

Test report

IEC 60950 and/or EN 60950
Safety of information technology equipment



R904.209.1

Kontron Embedded Modules GmbH

PC/104 Module

STPC Elite (PSTE)

Customer:

Kontron Embedded Modules GmbH

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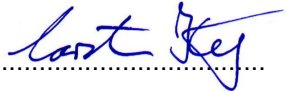


The test result refers exclusively
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Registration number: DAT-P-164/04

TEST REPORT IEC 60950 and/or EN 60950 Safety of information technology equipment		
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Date of issue	2004-08-10	
Testing Laboratory Name		
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Applicant's Name		
Kontron Embedded Modules GmbH		
Address	Brunnwiesenstrasse 16 94469 Deggendorf	
Test specification		
Standard.....	IEC 60950:1999 (3 rd Edition) + Corr. Jan. 2000 and/or EN 60950:2000 + Corr. Febr. 2002	
Test procedure	CB- and/or CCA-scheme	
Procedure deviation	none	
Non-standard test method		
Test Report Form No.		
IECEN60950A		
TRF originator		
SGS Fimko Ltd		
Master TRF		
dated 2003-03		
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Test item description		
PC/104 Module		
Manufacturer		
Kontron Embedded Modules GmbH		
Trademark		
Kontron		
Model and/or type reference		
STPC Elite (PSTE)		
Serial number		
XL4140013		
Rating(s)		
5 V dc +/- 5%		

Particulars: test item vs. test requirements

Equipment mobility	: for building-in
Operating condition.....	: continuous
Mains supply tolerance (%).....	: SELV supplied by external power supply.
Tested for IT power systems	: --
IT testing, phase-phase voltage (V)	: --
Class of equipment	: Class III
Mass of equipment (kg)	: 0,084Kg
Protection against ingress of water	: --

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	: 2004-08-02
Date(s) of performance of test	: w 32 / 2004

General remarks

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by a NCB, in accordance with IEC 60950-1.

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

"(see appended table)" refers to a table appended to the report.
 "(see remark #)" refers to a remark appended to the report.
 "(see Annex #)" refers to an annex appended to the report.

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

General product information:

The single board computer with PC/104 form factor integrates the functionality of a motherboard with CPU, System-BIOS, memory, keyboard-controller, COM-port, LPT1, Floppy- and Hard disk-interface, USB and Ethernet access and onboard high-performance PCI-SVGA with LCD interface.

A starter kit or cable set is needed to realise the connection of external equipment including a power adapter that supplies the single board computer with SELV.

Starter kit / cable set and power adapter are not included in this test.

The single board computer can be installed by the Operator.

	IEC 60950 / EN 60950		
Clause	Requirement - Test	Result	Verdict

1	GENERAL		P
1.5	Components		
1.5.1	Comply with IEC 950 or relevant component standard	(See appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard.	P
	Dimensions (mm) of mains plug for direct plug-in	Not a direct plug-in equipment.	N/A
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N).....	Not a direct plug-in equipment.	N/A
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	No isolating transformer in the equipment.	N/A
1.5.5	Interconnecting cables	No interconnecting cables.	N/A
1.5.6	Capacitors in primary circuits	No primary circuits.	N/A
1.5.7	Double or reinforced insulation bridged by components		N/A
1.5.7.1	Bridging capacitors	No such components bridging double or reinforced insulation.	N/A
1.5.7.2	Bridging resistors	No such components bridging double or reinforced insulation.	N/A
1.5.7.3	Accessible parts	No such components.	N/A
1.5.8	Components in equipment for IT power systems	No components connected between line and earth.	N/A

1.6	Power interface	Power supply not included in test.	
1.6.1	AC power distribution systems		N/A
1.6.2	Input current		N/A
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		N/A

1.7	Marking and instructions	Marking will be provided on the packaging.	
1.7.1	Power rating		N/A
	Rated voltage(s) or voltage range(s) (V) ..	--	N/A
	Symbol for nature of supply for d.c.	--	N/A
	Rated frequency or frequency range (Hz) :	--	N/A

	IEC 60950 / EN 60950		
Clause	Requirement - Test	Result	Verdict

	Rated current (A)	--	N/A
	Manufacturer's name/Trademark	Kontron	P
	Type/model	STPC Elite (PSTE)	P
	Symbol of Class II	Class III	N/A
	Other symbols	There is no additional marking.	N/A
	Certification marks	No certification marks provided.	N/A
1.7.2	Safety instructions	Must be checked in the end product.	N/A
	Operating instructions	See User's Manual.	P
1.7.3	Short duty cycles	Equipment for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage selector.	N/A
1.7.5	Power outlets on the equipment	No standard power outlet.	N/A
1.7.6	Fuse identification	--	N/A
1.7.7	Wiring terminals	Not directly connected to the mains.	N/A
1.7.7.1	Protective earthing and bonding terminals		N/A
1.7.7.2	Terminal for a.c. mains supply conductors		N/A
1.7.8	Controls and indicators	No controls and indicators.	N/A
1.7.8.1	Identification, location and marking	--	N/A
1.7.8.2	Colours	--	N/A
1.7.8.3	Symbols according to IEC 60417.....	There are no switches in the equipment.	N/A
1.7.8.4	Markings using figures	No controls.	N/A
1.7.9	Isolation of multiple power sources	--	N/A
1.7.10	IT power system	Has to be considered in end product.	N/A
1.7.11	Thermostats and other regulating devices	No thermostats or other regulating devices.	N/A
1.7.12	Language.....	English user manual provided.	P
1.7.13	Durability	The marking withstands required tests.	P
1.7.14	Removable parts	No removable parts.	P
1.7.15	Replaceable batteries	No lithium battery in the equipment.	N/A
	Language.....	--	—
1.7.16	Operator access with a tool.....	--	N/A
1.7.17	Equipment for restricted access locations:	--	N/A

	IEC 60950 / EN 60950		
Clause	Requirement - Test	Result	Verdict
2	PROTECTION FROM HAZARDS		N/A
2.1	Protection from electric shock and energy hazards		N/A
2.1.1	Protection in OPERATOR access areas	Refer below:	—
2.1.1.1	Access to energized parts	Refer below:	—
	Test by inspection	There are no bare parts at ELV or hazardous voltage or parts separated from these with basic or functional insulation only (except protective earth).	N/A
	Test with test finger	Protection must be checked in the end product.	N/A
	Test with test pin	Protection must be checked in the end product.	N/A
	Test with test probe	Protection must be checked in the end product.	N/A
2.1.1.2	Battery compartments	No TNV circuits in the equipment.	N/A
2.1.1.3	Access to ELV wiring	No internal wiring at ELV.	N/A
	Working voltage (V); distance (mm) through insulation	--	—
2.1.1.4	Access to hazardous voltage circuit wiring	Protection must be checked in the end product.	N/A
2.1.1.5	Energy hazards	Must be considered for the end product.	N/A
2.1.1.6	Manual controls	No shafts of knobs etc. at ELV or hazardous voltage.	N/A
2.1.1.7	Discharge of capacitors in the primary circuit	Not connected to primary circuit.	N/A
	Time-constant (s); measured voltage (V):	--	N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A
2.2	SELV circuits		P
2.2.1	General requirements	SELV limits are not exceeded under normal condition and after a single fault.	P
2.2.2	Voltages under normal conditions (V)	The voltage between any two conductors and between any one such conductor and earth (see 1.4.9) does not exceed 42.4 V peak or 60 V d.c.	P

Clause	Requirement - Test	Result	Verdict
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2.2.3	Voltages under fault conditions (V)	In the event of a single fault, the voltage between any two conductors and between any one such conductor and earth (see 1.4.9) does not exceed 42.4 V peak or 60 V d.c. for longer than 0.2 sec. and stays below the limit of 71 V peak or 120 V d.c.	P
2.2.3.1	Separation by double or reinforced insulation (method 1)	Separation must be checked in the end product.	N/A
2.2.3.2	Separation by earthed screen (method 2)	Separation must be checked in the end product.	N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)	Separation must be checked in the end product.	N/A
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other SELV circuits and protective earth.	P

2.3	TNV circuits	No TNV circuits in the equipment.	N/A
2.3.1	Limits		N/A
	Type of TNV circuits	--	N/A
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed.....	--	N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....	--	N/A
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....	--	N/A
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits	No limited current circuits.	N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz)	--	N/A
	Measured current (mA)	--	N/A
	Measured voltage (V)	--	N/A
	Measured capacitance (µF).....	--	N/A
2.4.3	Connection of limited current circuits to other circuits		N/A

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Clause	Requirement - Test	Result	Verdict
2.5	Limited power sources	No limited power source.	N/A
	Inherently limited output		N/A
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition		N/A
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (U_{oc})	--	N/A
	Output current (I_{sc}), apparent power (S)	--	N/A
	Current rating of overcurrent protective device (A)	--	N/A

2.6	Provisions for earthing and bonding	Has to be considered in end product.	N/A
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		—
2.6.3.1	Size of protective earthing conductors		N/A
	Rated current (A)..... : Cross-sectional area (mm ²), AWG.....:	-- --	N/A
2.6.3.2	Size of protective bonding conductors		N/A
	Rated current (A)..... : Cross-sectional area (mm ²), AWG.....:	-- --	N/A
2.6.3.3	Rated current (A)..... : Type and nominal thread diameter (mm)..:	-- --	N/A
	Resistance (Ω) of earthing conductors and their terminations.....:	--	N/A
	Test current (A)	--	N/A
2.6.3.4	Colour of insulation.....:	--	N/A
2.6.4	Terminals		—
2.6.4.1	Protective earthing and bonding terminals		N/A
	Rated current (A), type and nominal thread diameter (mm).....:	--	—

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Clause	Requirement - Test	Result	Verdict
2.6.4.2	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		—
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		N/A
2.7	Overcurrent and earth fault protection in primary circuits	Only SELV circuits.	—
2.7.1	Basic requirements		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
2.8	Safety interlocks	No safety interlocks.	—
2.8.1	General principles		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

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Clause	Requirement - Test	Result	Verdict
2.8.7.4	Electric strength test (V)		N/A
2.8.8	Mechanical actuators		N/A
2.9	Electrical insulation		—
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos nor hygroscopic materials are used as insulation. No driving belts or couplings used.	P
2.9.2	Humidity conditioning	No hygroscopic materials used.	N/A
2.9.3	Requirements for insulation	The insulation complies with sub-clauses 4.5.1, 5.2 and 2.10.	P
2.9.4	Insulation parameters	Application of insulation and working voltage are considered.	P
2.9.5	Categories of insulation	Insulation is considered to be functional, basic, supplementary, reinforced or double insulation.	P
2.10	Clearances, creepage distances and distances through insulation	There is only operational insulation used in the equipment. Distances need not to be measured in case of compliance with conditions of 5.3.	—
2.10.1	General		N/A
2.10.2	Determination of working voltage	Considered.	N/A
2.10.3	Clearances	See below:	—
2.10.3.1	General	Not applicable	N/A
2.10.3.2	Clearances in primary circuit		N/A
2.10.3.3	Clearances in secondary circuits	Only functional insulation in secondary circuits, ref. 5.2.	P
2.10.3.4	Measurement of transient levels	Measurement not relevant.	P
2.10.4	Creepage distances		N/A
	CTI tests	Material Group unknown: Group IIIb (100 ≤ CTI < 175) used.	—
2.10.5	Solid insulation		N/A
2.10.5.1	Minimum distance through insulation	No such insulation	N/A
2.10.5.2	Thin sheet material	No thin sheet insulation used.	N/A
	Number of layers (pcs)	--	—
	Electric strength test		—

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2.10.5.3	Printed boards	PCB does not serve as insulation barrier.	N/A
	Distance through insulation	No such insulation	N/A
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs):	--	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	No special coating in order to reduce distances.	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
2.10.7	Enclosed and sealed parts:	No enclosed or 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.....:	No components treated/filled with insulation compound.	N/A
	Electric strength test		—
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions	No such transformer used.	N/A

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Clause	Requirement - Test	Result	Verdict

3	WIRING, CONNECTIONS AND SUPPLY		—
3.1	General		—
3.1.1	Current rating and overcurrent protection	The following warning is provided in the user manual: "To protect the external power lines of peripheral devices, make sure that: -- the wires have the right diameter to withstand the maximum available current -- the enclosure of the peripheral device fulfills the fire-protecting requirements of IEC/EN 60950."	P
3.1.2	Protection against mechanical damage		N/A
3.1.3	Securing of internal wiring		N/A
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators	No beads or similar ceramic insulators on conductors.	N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Non-metallic materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		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	Not directly connected to mains.	—
3.2.1	Means of connection	--	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
	Type.....	--	—
	Rated current (A), cross-sectional area (mm ²), AWG.....	--	—

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Clause	Requirement - Test	Result	Verdict

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	Not directly connected to a.c. mains supply.	—
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Cord/cable type, rated current (A), cross-sectional area (mm ²)	--	N/A
3.3.5	Type, rated current (A), 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	Not directly connected to a.c. mains supply.	N/A
3.4.1	General requirement		N/A
3.4.2	Disconnect devices		N/A
	Contact separation		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

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Clause	Requirement - Test	Result	Verdict

3.5	Interconnection of equipment		—
3.5.1	General requirements	Considered.	—
3.5.2	Types of interconnection circuits.....:	SELV circuit or limited current circuit.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnections.	N/A

4	PHYSICAL REQUIREMENTS	Has to be considered in the end product.	—
4.1	Stability		—
	Angle of 10°		N/A
	Test: force (N).....:	--	N/A

4.2	Mechanical strength		—
4.2.1	General		—
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N	No internal enclosure.	N/A
4.2.4	Steady force test, 250 N	No external enclosure.	N/A
4.2.5	Impact test		N/A
4.2.6	Drop test	Drop test not applicable.	N/A
4.2.7	Stress relief		N/A
4.2.8	Cathode ray tubes	CRT(s) not used in the equipment.	N/A
	Picture tube separately certified.....:	--	N/A
4.2.9	High pressure lamps	No high pressure lamps in the equipment.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	--	N/A

4.3	Design and construction		—
4.3.1	Edges and corners		N/A
4.3.2	Handles and manual controls; force (N)....:	No knobs, grips, handles, lever etc.	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	SELV and TNV connectors do not comply with IEC 60320 or IEC 60083.	P
4.3.6	Direct plug-in equipment		N/A
	Torque (Nm).....:	--	—
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A
4.3.8	Batteries	No batteries in the equipment.	N/A

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4.3.9	Oil and grease	Insulation is not exposed to oil, grease etc.	P
4.3.10	Dust, powders, liquids and gases	The equipment does not generate ionizing radiation or use a laser, and does not contain flammable liquids or gases.	P
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	N/A
4.3.12	Flammable liquids.....:	The equipment does not contain flammable liquid.	N/A
	Quantity of liquid (l).....:	--	N/A
	Flash point (°C).....:	--	N/A
4.3.13	Radiation; type of radiation.....:	No emission of radiation.	N/A
	Equipment using lasers		N/A

4.4	Protection against hazardous moving parts	No hazardous moving parts.	—
4.4.1	General		N/A
4.4.2	Protection in operator access areas	No moving parts.	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		—
4.5.1	Temperature rises	No thermostats, temperature limiters or thermal cut-outs.	N/A
	Normal load condition per Annex L.....:	Running program 'EMC.EXE'.	P
4.5.2	Resistance to abnormal heat	No thermoplastic parts carrying hazardous voltages.	P

4.6	Openings in enclosures	Has to be considered in the end product.	—
4.6.1	Top and side openings		N/A
	Dimensions (mm).....:	--	—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom.....:	--	—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature/time.....:	--	—

	IEC 60950 / EN 60950		
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4.7	Resistance to fire		—
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 is used.	P
4.7.2	Conditions for a fire enclosure	Fire enclosure must be considered for the end product.	N/A
4.7.2.1	Parts requiring a fire enclosure		N/A
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		—
4.7.3.1	General	Components and materials have adequate flammability classification. Refer to "List of Critical Components".	P
4.7.3.2	Materials for fire enclosures		N/A
4.7.3.3	Materials for components and other parts outside fire enclosures	Equipment for building-in; must be considered in the end product.	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	No air filters in the equipment.	N/A
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		—
5.1	Touch current and protective conductor current	Has to be considered in the end product.	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



	IEC 60950 / EN 60950		
Clause	Requirement - Test	Result	Verdict
5.1.8.1	Limitation of the touch current to a tele-communication network		N/A
	Test voltage (V)	--	---
	Measured current (mA)	--	---
	Max. allowed current (mA)	--	---
5.1.8.2	Summation of touch currents from tele-communication networks	--	N/A
5.2	Electric strength	SELV is usually connected to ground, therefore no test was made between SELV and ground.	---
5.2.1	General		N/A
5.2.2	Test procedure		N/A
5.3	Abnormal operating and fault conditions		---
5.3.1	Protection against overload and abnormal operation		N/A
5.3.2	Motors	There are no motors in the equipment.	N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation.....	Complies with c).	P
5.3.5	Electromechanical components	No electromechanical components in secondary circuits.	N/A
5.3.6	Simulation of faults	No short circuit test performed because components are mounted on V-0 material.	P
5.3.7	Unattended equipment	No thermostats, temperature limiters or thermal cut-outs.	N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions	No short circuit performed because components are mounted on V-0 material	P

	IEC 60950 / EN 60950		
Clause	Requirement - Test	Result	Verdict
6	CONNECTION TO TELECOMMUNICATION NETWORKS	No TNV circuits in the equipment.	N/A
6.1	Protection of telecommunication network service personnel, and users of other equipment connected to the network, from hazards in the equipment		—
6.1.1	Protection from hazardous voltages		N/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
6.2	Protection of equipment users from over-voltages on telecommunication networks		—
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		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.....	--	—

	IEC 60950 / EN 60950		
Clause	Requirement - Test	Result	Verdict
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE	Used materials have adequate flame class according to UL94, no test were performed.	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.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.3	High current arcing ignition test (see 4.7.3.2)		N/A
A.4	Hot wire ignition test (see 4.7.3.2)		N/A
A.5	Hot flaming oil test (see 4.6.2)		N/A
A.6	Flammability tests for classifying materials V-0, V-1 or V-2		N/A
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HFB		N/A
A.8	Flammability test for classifying materials HB		N/A
A.9	Flammability test for classifying materials 5V		N/A
A.10	Stress relief conditioning (see 4.2.7)		N/A

	IEC 60950 / EN 60950		
Clause	Requirement - Test	Result	Verdict
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)	No motors in the equipment.	N/A
C	ANNEX C, TRANSFORMERS (see 1.5.4 goto and 5.3.3)	No transformers in the equipment.	N/A
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES	Method not used.	N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)	No ionizing radiation.	N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)	No thermostats in the equipment.	N/A
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A

	<p>SPECIAL NATIONAL CONDITIONS AND NATIONAL DEVIATIONS</p> <p>S = Special National Condition, A = National Deviation (A-deviation), C = CENELEC Common Modification, F = other information</p>		
	<p>C: delete all the "country" notes that appear on the following pages of the reference document (IEC 60950:1999): 85, 91, 99, 103, 117, 119, 123, 125, 149, 171, 213, 215, 219, 251, 283, 325, 327, 331, 333 and 407</p>		
1.2.4.1	<p>S (DK): certain types of Class I appliances (see subclause 3.2.1) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets</p>		N/A
1.5.1	<p>A (CH, SE): add the following: NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed</p>	<p>There are no components containing mercury in the equipment.</p>	P
1.5.8	<p>S (NO): due to the IT power system used (see annex V, figure V.7), capacitors are required to be rated for the applicable phase-to phase voltage (230 V)</p>	<p>Considered.</p>	N/A
1.7.2	<p>S (NO): class I pluggable equipment type A intended for connection to other equipment or a communication network shall, if safety relies on connection to protective earth, require a marking stating that the equipment must be connected to an earthed mains socket outlet</p>	<p>Has to be considered in the end product.</p>	N/A
	<p>S (SE): if the separation between the mains and 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. The marking text shall be in Swedish and as follows: "Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk."</p>	<p>Has to be considered in the end product.</p>	N/A

	<p>A (DK): supply cords of Class I equipment, which are delivered without a plug must be provided with a visible tag with the following text:</p> <p>"Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket</p> <p> eller </p> <p>(IEC 417, No. 5019 eller IEC 417, No. 5017)."</p> <p>If essential for the safety of the equipment, 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:</p> <p>"For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."</p>	<p>Has to be considered in the end product.</p>	<p>N/A</p>
<p>1.7.5</p>	<p>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</p>	<p>There are no socket outlets providing power to other appliances.</p>	<p>N/A</p>
	<p>A (DK): Class II equipment shall not be fitted with socket-outlets for providing power to other equipment</p>	<p>There are no socket-outlets providing power to other appliances.</p>	<p>N/A</p>
<p>1.7.12</p>	<p>A (DE): (Gesetz über technische Arbeitsmittel (Gerätesicherheitsgesetz) [Law on technical labour equipment {Equipment safety law}], of 23rd October 1992, Article 3, 3rd paragraph, 2nd sentence, together with the "Allgemeine Verwaltungsvorschrift zur Durchführung des Zweiten Abschnitts des Gerätesicherheitsgesetzes" [General administrative regulation on the execution of the Second Section of the Equipment safety law], of 10th January 1996, article 2, 4th paragraph item 2)</p> <p>Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language.</p> <p>NOTE: Of this requirement, rules for use even only by service personnel are not exempted</p>	<p>Has to be considered in the end product.</p>	<p>N/A</p>

1.7.15	A (CH): (Ordinance on environmentally hazardous substances SR 814.013) Annex 4.10 of SR 814.013 applies for batteries	There is no battery containing Cd or Hg in the equipment.	N/A
	F (ALL): warning texts for lithium batteries	There is no lithium battery in the equipment.	N/A
	Languages	--	—
2.2.4	S (NO): requirements according to this annex, sub-clauses 1.7.2 and 6.1.2.1 apply	No TNV circuits.	N/A
2.3.2	S (NO): requirements according to this annex, sub-clause 6.1.2.1 apply	No TNV circuits.	N/A
2.3.3	S (NO): requirements according to this annex, sub-clause 6.1.2.1 apply	No TNV circuits.	N/A
2.3.4	S (NO): requirements according to this annex, sub-clauses 1.7.2 and 6.1.2.1 apply	No TNV circuits.	N/A
2.7.1	<p>C: replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short circuits and earth faults in primary circuits, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b), and c):</p> <p>a) Except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 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, r.f.i. filter and switch, short circuit and earth fault protection may be provided by protective devices in the building installation.</p> <p>c) It is permitted for 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 breakers, is fully specified in the installation instruction.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, 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</p>	Has to be considered in the end product.	N/A
2.7.2	C: This subclause has been declared 'void'	Considered.	N/A

2.10.3.1	<p>S (NO): due to the IT power distribution system used (see annex V, figure V.7), the a.c. mains supply voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault</p>	Considered.	N/A
3.2.1	<p>S (CH): supply cords of equipment having a rated current not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 884-1 and one of the following dimensions sheets:</p> <ul style="list-style-type: none"> - SEV 6532-2:1991: plug type 15, 3P+N+PE 250/400 V, 10 A - SEV 6533-2:1991: plug type 11, L+N 250 V, 10 A - SEV 6534-2:1991: plug type 12, L+N+PE 250 V, 10 A <p>In general, EN 60 309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <ul style="list-style-type: none"> - SEV 5932-2:1998: plug type 25, 3L+N+PE 230/400 V, 16 A - SEV 5933-2:1998: plug type 21, L+N 250 V, 16 A - SEV 5934-2:1998: plug type 23, L+N+PE 250 V, 16 A 	Not directly connected to the mains.	N/A
	<p>S (DK): supply cords of single-phase equipment having a rated current not exceeding 10 A 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 10 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations Section 107-D1 or EN 60309-2</p>	Not directly connected to the mains.	N/A

	<p>S (ES): supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993</p> <p>Class I equipment provided with socket-outlets with earth contacts, or which are intended to be used locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2</p>	Not directly connected to the mains.	N/A
	<p>S (GB): apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a "standard plug" in accordance with Statutory Instrument 1768:1994 – The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE: "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug</p>	Not directly connected to the mains.	N/A
	<p>S (IE): apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug shall be fitted with a 13 A plug in accordance with Statutory Instrument 525: 1997 – National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997</p>	Not directly connected to the mains.	N/A
3.2.3	C: delete note 1, and in table 3A delete the conduit sizes in parentheses	Considered.	P

<p>3.2.5</p>	<p>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-F2"</p> <p>In table 3B, replace the first four lines by the following:</p> <p>Up to and including 6 0,75¹⁾ Over 6; up to and including 10 (0,75)²⁾ 1,0 Over 10 up to and including 16 (1,0)³⁾ 1,5</p> <p>In the conditions applicable to table 3B, delete the words "in some countries" in condition¹⁾.</p> <p>In NOTE 1, delete the second sentence</p>	<p>Considered.</p>	<p>P</p>
	<p>S (GB): a power supply cord with conductor of 1,25 mm² is allowed for equipment with rated current over 10 A and up to and including 13 A</p>	<p>Not directly connected to the mains.</p>	<p>N/A</p>
<p>3.3.4</p>	<p>C: in table 3D, delete the fourth line – conductor sizes for 10 to 13 A, and replace with the following:</p> <p>"Over 10 up to and including 16 1.5 to 2,5, 1.5 to 4"</p> <p>Delete the fifth line – conductor sizes for 13 to 16 A.</p>	<p>Considered.</p>	<p>P</p>
	<p>S (GB): the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10 A up to and including 13 A is:</p> <p>- 1,25 mm² to 1,5 mm² nominal cross-sectional area</p>	<p>Considered.</p>	<p>N/A</p>
<p>4.3.6</p>	<p>S (GB): the torque test is performed using a socket outlet complying with BS 1363 and the plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C</p>	<p>Not a direct plug-in equipment.</p>	<p>N/A</p>
	<p>S (IE): direct plug-in equipment is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 – National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997</p>	<p>Not a direct plug-in equipment.</p>	<p>N/A</p>

<p>4.3.13</p>	<p>C: replace the second compliance paragraph by: For equipment using LEDs or lasers, compliance is checked according to EN 60825-1</p> <p>NOTE 1 – If equipment falling within the scope of EN 60950 is inherently a class 1 laser product, i.e. it contains no embedded laser or LED of a higher class number, then a laser warning label or other laser warning statement is not required (see 1.1 of EN 60825-1)</p> <p>Renumber the NOTE below the third compliance paragraph as NOTE 2</p>	<p>No lasers or LED's.</p>	<p>N/A</p>
<p>6.1.2.1</p>	<p>S (NO, SE): add the following text between the first and second paragraph:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component e.g. an optocoupler, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition:</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.7 shall be performed using 1,5 kV); and - is subjected to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2</p>	<p>No TNV circuits.</p>	<p>N/A</p>
<p>6.1.2.2</p>	<p>S (FI, NO, SE): the exclusions are applicable for permanently connected equipment and pluggable equipment type B only</p>	<p>No TNV circuits.</p>	<p>N/A</p>

G.2	S (NO): due to the IT power distribution system used (see annex V, figure V.7), the a.c. mains supply voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault	Considered.	N/A
Annex H	C: replace the last paragraph of this annex by: At any point 10 cm from the surface of the operator access area, the dose rate shall not exceed 1 μ Sv/h (0,1 mR/h) (see note). Account is taken of the background level	The unit does not emit X-ray radiation.	N/A
	C: replace the NOTE as follows: NOTE – These values appear in Directive 96/29/Euratom	The unit does not emit X-ray radiation.	N/A
	<p>A (DE):</p> <p>(Regulation on protection against hazards by X-ray, of 8th January 1987, Article 5 [Operation of X-ray emission source], clauses 1 to 4)</p> <ul style="list-style-type: none"> a) A licence is required by those who operate an X-ray emission source. b) A licence in accordance with Cl. 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 <ul style="list-style-type: none"> 1) the local dose rate at a distance of 0,1 m from the surface does not exceed 1 μSv/h and 2) it is adequately indicated on the X-ray emission source that <ul style="list-style-type: none"> i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A license in accordance with Cl. 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if <ul style="list-style-type: none"> 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that <ul style="list-style-type: none"> i) X-rays are generated ii) the device stipulated by the manufacturer or importer guaran- 	The unit does not emit X-ray radiation.	N/A

	<p>tees that the maximum permissible local dose 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> <p>d) Furthermore, a license in accordance with Cl. 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 safe CRTs complying with Enclosure III, No. 6,</p> <p>2) the values stipulated in accordance with Enclosure III, No. 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: replace the text of this annex by: See Annex ZA	Considered.	P
Annex Q	<p>C: Add the following notes for the standards indicated:</p> <p>IEC 60127 series NOTE: Harmonized as EN 60127 series (not modified)</p> <p>IEC 60269-2-1 NOTE: Harmonized as HD 630.2.1 S2:1997 (modified)</p> <p>IEC 60529 NOTE: Harmonized as EN 60529:1991 (not modified)</p> <p>IEC 61032 NOTE: Harmonized as EN 61032:1998 (not modified)</p>	Considered.	P

<p>Annex ZA</p>	<p>C: This European standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.</p> <p>NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.</p> <p>— — EN 60065¹⁾:1993 + corr. Nov. 1993 EN 60073:1996 HD 566 S1:1990 HD 214 S2:1980 HD 21²⁾ Series HD 22³⁾ Series EN 60309 Series EN 60320 Series HD 384.3 S2:1995 HD 384.4.41 S2:1996 — EN 60417-1:1999 EN 60417-2:1999 HD 625.1 S1:1996 + corr. Nov. 1996 EN 60695-2-1/1:1996 EN 60695-2-2:1994 — EN 60730-1:1995 EN 60825-1:1994 + corr. Feb. 1995 + A11:1996 + corr. July 1997 EN 60851-3:1996 EN 60851-5:1996 EN 60851-6:1996 — EN 60990:1999 — — — — — — — ITU-T Recommendation K.17:1988, Tests on power-fed repeaters using solid-state devices in order to check the arrangements for protection from external interference ITU-T Recommendation K.21:1996, Resistibility of subscribers' terminals to overvoltages and overcurrents</p> <p>1) EN 60065:1993 is superseded by EN 60065:1998 + corrigendum June 1999, which is based on IEC 60065:1998, mod. 2) The HD 21 series is related to, but not directly equivalent with the IEC 60227 series. 3) The HD 22 series is related to, but not directly equivalent with the IEC 60245 series.</p>	<p>Considered.</p> <p>IEC 60050-151:1978 IEC 60050-195:1998 IEC 60065 (mod):1985 IEC 60073:1996 IEC 60085:1984 IEC 60112:1979 IEC 60227 (mod) Series IEC 60245 (mod) Series IEC 60309 Series IEC 60320 (mod) Series IEC 60364-3 (mod):1993 IEC 60364-4-41 (mod):1992 IEC 60384-14:1993 IEC 60417-1:1998 IEC 60417-2:1998 IEC 60664-1 (mod):1992 IEC 60695-2-1/1:1994 + corr. May 1995 IEC 60695-2-2:1991 IEC 60695-10-2:1995 IEC 60730-1 (mod):1993 IEC 60825-1:1993 IEC 60851-3:1995 IEC 60851-5:1996 IEC 60851-6:1996 IEC 60885-1:1987 IEC 60990:1999 IEC 61058-1:1996 ISO 261:1973 ISO 262:1973 ISO 3864:1984 ISO 4046:1978 ISO 7000:1989</p>	<p>P</p>
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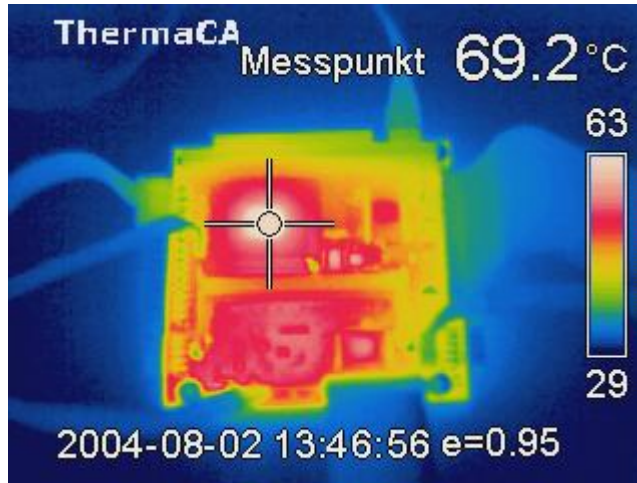
1.5.1	TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of con- formity ¹⁾	
PC board	EPC	MLV1A	105°C, 94V-0	UL 94	UL E117708	
X1,X2,X3	EPT	PC/104 Plus Female connec- tor	94 V-0	UL 94	UL E130314	
X4,X5,X6,X7	Plastron	Pin Header	94 V-0	UL 94	UL E159535	
X8	Molex	FFC/FPC con- nector / 52030 series	94 V-0	UL 94	3)	
X9	Plastron	Double row male header	94 V-0	UL 94	UL E159535	
X10	Berg (FCI)	Pin Header	94 V-0	UL 94	3)	
X11, X12,X13,X14	Molex	Wire-to-Board Header	94 V-0	UL 94	3)	
X16	AMP	Single deck DIMM Socket surface mount	94 V-0	UL 94	3)	
¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance ²⁾ PCB-material meets at least flammability class 94V-0 in accordance with manufacturers specification ³⁾ used plastic materials declared as 94V-0 in accordance with manufacturers specification						
Usage of other components or materials is possible if they have the same flammability class and/or the same ratings as the above listed one.						

1.6.2	TABLE: electrical data (in normal conditions)				N/A
2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements				N/A
2.10.5	TABLE: distance through insulation measurements				N/A
4.5	TABLE: temperature rise measurements				N/A
4.5.2	TABLE: ball pressure test of thermoplastic parts				N/A
5.2	TABLE: electric strength tests and impulse tests				N/A
5.3	TABLE: fault condition tests				N/A

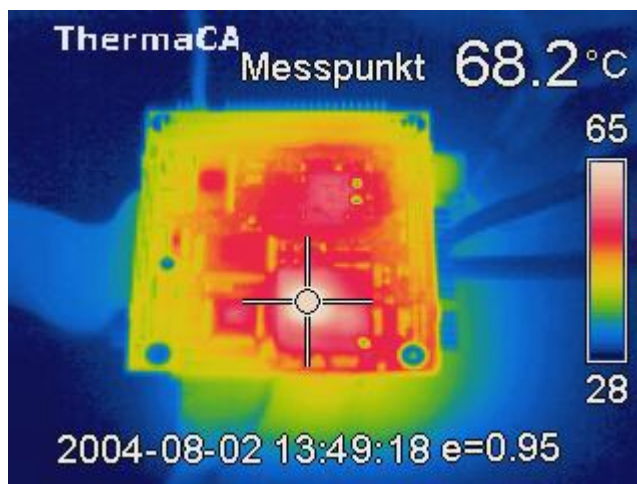
A.6.5	TABLE: flammability test for classifying materials V-0, V-1 or V-2	N/A
A.6.6	TABLE: flammability re-test for classifying materials V-0, V-1 or V-2	N/A
A.7.4, A.7.5, A.7.6 and A.7.7	TABLE: flammability test for classifying foam materials HF-1, HF-2 or HBF	N/A
A.7.8	TABLE: flammability re-test for classifying foam materials HF-1 or HF-2	N/A
A.7.9	TABLE: flammability re-test for classifying foam materials HBF	N/A
A.8.5	TABLE: flammability test for classifying materials HB	N/A
A.8.6	TABLE: flammability re-test for classifying materials HB	N/A
A.9.6	TABLE: flammability test for classifying materials 5V	N/A
A.9.7	TABLE: flammability re-test for classifying materials 5V	N/A
APPENDIX	BATTERIES (4.3.8)	No batteries
		N/A

Thermograph view

normal operating without enclosure

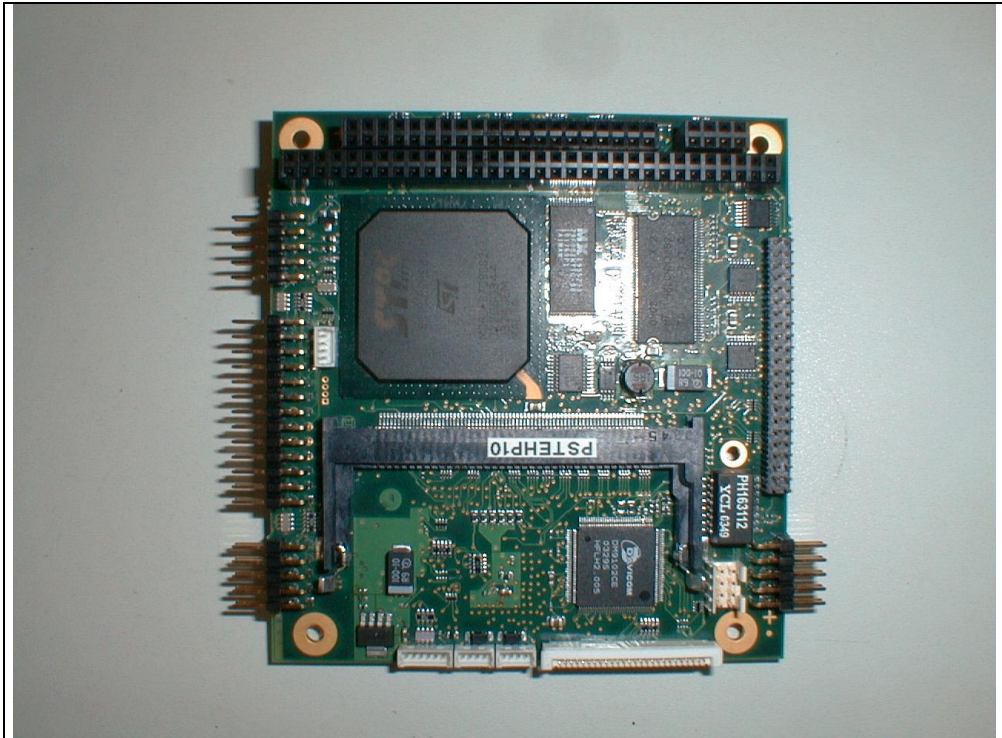


Top sight

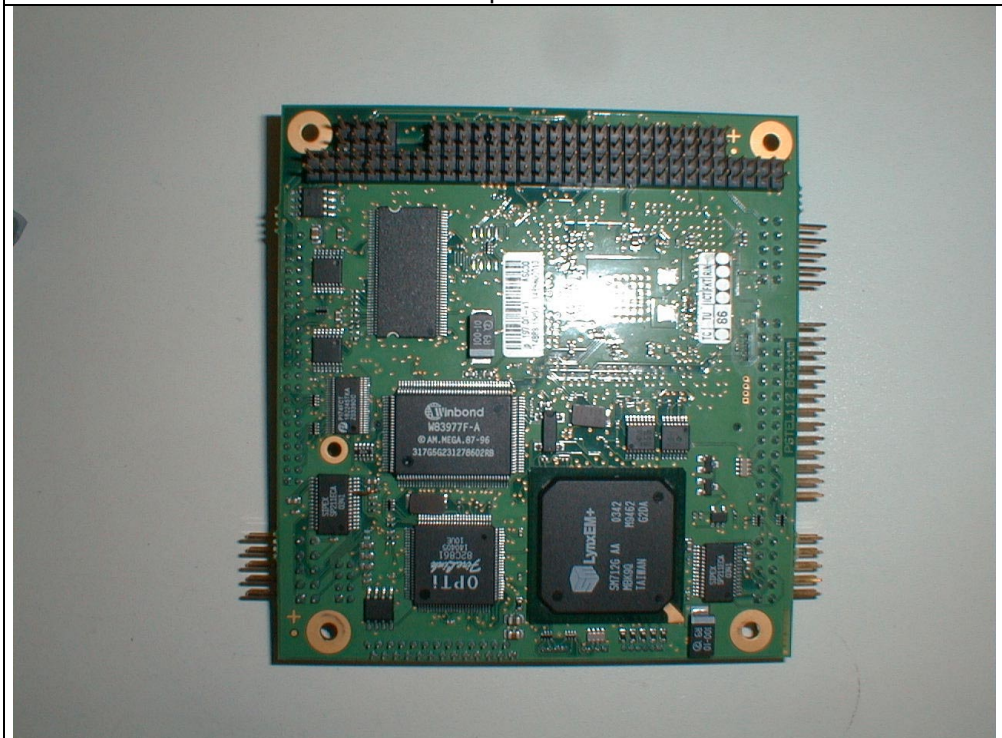


Bottom sight

Photo report



Picture 1 top view



Picture 2 bottom view