating material supporting, in contact with or in close proximity to current carrying connections, other than those in SELV circuits are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 750°C. However parts of insulating material supporting, in contact with or in close proximity to screw connections which carry a current exceeding 0.5A during normal operation and which are likely to be made or remade during installation, user maintenance or when replacing a supply cord assembled with the appliance by Type X attachment, are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 850°C.</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>1. The test is not carried out on parts supporting welded connections.</li> <li>2. 'In close proximity' is considered to be a distance not exceeding 3mm.</li> </ol> <p>During the application of glow-wire, the height and duration of flames are measured.</p> <p>In addition, for parts which withstand the glow-wire test but which flame during the application of the glow-wire, the surrounding parts are subject to the needle-flame test of AS/NZS 3350.1 for the measured duration of the flame after or 30s, whichever is the least if -</p> <ol style="list-style-type: none"> <li>a) They are positioned within a distance equal to the height of the flame; and</li> <li>b) they are likely to be impinged upon by the flame</li> </ol> <p>However, surrounding parts shielded by a separate barrier which meets the needle-flame test are not tested.</p> <p>The needle-flame test is not carried out on parts which are made of material classified as FV-0 or FV-1 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than the relevant part.</p> <p>Note: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10mm and a height equal to the height of flame, positioned above the point of the material supporting, in contact with or in close proximity to connections.</p>		<b>N</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.2	<p><b>ADDITIONAL TEST REQUIREMENTS</b></p> <p>If parts, other than enclosures, do not withstand the test of clauses X2.1.3 or X2.1.4, by failure to extinguish within 30s after removal of the glow wire tip, the needle-flame test of AS/NZS 3350.1 is made on all parts of non-metallic material which are within a distance of 50mm or which are likely to be impinged upon by flame during the test of clauses X2.1.3 or X2.1.4. Parts shielded by a separate barrier which meets the flame-needle test are not tested.</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>1. If the enclosure does not withstand the glow-wire test the appliance is considered to have failed to meet the requirement of Appendix 2 without the need for consequential testing.</li> <li>2. If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the appliance, the appliance is considered to have failed to meet the requirement of Appendix 2 without the need for consequential testing.</li> <li>3. Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with or in close proximity to connections.</li> </ol> <p>The needle-flame test need not be carried out on parts which are made of classified as FV-0 or FV-1 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than the relevant part.</p>		<b>N</b>
Appendix 3	<p>Add Appendix:</p> <p><b>D.C. COMPONENTS FROM A.C. EQUIPMENT</b></p> <p>Equipment shall be designed so that in normal use the value of any direct current in the equipment neutral will not contribute unduly to the failure of the installation earth electrode by corrosion.</p> <p>Any device such as isolating transformer intended to prevent direct current in the supply shall be an integral part of the equipment.</p>	No D.C. current under normal operation condition	<b>P</b>

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>Compliance is checked by inspection and by operating the equipment</p> <p>(a) at the rated voltage under the conditions specified in Clause 5.1;</p> <p>(b) on a supply free from any d.c. component; and</p> <p>(c) in the maximum d.c. producing mode, if any, but not exceeding normal load;</p> <p>and measuring the d.c. component in the supply neutral caused by the equipment as described below.</p> <p>If it is evident from the design of the equipment that there will be no d.c. component, e.g. equipment provided with a full-wave mains power supply or a mains isolating transformer, this test is not conducted.</p> <p>The permissible direct current in the equipment neutral shall not exceed</p> <p>(i) for equipment considered as operating continuously ..... 5 mA; or</p> <p>(ii) for other than continuously operated equipment where t is the assessed daily average operating time, in hours .....(5*24)/t mA</p> <p>For equipment which is not continuously operated but includes a component or a device which is continuously energized, e.g. stand-by control or remote switching device, the summation of the product of the direct current from the control device over 24h and the direct current from the equipment for its assessed daily average operating time in hours shall not exceed 120mAh per day.</p> <p>The maximum value of direct current permitted in the neutral is 1.44A which could be applicable to equipment with an assessed average daily operating time of 5 min. or less.</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>When determining the assessed daily average operating time the approvals authority may accept evidence supplied by the manufacturer.</li> <li>The d.c. peak value due to transient starting effects is ignored.</li> </ol> <p>The measuring system used to measure any direct current produced shall have a sufficiently high normal (series) mode rejection ratio, by the use of a low pass filter if necessary, to ensure that an overall uncertainty of less than 10% can be achieved.</p>		