Certificate of Compliance

Low Voltage Directive 2006/95/EC

Certificate Number : L070606-09

Applicant : AAEON Technology Inc.

Product : Ethernet Operator Panel

Model/Type : xxxxxAOP-8070HT-xx-xxxx

Electrical Rating : 12–24Vdc, 1.6-0.8A

Other Specification :

Standards applied : EN 60950-1:2001

The tested samples of the above products are in conformity with the technical provisions of the Following European Directive-

Low Voltage Directive 2006/95/EC

Date Issued : July 23, 2007

Approve & Authorized Signer : _____

Prodigy Technology Consultant Co., Ltd.
1 FL, No. 30, Sec. 1, Wunhua 1st Rd., Linkou, Taipei County 24447, Taiwan, R. O. C.
TEL: 886-2-2600-6368/FAX: 886-2-2609-2399

TEST REPORT

EN 60950-1

Information Technology Equipment – Safety – Part 1: General Requirements

Test Report No.: L070606-09

Client	
Name :	**AAEON Technology Inc.**
Address :	**5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan**
Test Item :	**Ethernet Operator Panel**
Identification :	**xxxxxAOP-8070HT-xx-xxxx (where "x" can be 0-9, A-Z, - or blank)**
Testing laboratory	
Name :	**Prodigy Technology Consultant Co., Ltd.**
Address :	**1FL, No.30, Sec. 1, Wunhua 1st Rd., Linkou, Taipei County 24447, Taiwan, R.O.C**
Test specification	
Standard :	**EN 60950-1:2001**
Test Result :	The test item passed.
Prepared By :	Andy Yang (Signature) — July 23, 2007 (Date) Andy Yang Engineer
Approved By:	(Signature) — July 23, 2007 (Date) Danny Lin Manager

Other Aspects:

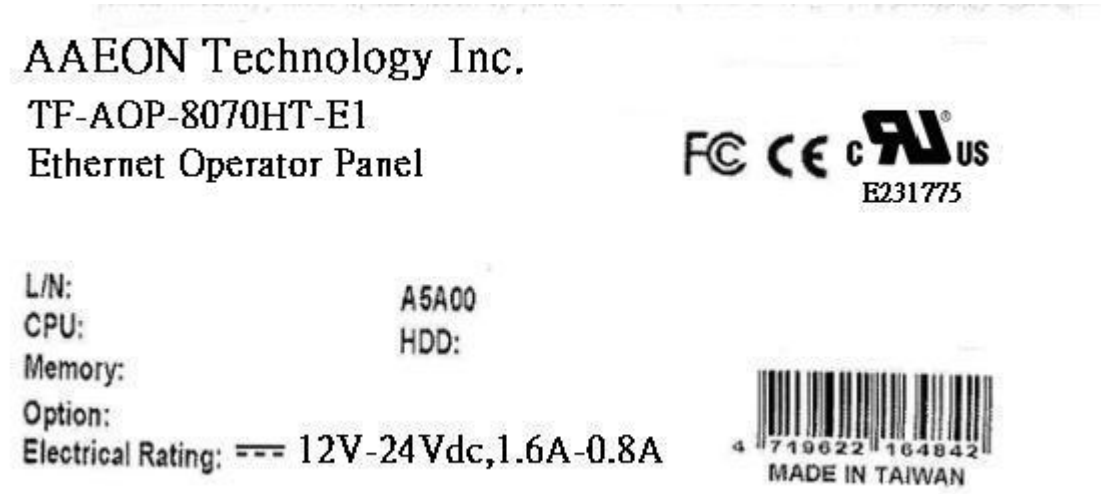
The completed test report includes the following documents:

- ■ EN 60950-1 report (37 pages)

TEST REPORT EN 60950-1:2001 Information technology equipment – Safety – Part 1: General requirements	
Report	
Reference No. ..... :	L070606-09
Compiled by (+ signature)..... :	See cover sheet
Approved by (+ signature) ..... :	See cover sheet
Date of issue..... :	July 23, 2007
Testing laboratory	
Name ..... :	Prodigy Technology Consultant Co., Ltd.
Address ..... :	No.30, Sec. 1, Wunhua 1st Rd., Linkou Township, Taipei 244, Taiwan, R.O.C.
Testing location ..... :	Prodigy Technology Consultant Co., Ltd.
Address ..... :	No.30, Sec. 1, Wunhua 1st Rd., Linkou Township, Taipei 244, Taiwan, R.O.C.
Client	
Name ..... :	AAEON Technology Inc.
Address ..... :	5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan
Test specification	
Standard ..... :	EN 60950-1:2001
Test procedure ..... :	CE Marking Serial in LVD
Procedure deviation ..... :	N/A.
Non-standard test method ..... :	N/A.
Test Report Form/blank test report	
Test Report Form No. ..... :	IECEN60950_1B
TRF originator. ..... :	SGS Fimko Ltd.
Master TRF..... :	dated 2003-03
Test item	
Description..... :	Ethernet Operator Panel
Trademark ..... :	AAEON
Model and/or type reference..... :	xxxxxAOP-8070HT-xx-xxxx (where "x" can be 0-9, A-Z, - or blank)
Manufacturer ..... :	AAEON Technology Inc.
Rating(s) ..... :	12V-24Vdc, 1.6A-0.8A

Copy of marking plate and summary of test results (information/comments):

This is a reference Label. Final label shall be including the content of it.



Particulars: test item vs. test requirements	
Equipment mobility	movable
Operating condition	Continuous
Mains supply tolerance (%)	N/A
Tested for IT power systems	N/A
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class III
Mass of equipment (kg)	0.83 kg
Protection against ingress of water	N/A
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	Pass
- test object does not meet the requirement	Fail
Testing	
Date of receipt of test item	June 06, 2007
Date(s) of performance of test	July 17, 2007

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 Enclosure #)" refers to additional information appended to the Report.
- "(see appended table)" refers to a table appended to the Report.

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

Brief description of the test equipment:

1) The equipment is a Class lll Ethernet Operator Panel.
2) Maximum operating Temperature: 50 ℃
3) EUT Dimension: 220 mm by 150 mm by 50 mm.
4) The equipment is intended to be powered by a Limited Power Source SELV DC sources and shall be evaluated in the final system.

Test condition:

Temperature: 25℃
Relative humidity: 60%
Air pressure: 950 mbar

The test sample was a pre-production sample without serial number.

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		Pass
1.5	**Components**		Pass
1.5.1	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	Pass
1.5.2	Evaluation and testing of components		Pass
1.5.3	Thermal controls	No Thermal control.	N/A
1.5.4	Transformers	Class III equipment.	N/A
1.5.5	Interconnecting cables	Interconnecting cable for Interconnection is carrying only SELV voltages.	Pass
1.5.6	Capacitors in primary circuits ..... :		N/A
1.5.7	Double or reinforced insulation bridged by components		N/A
1.5.7.1	General		N/A
1.5.7.2	Bridging capacitors		N/A
1.5.7.3	Bridging resistors		N/A
1.5.7.4	Accessible parts		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.6	**Power interface**		Pass
1.6.1	AC power distribution systems	Equipment is not directly connected to the AC mains supply.	N/A
1.6.2	Input current	(see appended table 1.6.2)	Pass
1.6.3	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	N/A
1.6.4	Neutral conductor	Class III equipment.	N/A
1.7	**Marking and instructions**		Pass
1.7.1	Power rating	See below.	Pass
	Rated voltage(s) or voltage range(s) (V) ..... :	12-24Vdc	Pass
	Symbol for nature of supply for d.c. ..... :	⎓	Pass
	Rated frequency or frequency range (Hz) ..... :		N/A
	Rated current (A) ..... :	1.6-0.8A	Pass
	Manufacturer's name/Trademark ..... :	AAEON Technology Inc./ AAEON	Pass

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	Type/model ..... :	xxxxxAOP-8070HT-xx-xxxx (where "x" can be 0-9, A-Z, - or blank)	Pass
	Symbol of Class II ..... :	Class III equipment.	N/A
	Other symbols ..... :		N/A
	Certification marks ..... :	CE	Pass
1.7.2	Safety instructions	The user manual provided.	Pass
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment ..... :	Class III equipment.	N/A
1.7.5	Power outlets on the equipment ..... :	No power outlets.	N/A
1.7.6	Fuse identification ..... :	Class III equipment.	N/A
1.7.7	Wiring terminals	See below.	N/A
1.7.7.1	Protective earthing and bonding terminals	Class III equipment.	N/A
1.7.7.2	Terminal for a.c. mains supply conductors	Class III equipment.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Class III equipment with external approved power sources.	N/A
1.7.8	Controls hand indicators	See below.	N/A
1.7.8.1	Identification, location and marking ..... :	No safety relevant switch or control.	N/A
1.7.8.2	Colours ..... :	No safety relevant switch or control.	N/A
1.7.8.3	Symbols according to IEC 60417 ..... :	No primary switch.	N/A
1.7.8.4	Markings using figures ..... :	No indicators for different position.	N/A
1.7.9	Isolation of multiple power sources ..... :	Class III equipment, not connected to the mains directly.	N/A
1.7.10	IT power system	Class III equipment, not connected to the mains directly.	N/A
1.7.11	Thermostats and other regulating devices	No thermostat or other regulating devices.	N/A
1.7.12	Language ..... :	Instruction and equipment marking are in English, safety related information will be in a language which is acceptable in the country in which the equipment is to be installed.	Pass

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.13	Durability	The label was subjected to the test for permanence of marking. The label was rubbed with cloth for 15s. And then rubbed by the cloth soaked with Naphtha for 15s. After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting on the label edge.	Pass
1.7.14	Removable parts	No required markings placed on removable parts.	N/A
1.7.15	Replaceable batteries	The marking was provided in the user manual.	N/A
	Language..... :	Review only English marking/ instructions. May be provided in other language upon request from the manufacturer.	—
1.7.16	Operator access with a tool..... :	No operator access area, require a tool to gain access.	N/A
1.7.17	Equipment for restricted access locations..... :	Not for use in restricted access location.	N/A
2	**PROTECTION FROM HAZARDS**		Pass
2.1	**Protection from electric shock and energy hazards**		Pass
2.1.1	Protection in OPERATOR access areas	Supplied by SELV.	Pass
2.1.1.1	Access to energized parts	The equipment is supplied from SELV voltage only.	Pass
	Test by inspection ..... :		N/A
	Test with test finger ..... :		N/A
	Test with test pin ..... :		N/A
	Test with test probe ..... :		N/A
2.1.1.2	Battery compartments ..... :	No battery compartment provided in TNV circuit.	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N/A
	Working voltage (V); distance (mm) through insulation		—

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	N/A
2.1.1.5	Energy hazards ..... :	No energy hazard.	N/A
2.1.1.6	Manual controls	No manual controls.	N/A
2.1.1.7	Discharge of capacitors in the primary circuit	Class III equipment. No primary capacitors.	N/A
	Time-constant (s); measured voltage (V)..... :		—
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations	No restricted access location.	N/A
2.2	**SELV circuits**		Pass
2.2.1	General requirements	See below	Pass
2.2.2	Voltages under normal conditions (V) ..... :	Between any SELV circuits, 42.4V peak or 60Vdc were not exceeded.	Pass
2.2.3	Voltages under fault conditions (V) ..... :	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak or 120Vdc were not exceeded within 0.2 seconds and limits of 42.4V peak or 60Vdc were not exceeded for longer than 0.2 seconds.	Pass
2.2.3.1	Separation by double or reinforced insulation (method 1)	Class III equipment.	N/A
2.2.3.2	Separation by earthed screen (method 2)	Class III equipment.	N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)	Class III equipment.	N/A
2.2.4	Connection of SELV circuits to other circuits .....:	Only connection between SELV to SELV.	Pass
2.3	**TNV circuits**		N/A
2.3.1	Limits	No TNV circuit inside the equipment.	N/A
	Type of TNV circuits ..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed..... :		—
2.3.3	Separation from hazardous voltages	.	N/A

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulation employed..... :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed..... :		—
2.3.5	Test for operating voltages generated externally	Not applicable.	N/A
2.4	**Limited current circuits**		Pass
2.4.1	General requirements		Pass
2.4.2	Limit values	See below	Pass
	Frequency (Hz)..... :	See appended table 2.4	—
	Measured current (mA)..... :	See appended table 2.4	—
	Measured voltage (V) ..... :	See appended table 2.4	—
	Measured capacitance (μF)..... :	< 0.1 μF	—
2.4.3	Connection of limited current circuits to other circuits		Pass
2.5	**Limited power sources**		Pass
	Inherently limited output	(See appended table 2.5)	Pass
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition	The USB outputs had been evaluated and found to comply with the Limited Power Source.	Pass
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (V), output current (A), apparent power (VA)..... :	(See appended table 2.5)	—
	Current rating of overcurrent protective device (A)		—
2.6	**Provisions for earthing and bonding**		N/A
2.6.1	Protective earthing	Class III equipment.	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.4	Rated current (A), type and nominal thread diameter (mm) ..... :		N/A
	Resistance (Ω) of earthing conductors and their terminations, test current (A) ..... :		N/A
2.6.3.5	Colour of insulation..... :		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type and nominal thread diameter (mm) ..... :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	**Overcurrent and earth fault protection in primary circuits**		N/A
2.7.1	Basic requirements	Class III equipment.	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices ..... :		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel..... :		N/A

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
2.8	**Safety interlocks**		N/A
2.8.1	General principles	No safety interlocks provided.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Interlocks with moving parts		N/A
2.8.6	Overriding an interlock		N/A
2.8.7	Switches and relays in interlock systems		N/A
2.8.7.1	Contact gaps (mm) ..... :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test (V)		N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		Pass
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	Pass
2.9.2	Humidity conditioning	Class III equipment.	N/A
2.9.3	Requirements for insulation		N/A
2.9.4	Insulation parameters		N/A
2.9.5	Grade of insulation	Functional insulation provided.	Pass
2.10	**Clearances, creepage distances and distances through insulation**		Pass
2.10.1	General	See below.	Pass
2.10.2	Determination of working voltage	Class III equipment.	Pass
2.10.3	Clearances	See below.	Pass
2.10.3.1	General	See below.	Pass
2.10.3.2	Clearances in primary circuit	No primary circuit.	N/A
2.10.3.3	Clearances in secondary circuits	Functional insulation.	Pass
2.10.3.4	Measurement of transient levels		N/A
2.10.4	Creepage distances	Functional insulation.	Pass
	CTI tests ..... :		—
2.10.5	Solid insulation		N/A

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.1	Minimum distance through insulation		N/A
2.10.5.2	Thin sheet material		N/A
	Number of layers (pcs) ..... :		—
	Electric strength test		—
2.10.5.3	Printed boards		N/A
2.10.5.4	Wound components		N/A
	Number of layers (pcs) ..... :		N/A
	Two wires in contact inside component; angle between 45° and 90°		N/A
2.10.6	Coated printed boards		N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C) ..... :		N/A
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		N/A
	Electric strength test		—
2.10.7	Enclosed and sealed parts ..... :	No hermetically sealed components.	N/A
	Temperature $T_1=T_2 = T_{mra} - T_{amb} +10K$ (°C)..... :		N/A
2.10.8	Spacings filled by insulating compound ..... :		N/A
	Electric strength test		—
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A

3	**WIRING, CONNECTIONS AND SUPPLY**		Pass
3.1	**General**		Pass
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring.	Pass
3.1.2	Protection against mechanical damage	Smooth and free of sharp edges.	Pass
3.1.3	Securing of internal wiring	Wiring are reliably routed and secured where appropriate.	Pass
3.1.4	Insulation of conductors	Wire insulations are suitable for the application.	Pass
3.1.5	Beads and ceramic insulators	Not used.	N/A

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Non-metallic materials in electrical connections	No contact pressure through insulating materials.	Pass
3.1.8	Self-tapping and spaced thread screws	No space thread screws / thread-cutting screws used.	N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A
3.2	**Connection to a.c. mains supplies**		N/A
3.2.1	Means of connection ..... :	Class III equipment.	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter (mm) of cable and conduits ..... :		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		—
	Type..... :		—
	Rated current (A), cross-sectional area (mm^2), AWG .....:		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....:		—
	Longitudinal displacement (mm) .....:		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	D (mm); test mass (g) .....:		—
	Radius of curvature of cord (mm).....:		—
3.2.9	Supply wiring space		N/A
3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals	Class III equipment.	N/A

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		N/A
3.3.5	Rated current (A), type and nominal thread diameter (mm) ..... :		N/A
3.3.6	Wiring terminals design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	**Disconnection from the a.c. mains supply**		N/A
3.4.1	General requirement	Class III equipment.	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Single-phase equipment		N/A
3.4.7	Three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
3.5	**Interconnection of equipment**		Pass
3.5.1	General requirements	Considered.	Pass
3.5.2	Types of interconnection circuits.....:	SELV circuits.	Pass
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	N/A
4	**PHYSICAL REQUIREMENTS**		Pass
4.1	**Stability**		Pass
	Angle of 10°		Pass
	Test: force (N).....:	Not floor standing equipment.	N/A
4.2	**Mechanical strength**		Pass

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.1	General	See below.	Pass
4.2.2	Steady force test, 10 N	10N applied to internal components and parts.	Pass
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	Class III equipment.	N/A
4.2.5	Impact test	Class III equipment.	N/A
4.2.6	Drop test	Not hand-held equipment.	N/A
4.2.7	Stress relief	Class III equipment.	N/A
4.2.8	Cathode ray tubes	No CRT provided.	N/A
	Picture tube separately certified ..... :		N/A
4.2.9	High pressure lamps	No high pressure lamp provided.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ... :	Force applied: 50 N.	Pass
4.3	**Design and construction**		Pass
4.3.1	Edges and corners	Edges and corners are rounded.	Pass
4.3.2	Handles and manual controls; force (N)..... :		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection of plugs and sockets		N/A
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque (Nm) ..... :		—
4.3.7	Heating elements in earthed equipment	No heating element.	N/A
4.3.8	Batteries	Battery is an approved component, performed test for RTC battery which is protected by a resistor (R336, 1Kohm) and IC U1. (see appended table 5.3)	Pass
4.3.9	Oil and grease	No oil or gas used.	N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases	No liquids or gases.	N/A
4.3.12	Flammable liquids..... :		N/A
	Quantity of liquid (l)..... :		N/A
	Flash point (°C)..... :		N/A
4.3.13	Radiation; type of radiation ..... :	See below.	Pass

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.1	General		Pass
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....:		N/A
	Measured high-voltage (kV) .....:		N/A
	Measured focus voltage (kV) .....:		N/A
	CRT markings .....:		N/A
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation ...:		N/A
	Part, property, retention after test, flammability classification .....:		N/A
4.3.13.5	Laser (including LEDs)		Pass
	Laser class .....:	LED below the limit of laser Class I.	Pass
4.3.13.6	Other types .....:		N/A
4.4	**Protection against hazardous moving parts**		N/A
4.4.1	General	No moving parts provided.	N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.5	**Thermal requirements**		Pass
4.5.1	Temperature rises	(See appended table 4.5)	Pass
	Normal load condition per Annex L ..... :		N/A
4.5.2	Resistance to abnormal heat		N/A
4.6	**Openings in enclosures**		N/A
4.6.1	Top and side openings	No top and side openings.	N/A
	Dimensions (mm) ..... :		—
4.6.2	Bottoms of fire enclosures	No bottom openings.	N/A
	Construction of the bottom ..... :		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment	Not transportable equipment.	N/A
4.6.5	Adhesives for constructional purposes	No adhesives for construction purposes.	N/A
	Conditioning temperature/time ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
4.7	**Resistance to fire**		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability clases.	Pass
4.7.2	Conditions for a fire enclosure	See below.	Pass
4.7.2.1	Parts requiring a fire enclosure		N/A
4.7.2.2	Parts not requiring a fire enclosure	The EUT is supplied by limited power sources and components are mounted on PWB of flammability Class V-1.	Pass
4.7.3	Materials	See below.	Pass
4.7.3.1	General	(See appended table 1.5.1)	Pass
4.7.3.2	Materials for fire enclosures	HB or better	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		N/A
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A
5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		Pass
5.1	**Touch current and protective conductor current**		N/A
5.1.1	General		N/A
5.1.2	Equipment under test (EUT)		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Test voltage (V) ..... :		—
	Measured current (mA) ..... :		—
	Max. allowed current (mA) ..... :		—
5.1.7	Equipment with touch current exceeding 3.5 mA ..... :		N/A
5.1.8	Touch currents to and from telecommunication networks		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network		N/A
	Test voltage (V) ..... :		—
	Measured current (mA) ..... :		—
	Max. allowed current (mA) ..... :		—
5.1.8.2	Summation of touch currents from telecommunication networks ..... :		N/A
5.2	**Electric strength**		N/A
5.2.1	General		N/A
5.2.2	Test procedure		N/A
5.3	**Abnormal operating and fault conditions**		Pass
5.3.1	Protection against overload and abnormal operation	See appended table.	Pass
5.3.2	Motors	The equipment does not have any motors.	N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation ..... :	Method c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults	See appended table.	Pass
5.3.7	Unattended equipment		N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions	See appended table.	Pass
5.3.8.1	During the tests		Pass
5.3.8.2	After the tests		Pass
6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N/A
6.1	**Protection of telecommunication network service personnel, and users of other equipment connected to the network, from hazards in the equipment**		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Test voltage (V) ..... :		—
	Current in the test circuit (mA) ..... :		—
6.1.2.2	Exclusions ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test	Not applicable.	N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of telecommunication wiring system from overheating**		N/A
	Max. output current (A) ..... :		—
	Current limiting method ..... :		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.2	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.3	Insulation between primary circuits and cable distribution systems		N/A
7.3.1	General		N/A
7.3.2	Voltage surge test		N/A
7.3.3	Impulse test		N/A
A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
A.1	**Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)**		N/A
A.1.1	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.1.3	Mounting of samples ..... :		N/A
A.1.4	Test flame		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—
	Sample 3 burning time (s) ..... :		—
A.2	**Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)**		N/A
A.2.1	Samples, material..... :		—
	Wall thickness (mm) ..... :		—
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—
	Sample 3 burning time (s) ..... :		—
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4, 8		N/A
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—
	Sample 3 burning time (s) ..... :		—
A.3	**Hot flaming oil test (see 4.6.2)**		N/A
A.3.1	Mounting of samples		—
A.3.2	Test procedure		—
A.3.3	Compliance criterion		N/A
B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		N/A
B.1	General requirements		N/A
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.5	Locked-rotor overload test		N/A
	Test duration (days) .....:		—
	Electric strength test: test voltage (V) .....:		—
B.6	Running overload test for DC motors in secondary circuits		N/A
B.7	Locked-rotor overload test for DC motors in secondary circuits		N/A
B.7.1	Test procedure		N/A
B.7.2	Alternative test procedure; test time (h) .....:		N/A
B.7.3	Electric strength test		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) .....:		—

C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		N/A
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
C.1	Overload test		N/A
C.2	Insulation		N/A

C.2	Safety isolation transformer	N/A
Construction details :		
Manufacturer :		
Type:		
Recurring peak voltage		
Required clearance insulation (from table 2H+2J)		
for Reinforced insulation		
for Basic		
Effective voltage rms		

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Clause	Requirement + Test	Result - Remark	Verdict

Required creepage insulation (from table L) for reinforced insulation	
for Reinforced insulation	
for Basic	
Measured min. clearance	
primary-secondary (Reinforced)	
primary-core (Basic)	
secondary-core (Basic)	
Measured min. creepage	
primary-secondary (Reinforced)	
primary-core (Basic)	
secondary-core (Basic)	
Construction:	
Pin numbers	
Primary	
Secondary	
Bobbin material	
Thickness	
Electric strength test	

D	**Annex D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS**		N/A
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A

E	**Annex E, TEMPERATURE RISE OF A WINDING**	N/A

F	**Annex F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)**	N/A

G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

G.1	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V) ..... :		N/A
G.3	Determination of telecommunication network transient voltage (V) ..... :		N/A
G.4	Determination of required withstand voltage (V) :		N/A
G.5	Measurement of transient levels (V)..... :		N/A
G.6	Determination of minimum clearances..... :		N/A

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

J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		N/A
	Metal used .....:		—

K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)**		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)..... :		N/A
K.3	Thermostat endurance test; operating voltage (V) ..... :		N/A
K.4	Temperature limiter endurance; operating voltage (V) ..... :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	**Annex L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)**		N/A
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		N/A
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (f) ..... :		—
M.3.1.2	Voltage (V) ..... :		—
M.3.1.3	Cadence; time (s), voltage (V) ..... :		—
M.3.1.4	Single fault current (mA) ..... :		—
M.3.2	Tripping device and monitoring voltage..... :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)..... :		N/A
N	**Annex N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	**Annex P, NORMATIVE REFERENCES**		N/A
Q	**Annex Q, BIBLIOGRAPHY**		N/A
R	**Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**Annex S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

T	**Annex T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
			—

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

1.5.1	**TABLE: list of critical components**				Pass
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity[1])
PWB	--	--	V-1 or better, 105 ℃.	UL 796	UL
LCD Panel	DATA IMAGE Corporation	FG070060DNCW AG02	7 inch, TFT-LCD	--	--
DC/AC Inverter	Hwa Youn Co., Ltd.	QF38V6	I/P: 5.25V maximum. 1250mA maximum. O/P: 650V, 6.8mArms maximum.	--	--
Transformer of DC/AC Inverter (T1)	Hwa Youn Co., Ltd.	EPC13-TF068	Open type, 105 ℃ minimum.	--	--
RTC Battery	Hitachi Maxell Ltd. Japan	CR2032	Maximum abnormal charging current 10mA, protected by U1 and R336 1K ohm.	UL 1642	UL
Protective IC for USB Port (U39, U51, U52)	RichTek Technology Corp.	RT9702APB	2-5.5Vdc, cont. current: 1.1A, Prot. Current: 2.0A.	IEC 60950-1:2005	TUV

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Clause	Requirement + Test	Result - Remark	Verdict

Enclosure	--	--	Metal, 1.0 mm thickness minimum, overall 221 by 152 by 55 mm	--	--
Base (Optional)	--	Metal/Plastic	Rated HB minimum, weight 5.56 kg, overall 328 mm diameter and high 340 mm.	UL 94 UL 746C	UL
Front Bezel	--	--	HB minimum.	UL 94	UL

1.6.2	**TABLE: electrical data (in normal conditions)**					Pass
fuse #	I rated (A)	U (V)	P (W)	I (mA)	I fuse (mA)	condition/status
--	1.6	12V	18.03	1502	--	Maximum Normal Load
--	0.8	24V	19.32	805	--	Maximum Normal Load

2.4	**TABLE: Limited current circuit**				Pass
fault	Volts, Peak	Volts dc	mAp	mA, dc	frequency kHz
P2 Pin 1 to Earth					
Normal	31.2	--	15.6	--	68.29
L1 Short	42.0	--	21.0	--	67.57
R16 Short	14.8	--	7.4	--	69.44
R1 Short	27.2	--	13.6	--	67.57
R12 Short	--	--	--	--	--
C2 short	36	--	18	--	69.44
Q4 pin C – E short	--	--	--	--	--
P2 Pin 2 to Earth					
Normal	2.4	--	1.2	--	71.43
L1 Short	2.56	--	1.28	--	67.57
R16 Short	1.32	--	0.66	--	69.44
R1 Short	--	--	--	--	--
R12 Short	1.92	--	0.96	--	69.44
C2 short	1.72	--	0.86	--	69.44

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Clause	Requirement + Test	Result - Remark	Verdict

Q4 pin C – E short	--	--	--	--	--
P2 Pin 1 to Pin 2					
Normal	11.2	--	5.6	--	67.57
L1 Short	21.6	--	10.8	--	65.79
R16 Short	6.2	--	3.1	--	67.57
R1 Short	--	--	--	--	--
R12 Short	6.4	--	3.2	--	69.44
C2 short	7.0	--	3.5	--	64.10
Q4 pin C – E short	--	--	--	--	--

2.5	**TABLE: limited power source measurements**					Pass
output tested	measured		single fault condition	measured value (maximum)		
	from	to		Uoc	Isc	VA
USB port 1	V +	V-	-	4.935	1.6	6.56
USB port 2	V +	V-	-	4.896	1.6	6.44
USB port 3	V+	V-	-	4.935	1.5	6.25
USB port 4	V+	V-	-	4.870	1.5	6.18

4.5	**TABLE: temperature rise measurements**		Pass
	test voltage (V)	12-24Vdc	—
	t1 (°C)	50℃	—
	t2 (°C)		—
Maximum temperature T of part/at:		T (°C)	allowed T_{max} (°C)
Input Voltage: 12Vdc			
01.Ambient		50.0	--
Main board		--	--
02.DC Jack		63.8	--
03.CE9 Body		77.5	105
04.L5 Coil		83.1	105

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Clause	Requirement + Test	Result - Remark	Verdict

05.PWB under U20	78.6	105
06.RTC body	67.3	100
Inverter	--	--
07.T1 Coil	80.9	105
08.T1 Core	78.4	105
09.L1 Coil	84.1	105
10.C1 Body	70.3	85
11.Panel Body	65.9	95
12.Enclosure inside (Plastic)	58.2	60
13.Enclosure outside (Plastic)	52.9	95
14.Enclosure outside (Metal)	57.3	70
Input Voltage: 24Vdc		
01.Ambient	50.0	--
Main board	**--**	--
02.DC Jack	66.6	--
03.CE9 Body	83.6	105
04.L5 Coil	93.2	105
05.PWB under U20	82.1	105
06.RTC body	69.5	100
Inverter	--	--
07.T1 Coil	82.0	105
08.T1 Core	79.6	105
09.L1 Coil	84.8	105
10.C1 Body	71.3	85
11.Panel Body	67.6	95
12.Enclosure inside (Plastic)	59.4	60
13.Enclosure outside (Plastic)	53.3	95
14.Enclosure outside (Metal)	58.3	70

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Clause	Requirement + Test	Result - Remark	Verdict

Comments

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltage as described above.

The max. ambient temperature T_{max} is defined at 50℃.Therefore the maximum temperatures measured are recalculated

Components with: User accessible area:

- max. absolute temp. of 85 ℃ (Capacitor)→ Tmax = 85 ℃
- max. absolute temp. of 105 ℃ (Chock)→ Tmax = 105 ℃
- max. absolute temp. of 105 ℃ (PWB)→ Tmax = 105 ℃
- max. absolute temp. of 100 ℃ (RTC)→ Tmax = 100 ℃
- max. absolute temp. of 95 ℃ (Panel)→ Tmax = 95 ℃

User accessible area:

- External Plastic enclosure which may be touch temp. 95℃ → Tmax = 95℃
- External Metal enclosure which may be touch temp. 70℃ → Tmax = 70℃

5.3	**TABLE: fault condition tests**					Pass
component No.	**fault**	**test voltage (V)**	**test time**	**fuse No.**	**fuse current (A)**	**result**
RTC Battery (CR2032)	Normal	24	--	--	--	Reverse Charging Current: 0 mA
RTC Battery (CR2032)	U1 Pin 3-14 short	24	--	--	--	Reverse Charging Current: 3.3 mA

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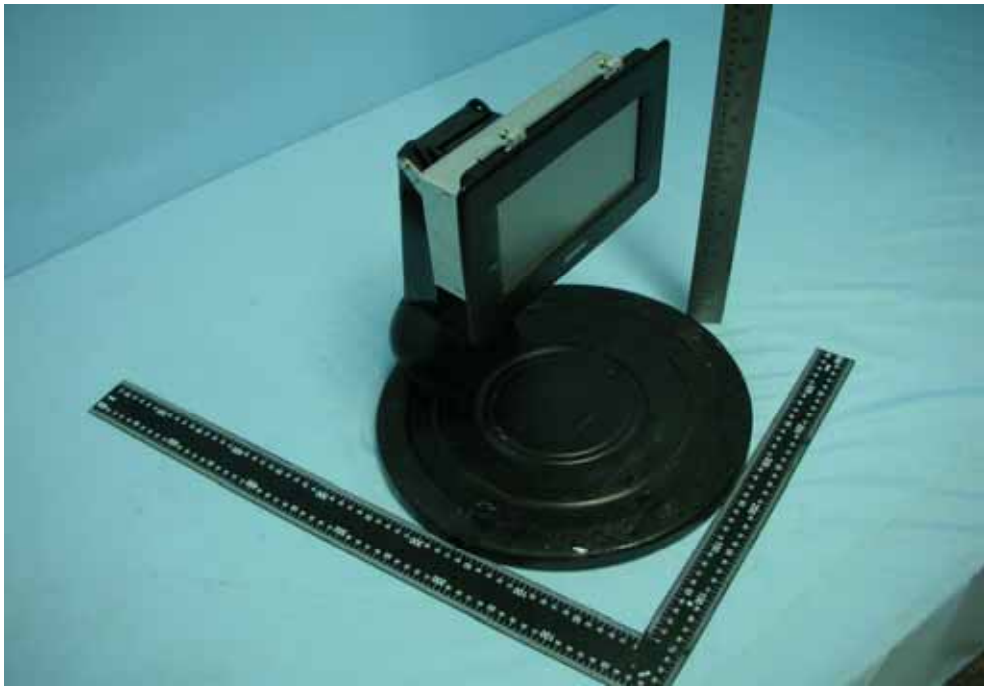
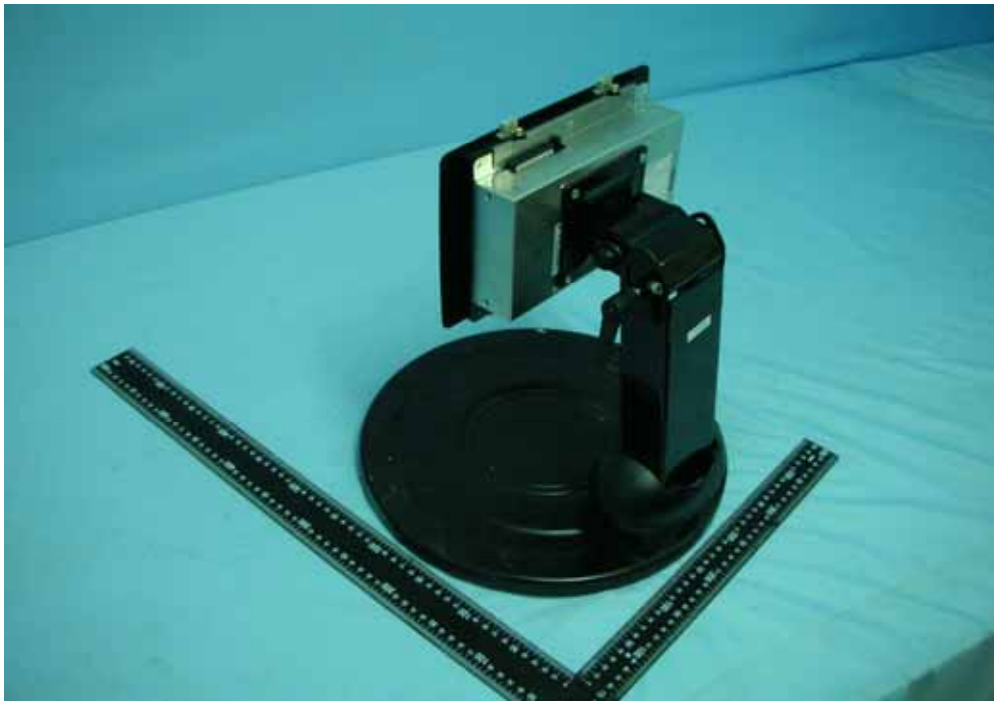
Clause	Requirement + Test	Result - Remark	Verdict

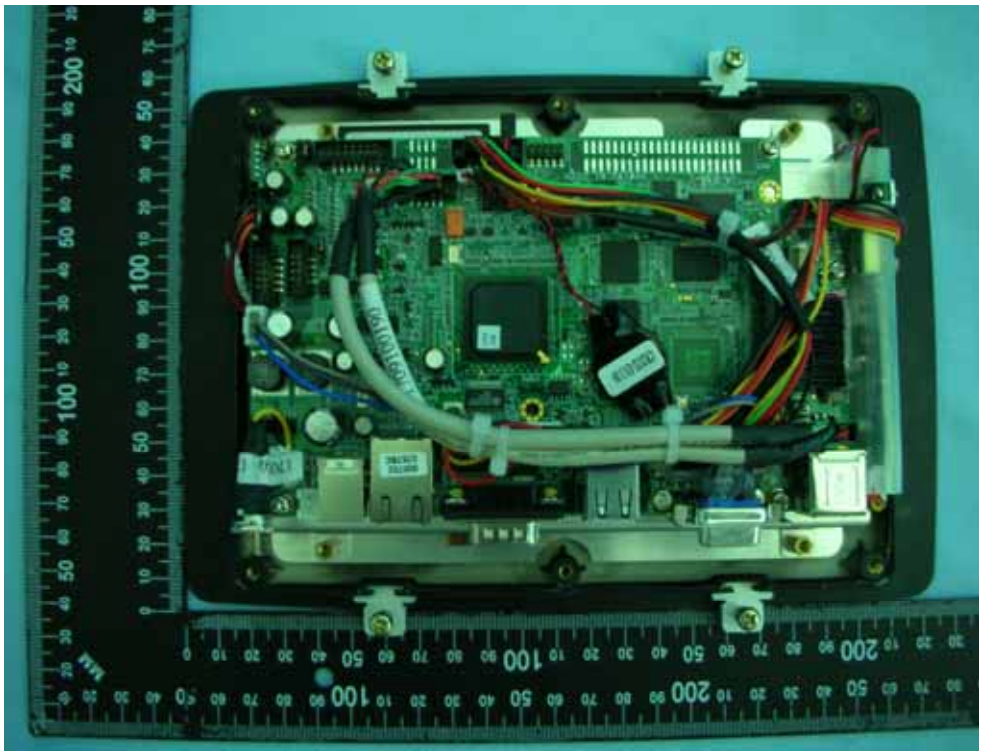
Photos:

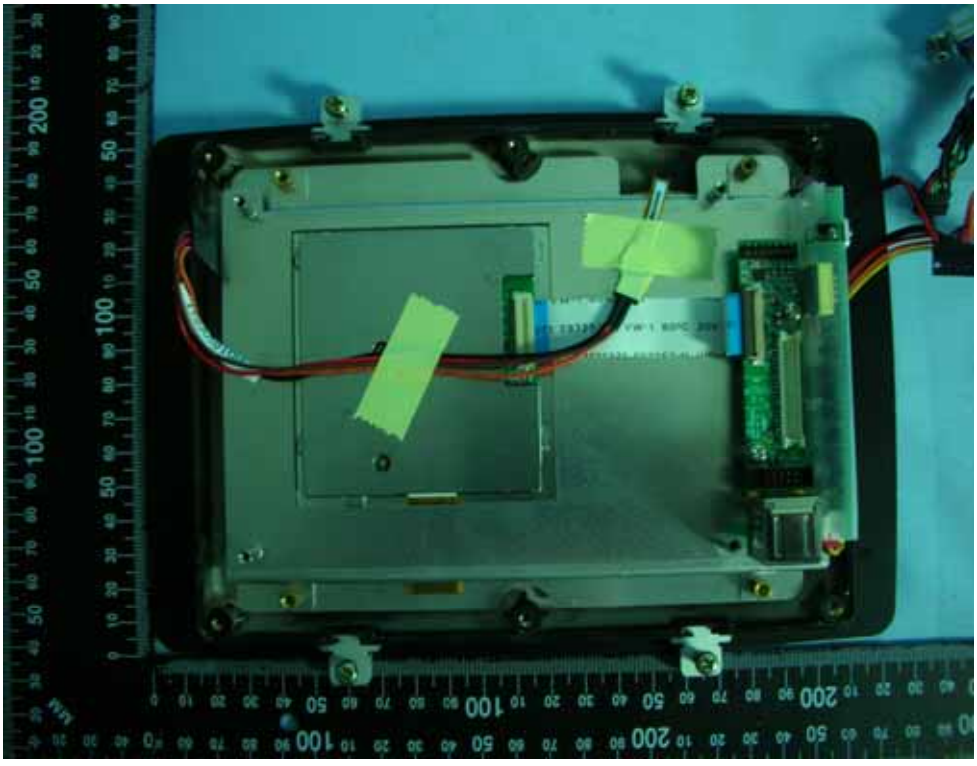




EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict

EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict





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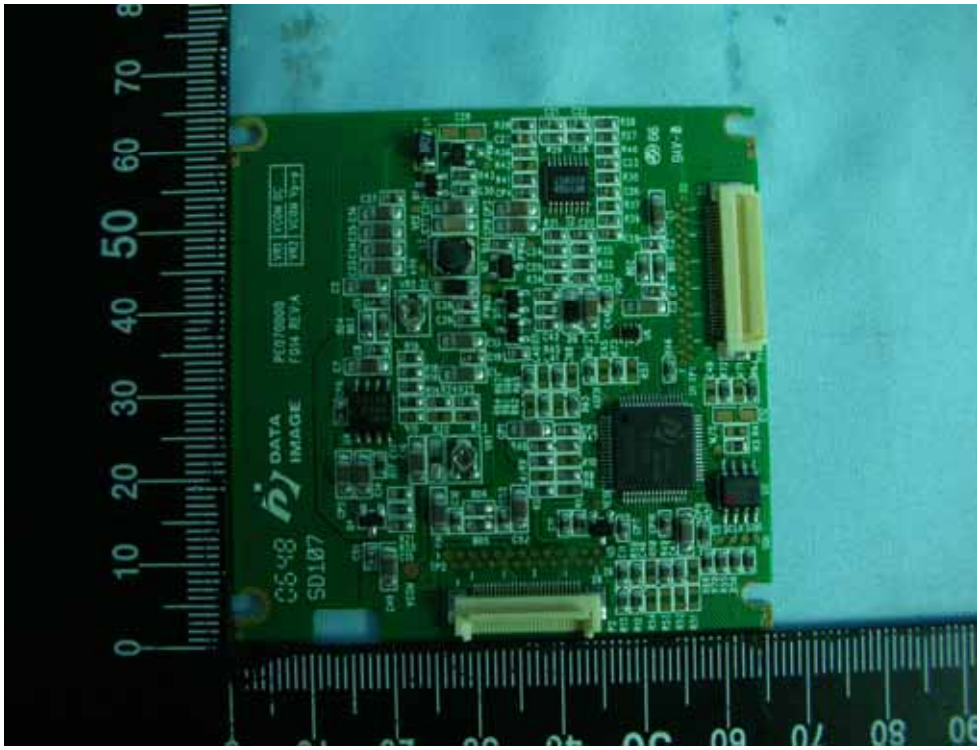

EN 60950-1:2001			
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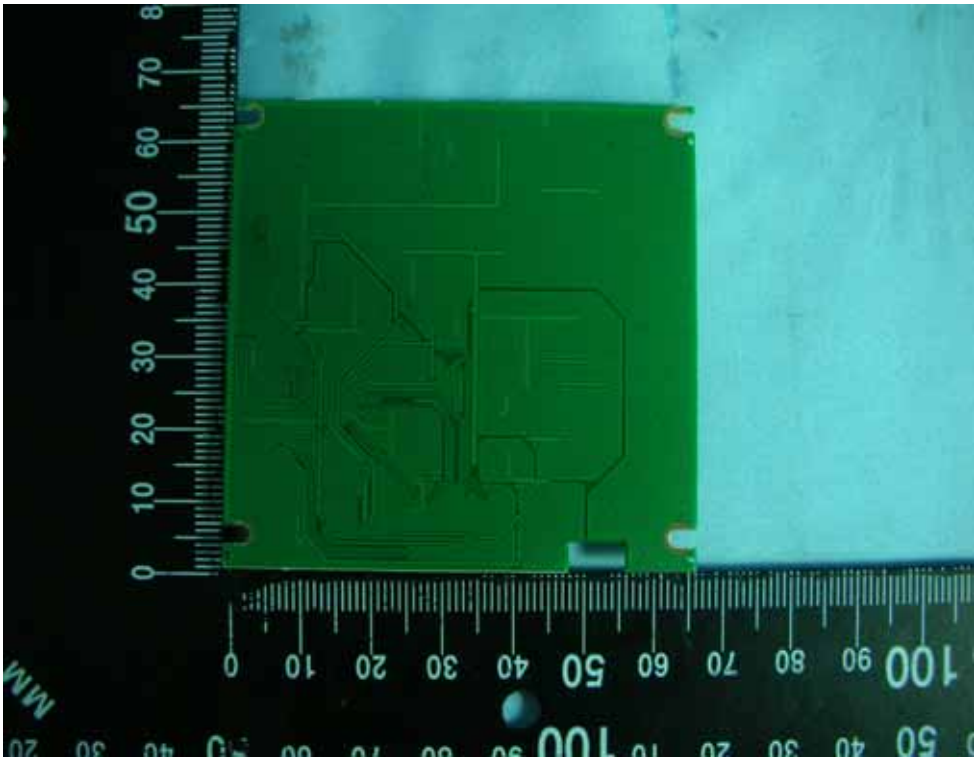
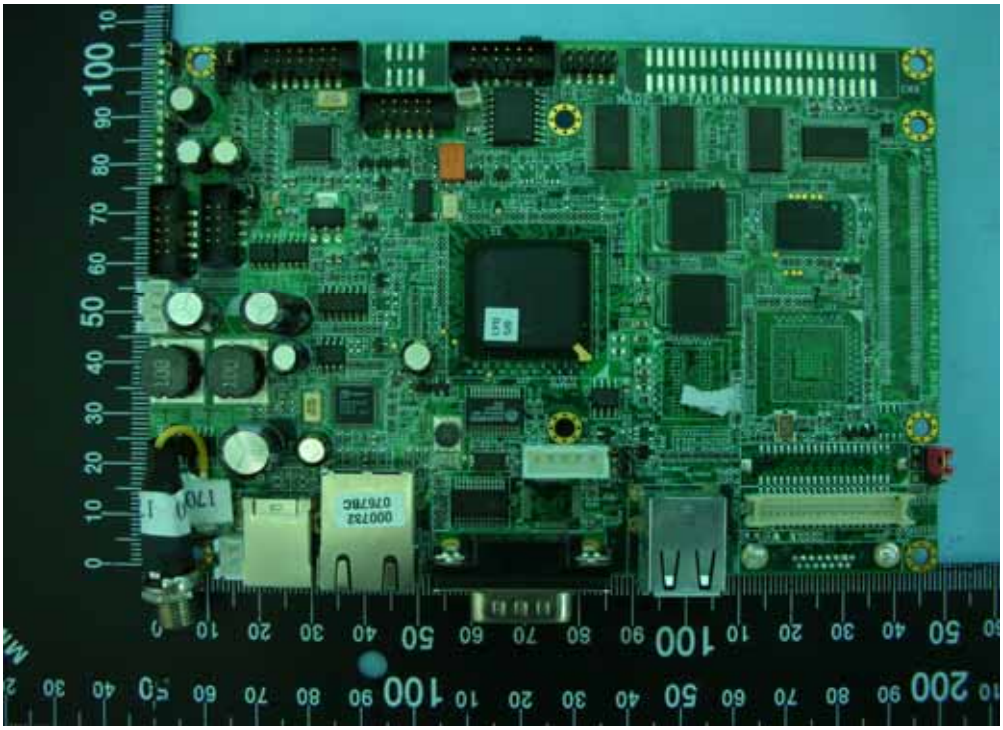
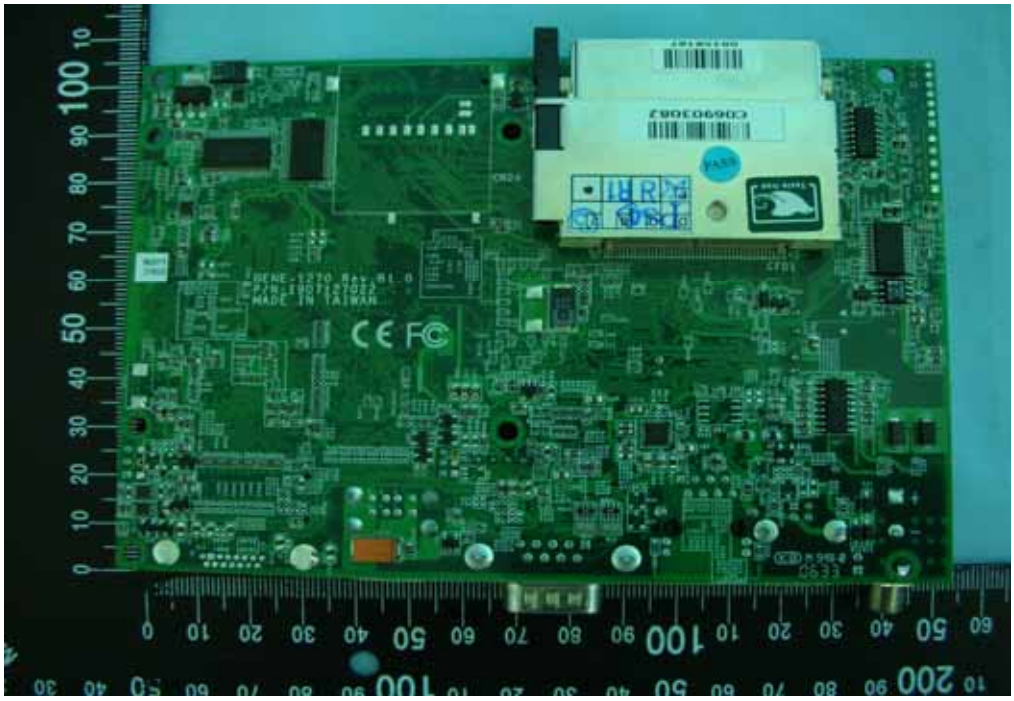
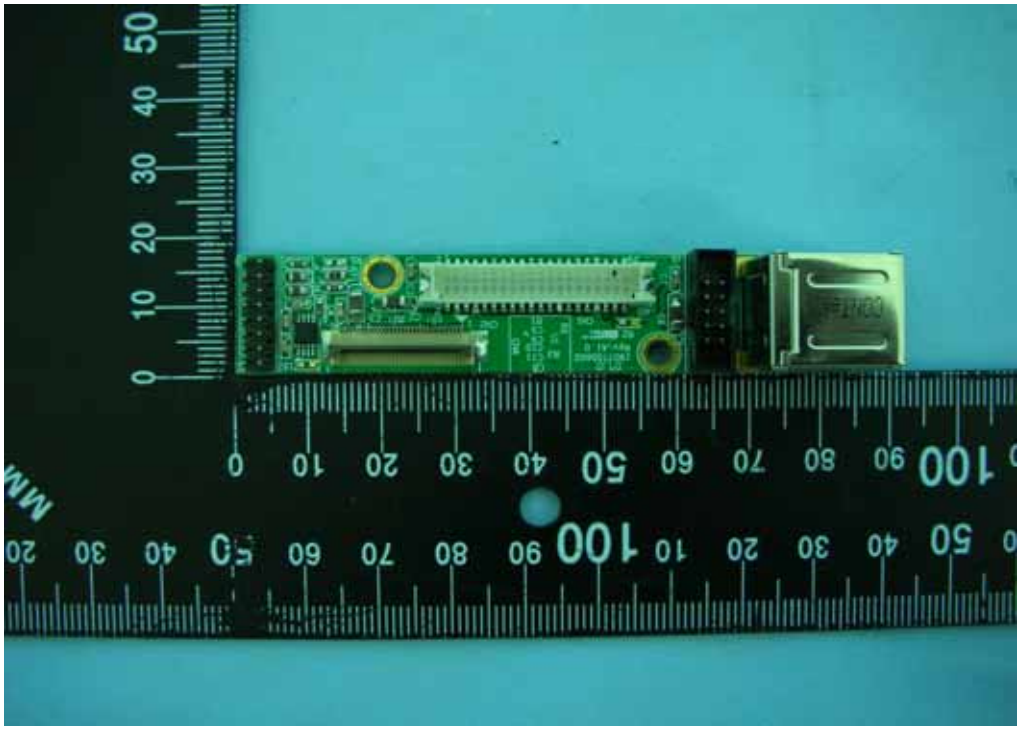


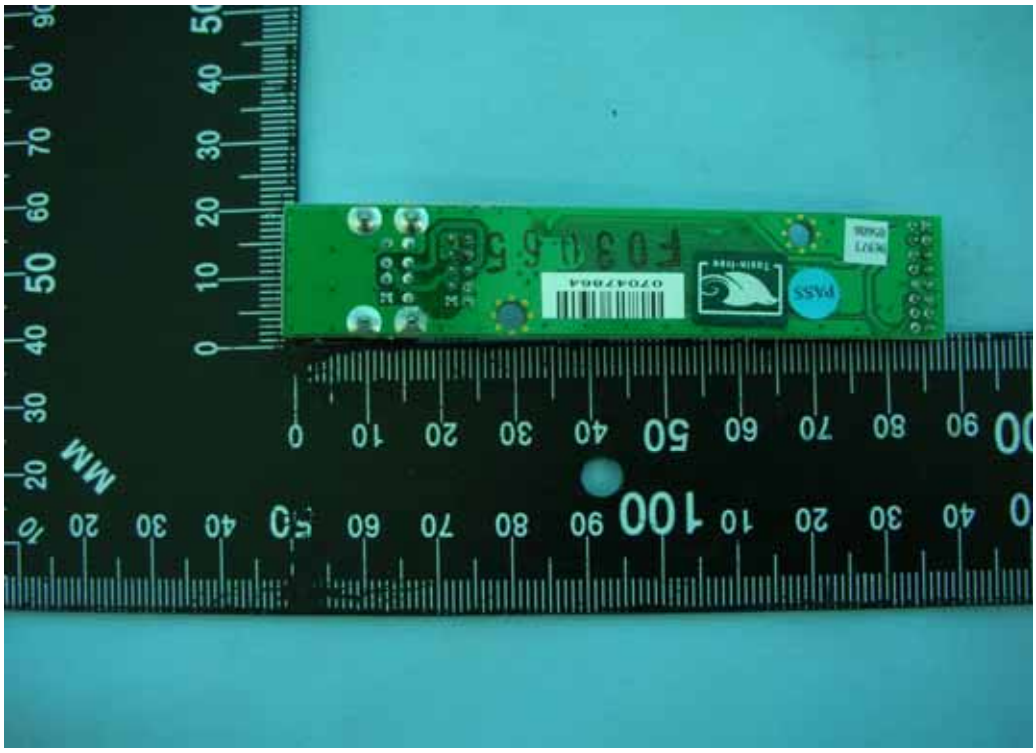


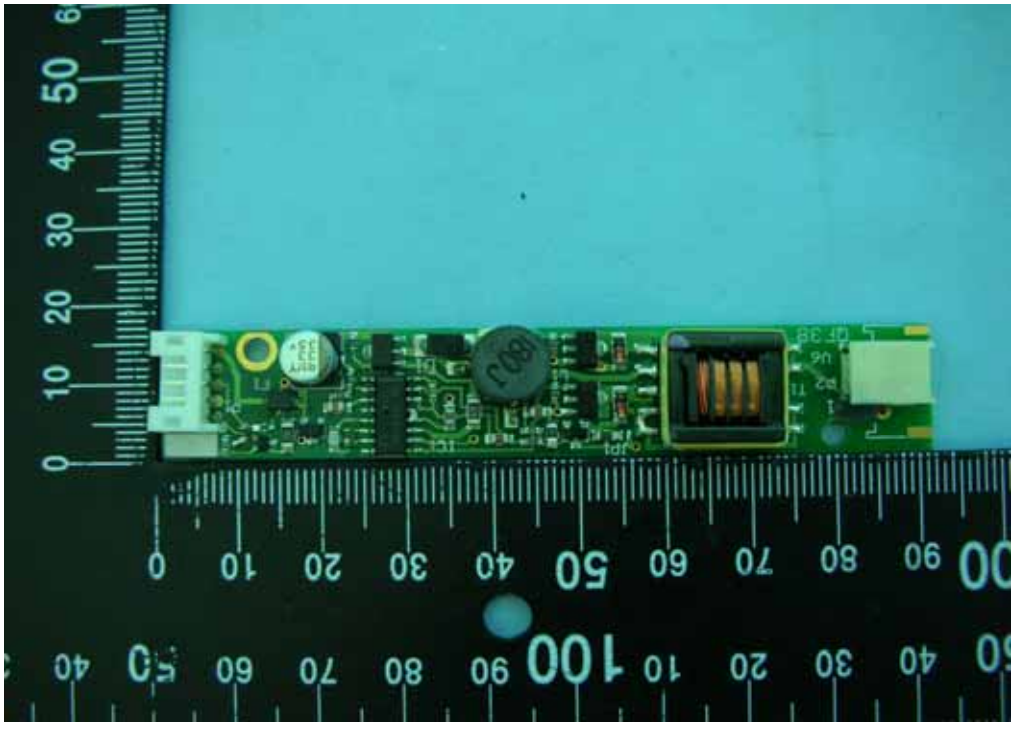
EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict





EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict





EN 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict