

LVD TEST REPORT IEC/EN 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements	
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Name of Testing Laboratory preparing the Report	Ansett Lab Co., Ltd. 4F., No. 16, Alley 8, Lane 45, Baoxing Road, Xindian Dist., New Taipei City 231, Taiwan
Applicant's name	MOBOTIX AG.
Address	Kaiserstrasse, Langmeil, Germany
Test specification:	
Standard	EN 62368-1:2014+A11:2017 IEC 62368-1:2014 BS EN 62368-1:2014+A11:2017
Test procedure	LVD for CE Marking
Non-standard test method	N/A
Test Report Form No.	AST-R-103
Test Report Form(s) Originator	AST
Master TRF	2017/09/01
Test Item description	Network Attached Storage
Trade Mark	MOBOTIX
Manufacturer	MOBOTIX AG. Kaiserstrasse, Langmeil, Germany
Model/Type reference	NAS-873UG, TVS-472XT, TVS-472XT-PT-4G, TVS-472XT-PT-4G, NAS-472G-PT, TVS-472XT-i5-4G, NAS-472G-i5
Ratings	100-240 V a.c., 50-60 Hz, 2.5-1.25 A (x2)

List of Attachments (including a total number of pages in each attachment): ATTACHMENT 1: National differences ATTACHMENT 2: Photographs Unless otherwise specified, each attachment has been included in the total number of pages.	
Summary of testing: See below for summary and applicable clauses. All tests were conducted in Maximum Normal Load conditions as below, if not specified elsewhere. Maximum Normal Load: - Each USB 3.0 ports load 5 V/0.9 A, 4.5 W - Each USB 2.0 ports load 5 V/0.5 A, 2.5 W - Cross reading and writing data between HDD in max. speed. - RJ-45 port and other ports transmitting data. - With system fan (two provide and fan outward (HDD to output porta side))	
Tests performed (name of test and test clause): 5.4.1.4, 6.3.2, 9.0, B.2.6 - Temperature measurements 5.7 - Prospective touch voltage, touch current and protective conductor current 8.6 - Static stability test Annex B.2.5 - Input test Annex B.3 - Abnormal operating condition tests Annex B.4 - Simulated single fault conditions Annex F.3.10 - Test for permanence of markings Annex M.3.2 Protection circuits for batteries Annex Q.1 - Circuits intended for interconnection with building wiring (L.P.S.) Annex T.2 - Steady force test, 10 N Annex T.3 - Steady force test, 30 N Annex T.5 - Steady force test, 250 N Annex T.6 - Enclosure impact test All applicable tests were performed. Details see attached clauses and tables.	Testing location: Ansett Lab Co., Ltd. 4F., No. 16, Alley 8, Lane 45, Baoxing Road, Xindian Dist., New Taipei City 231, Taiwan
Summary of compliance with National Differences: List of countries addressed EU Group differences, special national deviations of all CENELEC countries. Explanation of CENELEC countries: Austria (AT), Belgium (BE), Bulgaria (BG), Croatia (HR), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), France (FR), Germany (DE), Greece (GR), Hungary (HU), Iceland (IS), Ireland (IE), Italy (IT), Latvia (LV), Lithuania (LT), Luxembourg (LU), Malta (MT), Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Romania (RO), Spain (ES), Slovakia (SK), Slovenia (SI), Sweden (SE), Switzerland (CH). <input checked="" type="checkbox"/> The product fulfils the requirements of IEC 62368-1:2014, EN 62368-1:2014/A11:2017 and BS EN 62368-1:2014+A11:2017.	

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Note:

The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

Because information of importer has not been confirmed, the information of importer will be given on label by manufacturer prior to marketing in the EEC.

TEST ITEM PARTICULARS:	
Classification of use by	<input type="checkbox"/> Ordinary person <input checked="" type="checkbox"/> Instructed person <input checked="" type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection.....	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> + ____ %/ - ____ % <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input checked="" type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:_____
Considered current rating of protective device as part of building or equipment installation	16 A or 20 A Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: not Mains connected
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location	<input checked="" type="checkbox"/> restricted access location <input type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient:	40 °C
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP____
Power Systems	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input checked="" type="checkbox"/> IT - _230_ V L-L
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> _____ m
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> _____ m
Mass of equipment (kg)	<input checked="" type="checkbox"/> Maximum 15.35 kg
POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object	N/A

- test object does meet the requirement	P (Pass)
- test object does not meet the requirement.....	F (Fail)
TESTING:	
Date of receipt of test item.....	2022-02-15
Date (s) of performance of tests.....	2022-02-23 to 2022-03-02
GENERAL REMARKS:	
<p>“(See Enclosure #)” refers to additional information appended to the report. “(See appended table)” refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p> <p>The instructions specified by the standard have to be in official language of each country, however, only English is checked for this report. It is the applicant responsibility to provide instruction in each official language of the EU.</p> <p>This report is submitted for the exclusive use of the client to whom it is addressed. Its significance is subject to the adequacy and representative character of the sample(s) and to the comprehensiveness of the tests, examinations or surveys made.</p> <p>This report justified only the submitted samples exclusively and not necessarily implies that all other samples are also to be found in same result.</p> <p>The CE marking may only be used if all relevant and effective EC directives are complied with.</p> <p>The measurement uncertainty is not accounted for the decision rule in statement of conformity.</p>	
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies).....	QNAP Systems, Inc. No.22, Gognlan N. RD., Qidu Dist., Keelung City 206, Taiwan
GENERAL PRODUCT INFORMATION:	
<p>Product Description</p> <p>The equipment is a Network Attached Storage classified as information technology equipment.</p> <p>The equipment is supplied by build-in redundant power supply, see appended table 4.1.2 for details.</p> <p>All primary AC circuits are contained within the separate enclosure of separately Certified Power Supplies.</p> <p>The equipment has no direct connection to TNV networks.</p> <p>The inside of the equipment is for access by trained Instructed persons only.</p> <p>Each Appliance Inlet Input is for connection to a separate branch circuit.</p> <p>The equipment is for use with field installable plug-in laser device modules (LDMs) that are not provided with the product when shipped from the original equipment manufacturer. The equipment was evaluated with representative LDMs during the type test investigation. The equipment with LDMs installed is required to comply with the standards stated on cover page and IEC 60825-1 and -2, including any declared national differences. The decision on certification of the equipment without LDMs rests with the recognizing NCB.</p> <p>The power supply cord and plug were not part of this evaluation. A cord and plug that meet each country's national requirements will be provided in the country of installation.</p> <p>The LAN connector of the subject model is to be used with other IT equipment via Ethernet Networks in the same building. There is no connection to ES2 or ES3 of external circuit.</p>	

Technical Considerations and Engineering Conditions of Acceptability -

The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): Output Ports except Fiber Ports

The equipment is defined as a moveable equipment and the slide-rails are not provided with the equipment for conducting the relevant evaluation in this report. However, due to the varies of slide-rails, the relevant evaluation shall be made in the end application.

Model Differences –

All models are identical except model designation for market purpose.

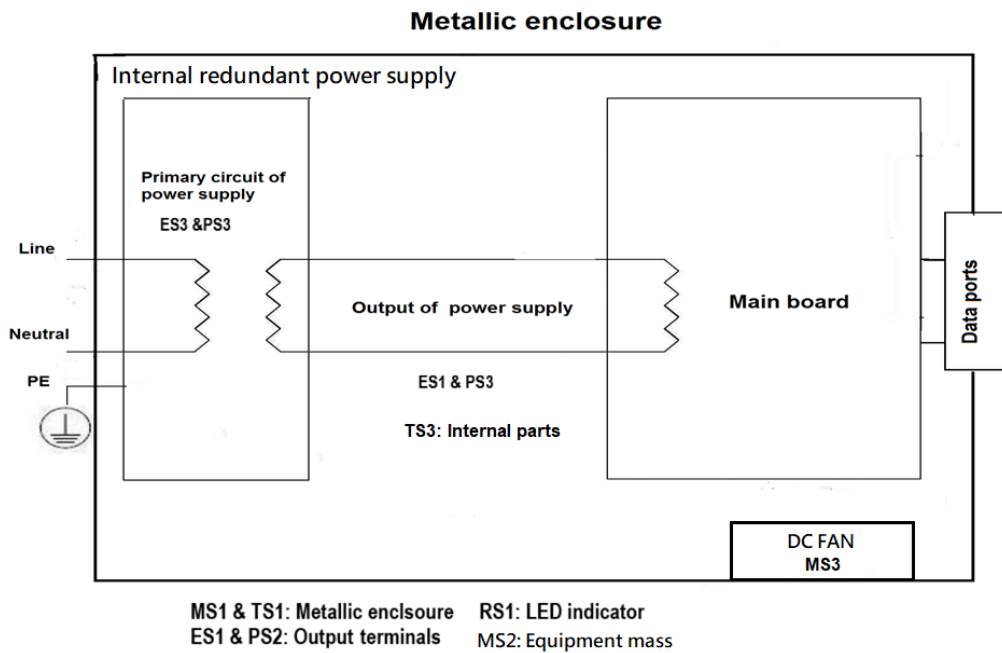
Additional application considerations – (Considerations used to test a component or sub-assembly) –

N/A

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
<p>(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)</p> <p>(Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)</p>	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input	
ES1	
Source of electrical energy	Corresponding classification (ES)
Primary circuits in build-in redundant power supply	ES3
Output circuit of build-in redundant power supply	ES1
All circuits in main board and output terminals	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts):	
PS2	
Source of power or PIS	Corresponding classification (PS)
All Circuits except Output terminals	PS3
Output terminals	PS2 (complied with Annex Q.1 L.P.S.)
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component	
Glycol	
Source of hazardous substances	Corresponding chemical
RTC battery	See Annex M.
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit	
MS2	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Edges and corners	MS1
Equipment mass	MS2
Plastic fan blade (System Fan and Power Supply Fan)	MS3
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure	
TS1	
Source of thermal energy	Corresponding classification (TS)
Accessible surfaces and parts	TS1
Internal parts	TS3
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product	
RS1	
Type of radiation	Corresponding classification (RS)
LED indicator	RS1

ENERGY SOURCE DIAGRAM

Indicate which energy sources are included in the energy source diagram. Insert diagram below



For the energy sources, see above mentioned energy source identification and classification table.

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Instructed person	ES3: Primary circuits in build-in redundant power supply	N/A	N/A	Enclosure
Instructed person	ES1: Output of Primary circuits in build-in redundant power supply	N/A	N/A	N/A
Instructed person	ES1: All circuits in main board and output terminals	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Enclosure	PS3 Circuit	See sub-clause 6.3.	Metal	N/A
PCB	PS3 Circuit	See sub-clause 6.3.	Minimum V-1.	N/A
Other Components/Materials	PS3 Circuit	See sub-clause 6.3.	See sub-clauses 6.4.5 and 6.4.6.	N/A
Internal Wiring	PS3 Circuit	N/A	N/A	See sub-clause 6.5.
Output Ports except Fiber Ports	PS2 (LPS) Circuit	See sub-clause 6.3.	See 6.4.5	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
RTC battery	N/A	N/A	N/A	See clause Annex M
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3: High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Instructed person	MS1: Edges and corners	N/A	N/A	N/A
Instructed person	MS2: Equipment mass	N/A	N/A	See clause 8.6
Instructed person	MS3: Plastic fan blade (DC fan)	N/A	N/A	Enclosure, See clause 8.5

9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Instructed person	TS1: Accessible surfaces and parts	N/A	N/A	N/A
Instructed person	TS3: Internal parts	N/A	N/A	Enclosure
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Instructed person	RS1: LED indicators	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

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Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	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 table 4.1.2).	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	Compliance is checked by inspection and by the relevant tests of Annex B.2, Annex B.3 and Annex B.4.	P
4.1.15	Markings and instructions..... :	(See Annex F)	P
4.4.4	Safeguard robustness	See clause 4.4.4.2 to 4.4.4.9.	P
4.4.4.2	Steady force tests..... :	(See Annex T.2, T.3, T.4, T.5)	P
4.4.4.3	Drop tests..... :		N/A
4.4.4.4	Impact tests..... :	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests..... :	(See Annex T.2, T.3, T.4, T.5)	P
4.4.4.6	Glass Impact tests..... :		N/A
4.4.4.7	Thermoplastic material tests..... :		N/A
4.4.4.8	Air comprising a safeguard..... :		N/A
4.4.4.9	Accessibility and safeguard effectiveness	All safeguards remain effective during and after the test.	P
4.5	Explosion	No explosion occurs during normal operating conditions, abnormal operating conditions and single fault conditions.	P
4.6	Fixing of conductors	See below.	P
4.6.1	Fix conductors not to defeat a safeguard	All conductors are reliable fixing that loosening of terminal connections is unlikely.	P
4.6.2	10 N force test applied to..... :	(See Annex T.2)	P
4.7	Equipment for direct insertion into mains socket - outlets	EUT is not Direct plug-in type equipment.	N/A
4.7.2	Mains plug part complies with the relevant standard..... :		N/A
4.7.3	Torque (Nm)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.8	Products containing coin/button cell batteries	Equipment for locations where it is unlikely that children will be present	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery..... :		—
4.8.4	Battery Compartment Mechanical Tests..... :		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object..... :	(See Annex P)	P

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications..... :	Evaluation of the approved Power Supply. All Secondary circuits in internal power supply and I/O connector are considered as ES1.	P
5.2.2	ES1, ES2 and ES3 limits	See Energy source identification and classification table.	P
5.2.2.2	Steady-state voltage and current..... :		N/A
5.2.2.3	Capacitance limits..... :		N/A
5.2.2.4	Single pulse limits..... :		N/A
5.2.2.5	Limits for repetitive pulses..... :		N/A
5.2.2.6	Ringing signals..... :		N/A
5.2.2.7	Audio signals..... :	No such Audio signals.	N/A
5.3	Protection against electrical energy sources	See below.	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See below	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	All ES3 circuit are enclosed by approved Power Supply	N/A
5.3.2.2	Contact requirements	See below.	P
	a) Test with test probe from Annex V..... :	The test probe of Figure V.2 cannot contact a bare internal conductive part through any openings or seams of the whole enclosure.	P
	b) Electric strength test potential (V)..... :		N/A
	c) Air gap (mm)..... :		N/A
5.3.2.4	Terminals for connecting stripped wire	No stripped wire.	N/A
5.4	Insulation materials and requirements		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.2	Properties of insulating material	The equipment equipped with a building-in power supply, Natural rubber, asbestos or hygroscopic materials are not used.	P
5.4.1.3	Humidity conditioning	Certified Power Supply used.	N/A
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6.)	P
5.4.1.5	Pollution degree	Pollution degree 2.	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		N/A
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature		N/A
5.4.1.10.3	Ball pressure		N/A
5.4.2	Clearances	Certified Power Supply used.	N/A
5.4.2.2	Determining clearance using peak working voltage		N/A
5.4.2.3	Determining clearance using required withstand voltage		N/A
	a) a.c. mains transient voltage		—
	b) d.c. mains transient voltage		—
	c) external circuit transient voltage		—
	d) transient voltage determined by measurement		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages		N/A
5.4.3	Creepage distances.....	Certified Power Supply used.	N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group		—
5.4.4	Solid insulation		N/A
5.4.4.2	Minimum distance through insulation		N/A
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material.....		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz.....		N/A
5.4.5	Antenna terminal insulation	No antenna terminal.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....		—
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	Certified Power Supply used.	N/A
	Relative humidity (%).....		—
	Temperature (°C)		—
	Duration (h)		—
5.4.9	Electric strength test.....	Certified Power Supply used.	N/A
5.4.9.1	Test procedure for a solid insulation type test		N/A
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test.....		N/A
5.4.10.2.3	Steady-state test.....		N/A
5.4.11	Insulation between external circuits and earthed circuitry		N/A
5.4.11.1	Exceptions to separation between external circuits and earth	Not connected to external circuit.	N/A
5.4.11.2	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		N/A
5.5.1	General	Certified Power Supply used.	N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable	Not connected to external circuit.	N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Certified Power Supply used.	N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm^2)		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm^2).		—
	Protective current rating (A)		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm^2), nominal thread diameter (mm).		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω).....:		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current.....:	Peak voltage evaluated.	P
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection)	The separate earthing connection is disconnected for the measurement.	—
	Multiple connections to mains (one connection at a time/simultaneous connections)	Two redundant powers are separately connected to the mains but both protective earthing conductors are disconnected for the measurement.	—
5.7.4	Earthed conductive accessible parts	See appended table 5.7.2.2 and 5.7.4.	P
5.7.5	Protective conductor current	See below	P
	Supply Voltage (V).....:	264 V a.c./60 Hz	—
	Measured current (mA).....:	Test on model NAS-873UG, two power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A) Max. 2.891 mA r.m.s.	—
	Instructional Safeguard.....:		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)		N/A
6	ELECTRICALLY- CAUSED FIRE		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	See Energy source identification and classification table.	P
6.2.2.1	General	See below	P
6.2.2.2	Power measurement for worst-case load fault ... :		N/A
6.2.2.3	Power measurement for worst-case power source fault :		N/A
6.2.2.4	PS1 :	No PS1 circuits defined in the equipment	N/A
6.2.2.5	PS2 :	See 6.2.2	P
6.2.2.6	PS3 :	See 6.2.2	P
6.2.3	Classification of potential ignition sources	Conductors and Devices considered as PIS, except LED Indicators and Function button.	P
6.2.3.1	Arcing PIS :		N/A
6.2.3.2	Resistive PIS :	See sub-clause 6.2.3.	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials :	No ignition and no such temperature attained within the equipment. (See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6, B.3)	P
6.3.1 (b)	Combustible materials outside fire enclosure	No such components or parts outside the enclosures.	N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method by control of fire spread applied. See 6.4.5 and 6.4.6.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	Not applicable.	N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	Not applicable.	N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits	No PS1 circuit inside the equipment.	N/A
6.4.5	Control of fire spread in PS2 circuits	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: – Printed board: rated min. V-1 – All other components: at least V-2 except for mounted on min. V-1 material, small parts of combustible material, components complying to relevant IEC standard or not ignite during single fault conditions.	P
6.4.6	Control of fire spread in PS3 circuit	Compliance detailed as follows: – Parts as in 6.4.5 above – No components subject to arcing – Fire enclosure provided, see 6.4.8. Other parts within the fire enclosure are min. V-2 or better.	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties	See below.	P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Fire enclosure is provided	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	See below.	P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	<u>Top / Right / Left / Front side:</u> No openings. <u>Rear side:</u> Hexagon openings, Max. 4.5 mm (any dimension), openings do not exceed 5 mm in any dimension. <u>Rear side on power supply:</u> Numerous exhaust openings, each Max 24 mm (any dimension), the openings were outside the fire cone.	P
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	Rectangle opening, Max 17.5 mm (any dimension) and oval opening, Max 5.8 mm (any dimension), the openings were outside the fire cone of PIS.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating	Fire enclosure made by metal	P
6.5	Internal and external wiring		P
6.5.1	Requirements	Internal wires having rating VW-1 are considered to meet IEC/TS 60695-11-21.	P
6.5.2	Cross-sectional area (mm ²)	See appended 4.1.2 for details.	—
6.5.3	Requirements for interconnection to building wiring.....	No such part.	N/A
6.6	Safeguards against fire due to connection to additional equipment	See below.	P
	External port limited to PS2 or complies with Clause Q.1	See appended table annex Q.1.	P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances	No hazardous substances.	N/A
7.3	Ozone exposure	No ozone.	N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions.....		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010).....		—
7.6	Batteries	See annex M.	P

8	MECHANICALLY-CAUSED INJURY		P
8.1	General	See below.	P
8.2	Mechanical energy source classifications	MS1: Sharp edge and corners. MS2: Equipment mass. MS3: Plastic fan blade (System Fan and Power Supply Fan)	P
8.3	Safeguards against mechanical energy sources	See below.	P
8.4	Safeguards against parts with sharp edges and corners	No sharp edges and corners.	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment	The blades of DC fan are not accessible with test finger Figure V.2.	P
8.5.2	Instructional Safeguard		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks.....		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test		N/A
8.6	Stability		P
8.6.1	Product classification		P
	Instructional Safeguard		—
8.6.2	Static stability	See below.	P
8.6.2.2	Static stability test	MS2: 7 kg < mass < 25 kg. not tip over	P
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force)		N/A
	Position of feet or movable parts		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.9	Wheels or casters attachment requirements	No wheels or casters.	N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers	No carts, stands and similar carriers.	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N).....		—
8.10.6	Thermoplastic temperature stability (°C)		N/A
8.11	Mounting means for rack mounted equipment	See "GENERAL PRODUCT INFORMATION"	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas	No telescoping or rod antennas	N/A
	Button/Ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	Accessible part: TS1. Internal parts: TS3. (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6; B.3; B.4)	P
9.3	Safeguard against thermal energy sources	Accessible part: TS1. No safeguard required. Internal parts: TS3. Covered by enclosure, ordinary persons cannot access.	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard		N/A

10	RADIATION		P
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Clause	Requirement + Test	Result - Remark	Verdict
10.2	Radiation energy source classification	See below.	P
10.2.1	General classification	See Energy source identification and classification table.	P
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault.....:		N/A
	Instructional safeguard.....:		—
	Tool.....:		—
10.4	Protection against visible, infrared, and UV radiation	The LED used as indicating light which considered as RS1.	P
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons.....:		N/A
10.4.1.b)	RS3 accessible to a skilled person.....:		N/A
	Personal safeguard (PPE) instructional safeguard.....:		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1...:		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions.....:		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque.....:		N/A
10.4.1.f)	UV attenuation.....:		N/A
10.4.1.g)	Materials resistant to degradation UV.....:		N/A
10.4.1.h)	Enclosure containment of optical radiation.....:		N/A
10.4.1.i)	Exempt Group under normal operating conditions.....:		N/A
10.4.2	Instructional safeguard.....:		N/A
10.5	Protection against x-radiation	No x-radiation.	N/A
10.5.1	X- radiation energy source that exists equipment:		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....:		N/A
	Instructional safeguard for skilled person.....:		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation.....:		—
	Abnormal and single-fault condition.....:		N/A
	Maximum radiation (pA/kg).....:		N/A
10.6	Protection against acoustic energy sources	No acoustic energy sources.	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Output voltage, unweighted r.m.s.....:		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards		N/A
	Equipment safeguard prevent ordinary person to RS2		—
	Means to actively inform user of increase sound pressure		—
	Equipment safeguard prevent ordinary person to RS2.....		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output.....:		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A).....:		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A).....:		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions	See below.	P
B.2.1	General requirements.....:	See Test Item Particulars and appended test tables.	P
	Audio Amplifiers and equipment with audio amplifiers.....:	No audio amplifiers.	N/A
B.2.3	Supply voltage and tolerances	+10 % and -10 % for a.c. mains.	P
B.2.5	Input test	See appended table B.2.5.	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements.....:	See appended table B.3.	P
B.3.2	Covering of ventilation openings	See appended table B.3.	P
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals.....:	See appended table B.3.	P
B.3.6	Reverse battery polarity	No replaceable batteries for an ordinary person	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited.....:	No temperature controlling device.	N/A
B.4.3	Motor tests		P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature	See appended table B.4.	P
B.4.4	Short circuit of functional insulation	Faults in primary and secondary components and functional insulation were already evaluated in certified power supply unit.	P
B.4.4.1	Short circuit of clearances for functional insulation	See appended table B.4.	P
B.4.4.2	Short circuit of creepage distances for functional insulation	See appended table B.4.	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		N/A
B.4.6	Short circuit or disconnect of passive components	See appended table B.4.	P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	Complied.	P
B.4.9	Battery charging under single fault conditions.....:	See Table Annex M.	P
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation	No UV radiation.	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Audio signal voltage (V)		—
	Rated load impedance (Ω)		
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements	Considered, see below.	P
	Instructions – Language	Safety related equipment marking, instructions and instructional safeguards provided the English version. Other languages will be provided when submitted for national approval.	—
F.2	Letter symbols and graphical symbols	See below.	P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on the equipment surface and is easily visible.	P
F.3.2	Equipment identification markings	See below.	P
F.3.2.1	Manufacturer identification	See copy of marking plate	—
F.3.2.2	Model identification	See copy of marking plate	—
F.3.3	Equipment rating markings	See below.	P
F.3.3.1	Equipment with direct connection to mains	The equipment is connected to a.c. mains power supply.	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage.....	See copy of marking plate	—
F.3.3.4	Rated voltage	See copy of marking plate	—
F.3.3.4	Rated frequency	See copy of marking plate	—
F.3.3.6	Rated current or rated power	See copy of marking plate	—
F.3.3.7	Equipment with multiple supply connections		P
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings.....	No mains appliance outlet and socket-outlet.	N/A
F.3.5.2	Switch position identification marking.....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.3	Replacement fuse identification and rating markings.....:	Certified Power Supply used.	N/A
F.3.5.4	Replacement battery identification marking.....:		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification	See the following details.	P
F.3.6.1	Class I Equipment	See below.	P
F.3.6.1.1	Protective earthing conductor terminal	Certified Power Supply used.	N/A
F.3.6.1.2	Neutral conductor terminal	Equipment is not intended for permanently connected.	N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)	Equipment is not Class II equipment.	N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking :		—
F.3.8	External power supply output marking	Not such equipment	N/A
F.3.9	Durability, legibility and permanence of marking	See below.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. and then again for 15 sec. 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 or lifting of the label edge.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	Provided in user manual.	P
	b) Instructions given for installation or initial use	User guide have state that correct and safe installation.	P
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		P
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	The equipment is not audio equipment.	N/A
	f) Protective earthing employed as safeguard		P

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Clause	Requirement + Test	Result - Remark	Verdict
	g) Protective earthing conductor current exceeding ES 2 limits	Not exceeded ES2 limits.	N/A
	h) Symbols used on equipment		P
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function	No such replaceable components or modules providing safeguard function.	N/A
F.5	Instructional safeguards	See below.	P
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction	Considered.	P
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements	See below.	P
G.1.2	Ratings, endurance, spacing, maximum load	Approved Switch provided. See appended 4.1.2 for details.	P
G.2	Relays		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		P
G.3.1	Thermal cut-offs		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)		—
	Single Fault Condition		—
	Test Voltage (V) and Insulation Resistance (Ω) .:		—
G.3.3	PTC Thermistors	Approved PTC Thermistors provided. See appended 4.1.2 for details.	P
G.3.4	Overcurrent protection devices		N/A

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Clause	Requirement + Test		Verdict
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided	No such non-resettable protective devices provided.	N/A
G.3.5.2	Single faults conditions..... :		N/A
G.4	Connectors		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration :	Certified Power Supply used.	N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound Components		N/A
G.5.1	Wire insulation in wound components.....	Certified Power Supply used.	N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s) :		—
	Temperature (°C) :		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		N/A
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1)..... :	Certified Power Supply used.	N/A
	Position :		—
	Method of protection :		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings :		—
G.5.3.3	Overload test..... :		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		P
G.5.4.1	General requirements	Approved DC Fan provided.	P
	Position :	See appended 4.1.2 for details.	—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General	Certified Power Supply used.	N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type		—
	Rated current (A).....		—
	Cross-sectional area (mm ²), (AWG).....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) ... :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements	Certified Power Supply used.	N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A).....		—
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements	Certified Power Supply used.	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		N/A
G.11.1	General requirements	Certified Power Supply used.	N/A
G.11.2	Conditioning of capacitors and RC units		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)..... :	Certified Power Supply used.	N/A
	Type test voltage V _{ini}		—
	Routine test voltage, V _{ini,b}		—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)..... :		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with U_c = to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage.....		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		—
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements	Certified Power Supply used.	N/A
K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No safety interlock provided within the equipment.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	Appliance coupler is considered as disconnect device. Suitable marking for the connection of redundant power is used. See marking plate for details.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When the disconnect device is disconnected, no remaining parts with hazardous voltage in the equipment.	P
L.4	Single phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		P
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements		P
M.2	Safety of batteries and their cells		P
M.2.1	Requirements		P
M.2.2	Compliance and test method (identify method)....	See appended table 4.1.2 for non-rechargeable RTC Battery.	P
M.3	Protection circuits		P
M.3.1	Requirements		P
M.3.2	Tests	RTC Battery is protected against charging current by multiple components.	P
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery	See appended table Annex M.	P
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.3	Compliance :	See appended table Annex M.	P
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature..... :		—
M.4.2.2 b)	Single faults in charging circuitry..... :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) :		N/A
M.6.2	Leakage current (mA) :		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s)		—
M.8.2.3	Correction factors.....		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)	Complied by inspection and data review	P
N	ELECTROCHEMICAL POTENTIALS		P
	Metal(s) used	Certified Power Supply used.	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Figures O.1 to O.20 of this Annex applied	Certified Power Supply used.	—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object	See below.	P
	Location and Dimensions (mm)	Top / Right / Left / Front side: No openings. Rear side: Hexagon openings, Max. 4.5 mm (any dimension), openings do not exceed 5 mm in any dimension. Rear side on power supply: Numerous exhaust openings, each Max 24 mm (any dimension), the openings were outside the fire cone.	—
P.2.3	Safeguard against the consequences of entry of foreign object		P

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Clause	Requirement + Test	Result - Remark	Verdict
P.2.3.1	Safeguards against the entry of a foreign object	<p>Rear side on power supply: Numerous exhaust openings, each Max 24 mm (any dimension), the openings were outside the fire cone.</p> <p>Bottom side: Rectangle opening, Max 17.5 mm (any dimension) and oval opening, Max 5.8 mm (any dimension), the openings were outside the fire cone of PIS.</p> <p>Within projected volume as depicted in Figure P.3, there were no PIS, nor bare conductive parts at ES3 or PS3.</p>	P
	Openings in transportable equipment	Not transportable equipment.	N/A
	Transportable equipment with metalized plastic parts.....:		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids	No internal liquids.	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	T _c (°C).....:		—
	T _r (°C)		—
	T _a (°C)		—
P.4.2 b)	Abrasion testing		N/A
P.4.2 c)	Mechanical strength testing		N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources	See below.	P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition		P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Q.1.2	Compliance and test method	See appended table Q.1 for details.	P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—
	Current limiting method.....		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)).		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (test condition), (°C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements	See below.	P
T.2	Steady force test, 10 N	See appended table T.2, T.3, T.4, T.5.	P
T.3	Steady force test, 30 N	See appended table T.2, T.3, T.4, T.5.	P
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N	See appended table T.2, T.3, T.4, T.5.	P
T.6	Enclosure impact test	See appended table T.6.	P
	Fall test	500 g steel sphere ball fall, from 1.3 m height onto outer enclosure. The test was done to six surfaces of enclosure and with all enclosure materials. No safety relevant damages.	P
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test		N/A
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)		—
	Height (m)		—
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		—

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Clause	Requirement + Test	Result - Remark	Verdict
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements	No CRTs.	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

EN 62368-1						
Clause	Requirement + Test		Result - Remark		Verdict	
4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹	
Build-in switching power supply (Two provided)	Delta Electronics, Inc.	DPS-250AB-81 A	I/P: 100-240 V a.c., 50-60 Hz, 5-2.5 A O/P: +12 V d.c./20 A, +5VSB/2 A, Total 250 W, 50 °C, Class I	IEC 62368-1:2014	TUV Rh	
Metal Chassis	Interchangeable	Interchangeable	1.8 mm thick. min.	--	--	
Plastic cover near HDD	Interchangeable	Interchangeable	Min. HB, 60 °C, Min. 1.5 mm thickness	UL 94	UL	
PCB	Interchangeable	Interchangeable	V-1 or better, min. 105 °C	UL 746	UL	
Lithium Batteries	PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA	CR2032	3 Vdc, max. abnormal charging current 10 mA	UL 1642	UL	
Alt	Interchangeable	Interchangeable	3 Vdc, max. abnormal charging current 10 mA	UL 1642	UL	
Current-Limited Power Switch (U118) (for USB3.0 ports)	DIODES Incorporated	AP2162ASG-13	2.7-5.5 Vdc, 1.5 A	IEC 60950-1	CB by Nemko NO62499	
Polyswitch (F2, F3) (for USB2.0 ports)	Polytronics Technology Corp.	SMD1206P110T FT	8 Vdc, 1.1 A	EN 60738-1:1999, EN 60738-1-1:1999, IEC 60730-1:1999, EN 60730-1:2000, IEC 60738-1:1998, IEC 60738-1-1:1998	TUV Rh	
DC Fans (Two provided for system)	Yen Sun Technology Corp.	FD127025EB-EAB	12 V d.c., 0.4 A, Max. 52.7 CFM	EN 62368-1:2014	TUV Rh	
HDD (optional)	Interchangeable	Interchangeable	3.5', Max. 5 V/0.75 A, 12 V/0.75 A	--	--	
Internal Wiring (ES1 Circuits)	Interchangeable	Interchangeable	VW-1, minimum 60 °C, minimum 30 V.	UL 758	UL	
Connectors and Receptacles (Secondary ES1 Circuits) (Optional)	Interchangeable	Interchangeable	Minimum V-2.	UL 94	UL	
Fiber card (optional)	--	--	--	--	--	

EN 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
-PCB	Interchangeable	Interchangeable	V-1 or better, min. 105 °C	UL 746	UL
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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Clause	Requirement + Test		Result - Remark	Verdict
4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress Relief test			—
Part		Material	Oven Temperature (°C)	Comments
4.8.4.3	TABLE: Battery replacement test			—
Battery part no..... :				—
Battery Installation/withdrawal		Battery Installation/Removal Cycle		Comments
		1		
		2		
		3		
		4		
		5		
		6		
		8		
		9		
		10		
4.8.4.4	TABLE: Drop test			—
Impact Area		Drop Distance	Drop No.	Observations
4.8.4.5	TABLE: Impact			—
Impacts per surface		Surface tested	Impact energy (Nm)	Comments
4.8.4.6	TABLE: Crush test			—
Test position		Surface tested	Crushing Force (N)	Duration force applied (s)
Supplementary information:				

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result		N/A
Test position	Surface tested	Force (N)	Duration force applied (s)
Supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	Table: Classification of electrical energy sources	N/A	
-----	--	-----	--

5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
--	--	--	Normal	--	--	--
			Abnormal	--	--	
			Single fault – SC/OC	--	--	

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

Test Conditions:

Normal –

Abnormal -

Supplementary information: SC=Short Circuit, OC=Short Circuit

***) The circuits of main board are supplied by the output circuits of building-in power supply that meet ES1.**

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
	Supply voltage (V)	See below	See below	See below	--	—
	Ambient T _{min} (°C)	--	--	--	--	—
	Ambient T _{max} (°C)	--	--	--	--	—
	T _{ma} (°C)	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A) (1) 90 V a.c./60 Hz, Maximum normal load		(1)	--	--	--	--
T1 coil (Power supply)		49.9	--	68.3	--	110
T901 coil (Power supply)		38.0	--	56.4	--	110
HDD body		35.0	--	53.4	--	--
PCB near U23 (Main board)		39.6	--	58.0	--	105
PCB near U1 (Main board)		48.0	--	66.4	--	105
PCB near U14 (Main board)		51.7	--	70.1	--	105
RTC Battery (Main board)		40.0	--	58.4	--	100
PCB near U2 (Fiber card)		46.1	--	64.5	--	105
Metal chassis near power supply		32.5	35.9	--	--	60
Metal chassis near power supply Fan		31.8	35.2	--	--	60
Metal chassis near USB 3.0 ports		40.7	44.1	--	--	60
Front side plastic HDD cover		24.7	28.1	--	--	77
Ambient		21.6	Shift to 25.0	Shift to 40.0	--	--
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A) (2) 264 V a.c./60 Hz, Maximum normal load		(2)	--	--	--	--
T1 coil (Power supply)		50.4	--	69.2	--	110
T901 coil (Power supply)		38.4	--	57.2	--	110
HDD body		35.1	--	53.9	--	--
PCB near U23 (Main board)		40.0	--	58.8	--	105
PCB near U1 (Main board)		48.7	--	67.5	--	105
PCB near U14 (Main board)		52.0	--	70.8	--	105
RTC Battery (Main board)		40.4	--	59.2	--	100

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Clause	Requirement + Test		Result - Remark		Verdict
PCB near U2 (Fiber card)	46.5	--	65.3	--	105
Metal chassis near power supply	32.7	36.5	--	--	60
Metal chassis near power supply Fan	31.5	35.3	--	--	60
Metal chassis near USB 3.0 ports	40.9	44.7	--	--	60
Front side plastic HDD cover	24.8	28.6	--	--	77
Ambient	21.2	Shift to 25.0	Shift to 40.0	--	--
B.3 TABLE: Abnormal operating condition tests					
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A) (1) 264 V a.c./60 Hz, Blocked opening	(1)	--	--	--	--
T1 coil (Power supply)	58.8	--	76.9	--	175
T901 coil (Power supply)	45.9	--	64.0	--	175
HDD body	35.4	--	53.5	--	300
PCB near U23 (Main board)	40.1	--	58.2	--	300
PCB near U1 (Main board)	48.8	--	66.9	--	300
PCB near U14 (Main board)	52.6	--	70.7	--	300
RTC Battery (Main board)	40.5	--	58.6	--	300
PCB near U2 (Fiber card)	46.6	--	64.7	--	300
Metal chassis near power supply	37.2	40.3	--	--	70
Metal chassis near power supply Fan	39.7	42.8	--	--	70
Metal chassis near USB 3.0 ports	42.4	45.5	--	--	70
Front side plastic HDD cover	25.0	28.1	--	--	87
Ambient	21.9	Shift to 25.0	Shift to 40.0	--	--
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A) (2) 264 V a.c./60 Hz, USB 3.0 (USB_CN1); pin 1 to GND, overload	(2)	--	--	--	--
PCB near USB_CN1	34.0	--	52.1	--	300
Metal chassis near USB 3.0 ports	51.5	54.6	--	--	70
Ambient	21.9	Shift to 25.0	Shift to 40.0	--	--
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A) (3) 264 V a.c./60 Hz, USB 2.0 (USB_CN2); pin 1 to GND, overload	(3)	--	--	--	--

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Clause	Requirement + Test		Result - Remark		Verdict

PCB near USB_CN1	46.3	--	64.4	--	300
Metal chassis near USB 2.0 ports	41.9	45.0	--	--	70
Ambient	21.9	Shift to 25.0	Shift to 40.0	--	--

B.4 TABLE: Fault condition tests

Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A) (1) 264 V a.c./60 Hz, Fan locked (All System Fan)	(1)	--	--	--	--
T1 coil (Power supply)	52.2	--	71.2	--	175
T901 coil (Power supply)	39.8	--	58.8	--	175
Metal chassis near power supply	33.3	37.3	--	--	70
Metal chassis near power supply Fan	31.1	35.1	--	--	70
Metal chassis near USB 3.0 ports	39.8	43.8	--	--	70
Front side plastic HDD cover	30.9	34.9	--	--	87
Ambient	21.0	Shift to 25.0	Shift to 40.0	--	--
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A) (2) 264 V a.c./60 Hz, Fan locked (DC Fan on power supply)	(2)	--	--	--	--
T1 coil (Power supply)	89.0	--	108.6	--	175
T901 coil (Power supply)	73.7	--	93.3	--	175
Metal chassis near power supply	34.2	38.8	--	--	70
Metal chassis near power supply Fan	43.5	48.1	--	--	70
Metal chassis near USB 3.0 ports	40.2	44.8	--	--	70
Front side plastic HDD cover	25.7	30.3	--	--	87
Ambient	20.4	Shift to 25.0	Shift to 40.0	--	--

Supplementary information:

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

- The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T_{ma}) of 40 °C.
- The temperatures were measured under worst case normal mode defined in 3.3.7.4 and as described in B.2.5 at voltages as above.

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics	N/A
------------	--	-----

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Clause	Requirement + Test	Result - Remark	Verdict

Penetration (mm).....:			—
Object/ Part No./Material	Manufacturer/t rademark	T softening (°C)	
--	--	--	
supplementary information:			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			N/A
Allowed impression diameter (mm) : ≤ 2 mm				—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
--	--	--	--	
Supplementary information:				

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequenc y (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Basic insulation							
--	--	--	--	--	--	--	--
Reinforced:							
--	--	--	--	--	--	--	--
Supplementary information:							
* The insulation distance has been evaluated on Certified power supply.							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage				N/A
	Overvoltage Category (OV):				II
	Pollution Degree:				2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)	
Supplementary information:					

5.4.2.4	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
Supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					N/A
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)	
Supplementary information:						

5.4.9	TABLE: Electric strength tests			N/A
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
--	--	--	--	
Basic/supplementary:				
--	--	--	--	
Reinforced:				
--	--	--	--	
Supplementary information: Applied d.c. voltage in one polarity for 60 s and then repeated it in reverse polarity. Evaluated on Certified power supply.				

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
--	--	--	--	--	--	
Supplementary information:						
X-capacitors installed for testing are:						
<input type="checkbox"/> bleeding resistor rating:						
<input type="checkbox"/> ICX:						
Notes:						
A. Test Location:						
Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth						
B. Operating condition abbreviations:						
N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition						
Evaluated on Certified power supply.						

5.6.6.2	TABLE: Resistance of protective conductors and terminations				N/A
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	

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Clause	Requirement + Test	Result - Remark	Verdict

5.6.6.2	TABLE: Resistance of protective conductors and terminations				N/A
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
--	--	--	--	--	
Supplementary information: Evaluated on Certified power supply.					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage..... :		264 V a.c./60 Hz	—
Location		Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
Line / Neutral to Metal chassis (PE side)		1	Max. 2.958 mA peak
		2*	--
		3	--
		4	--
		5	--
		6	--
		8	--
Supplementary Information: Notes: [1] Supply voltage is the anticipated maximum Touch Voltage [2] Earthed neutral conductor [Voltage differences less than 1% or more] [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3 [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided. Test on model NAS-873UG, two power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A)			

6.2.2	Table: Electrical power sources (PS) measurements for classification				N/A
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
See 1)	--	Power (W) :	--	--	PS3
		V _A (V) :	--	--	
		I _A (A) :	--	--	
See 2)	--	Power (W) :	--	--	PS2
		V _A (V) :	--	--	

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Clause	Requirement + Test	Result - Remark	Verdict

	I _A (A)	:	--	--	
Supplementary Information: 1) All circuits except output terminals as PS3. 2) Output terminals as PS2. For output data terminals see appended table Q.1.					

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				N/A
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (Vp x Irms)	Arcing PIS? Yes / No	
--	--	--	--	--	
Supplementary information: An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (Vp) and normal operating condition rms current (Irms) is greater than 15.					

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				N/A
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
--	--	--	--	--	--
Supplementary Information: A combination of voltmeter, VA and ammeter I _A may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x I _A) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, <u>or</u> (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault. All components in the equipment are considered as Resistive PIS.					

8.5.5	TABLE: High Pressure Lamp		N/A
Description	Values	Energy Source Classification	
Lamp type		—	
Manufacturer		—	
Cat no.		—	
Pressure (cold) (MPa)		MS_	
Pressure (operating) (MPa)		MS_	
Operating time (minutes)		—	
Explosion method.....		—	
Max particle length escaping enclosure (mm) . :		MS_	

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Clause	Requirement + Test	Result - Remark	Verdict
Max particle length beyond 1 m (mm)			MS_
Overall result			
Supplementary information:			

B.2.5	TABLE: Input test							P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A)								
90 V a.c./50 Hz	1.557	--	142.2	--	In SPS	1.557	Maximum normal load	
90 V a.c./60 Hz	1.621	--	144.4	--	In SPS	1.621	Maximum normal load	
100 V a.c./50 Hz	1.386	2.5	140.1	--	In SPS	1.386	Maximum normal load	
100 V a.c./60 Hz	1.490	2.5	143.3	--	In SPS	1.490	Maximum normal load	
240 V a.c./50 Hz	0.637	1.25	134.5	--	In SPS	0.637	Maximum normal load	
240 V a.c./60 Hz	0.663	1.25	137.7	--	In SPS	0.663	Maximum normal load	
264 V a.c./50 Hz	0.644	--	135.6	--	In SPS	0.644	Maximum normal load	
264 V a.c./60 Hz	0.656	--	137.2	--	In SPS	0.656	Maximum normal load	
Supplementary information:								
Equipment may be have rated current or rated power or both. Both should be measured.								

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C)					25 °C, if nothing else specified.			—
Power source for EUT: Manufacturer, model/type, output rating :					--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A)								
Equipment	Opening blocked	264 V a.c./60 Hz	2 hours 6 minutes	In SPS	0.661	J	See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.	Unit operation normally, NB, ASRE.
USB 3.0 (USB_CN1); pin 1 to GND	Overload	264 V a.c./60 Hz	1 hours 16 minutes	In SPS	0.686	J	See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.	Open Circuit: 5.022 V Maximum Available: 1.8 A, NB, ASRE.

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Clause	Requirement + Test	Result - Remark	Verdict

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C)					25 °C, if nothing else specified.			—
Power source for EUT: Manufacturer, model/type, output rating :					--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
USB 2.0 (USB_CN2); pin 1 to GND	Overload	264 V a.c./60 Hz	1 hours 9 minutes	In SPS	0.696	J	See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.	Open Circuit: 5.020 V Maximum Available: 1.5 A, NB, ASRE.
<p>Supplementary information:</p> <p>Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.</p> <p>NB: No indication of dielectric breakdown</p> <p>ASRE: All safeguards remained effectively</p> <p>Temperature Measurement: See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.</p> <p>Test conducted on USB 3.0 (USB_CN1) pin 1-9 to GND to represent USB 3.0 (USB_CN1) pin 10-18 to GND, because the same circuit design.</p> <p>Test conducted on USB 2.0 (USB_CN2) pin 1-4 to GND to represent USB 2.0 (USB_CN2) pin 5-8 to GND, because the same circuit design.</p> <p>Test conducted on USB 2.0 (USB_CN2) to represent USB 2.0 (USB_CN4), because the same circuit design.</p>								

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C)					25 °C, if nothing else specified.			—
Power source for EUT: Manufacturer, model/type, output rating :					--			—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A)								
Equipment	Locked Fan (All System Fan)	264 V a.c./60 Hz	2 hours 48 minutes	In SPS	0.665	J	See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.	Unit operation normally, NB, ASRE.
Equipment	Locked Fan (DC Fan on power supply)	264 V a.c./60 Hz	4 hours 15 minutes	In SPS	0.659 to 0	J	See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.	Unit Shut down, NB, ASRE.

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Clause	Requirement + Test				Result - Remark			Verdict
D1 (A1 to A2)	Short	264 V a.c./60 Hz	10 minutes	In SPS	0.656	J	See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.	Unit operation normally, NB, ASRE.
R150	Short	264 V a.c./60 Hz	10 minutes	In SPS	0.656	J	See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.	Unit operation normally, NB, ASRE.
Supplementary information: NB: No indication of dielectric breakdown ASRE: All safeguards remained effectively Temperature Measurement: See Table 5.4.1.4, 6.3.2, 9.0, B.2.6.								

Annex M	TABLE: Batteries								P
The tests of Annex M are applicable only when appropriate battery data is not available									P
Is it possible to install the battery in a reverse polarity position? :							No		P
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Maximum Current in Normal Condition:	--	--	0 A	--	--	--	--	--	--
Maximum Current in Fault Condition: D1 (A1 to A2) Short Conducted for 7 hours.	--	--	0.23 mA	--	--	--	--	--	--
Maximum Current in Fault Condition: R150 Short Conducted for 7 hours.	--	--	0 A	--	--	--	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Annex M	TABLE: Batteries								P
The tests of Annex M are applicable only when appropriate battery data is not available									P
Is it possible to install the battery in a reverse polarity position? :								No	P
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
<div><div>RTC VDD</div></div>									
Test results:								--	Verdict
- Chemical leaks								No chemical leaks.	P
- Explosion of the battery								No explosion of the battery.	P
- Emission of flame or expulsion of molten metal								No flame or molten metal.	P
- Electric strength tests of equipment after completion of tests								No breakdown.	P
Supplementary information: A dc ammeter replaced RTC Battery in circuit and maximum un-intentional charging current was measured. This test conducted to confirm maximum abnormal charging current specified in UL Recognized Component Report. See Table 4.1.2.									

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries				N/A
Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
	Normal				
	Abnormal				
	Single fault –SC/OC				

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary Information:

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation

Supplementary Information:

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					P
Note: Measured UOC (V) with all load circuits disconnected: See below						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Test on Model: NAS-873UG, single power is used for testing (Delta electronics, Inc., Type DPS-250AB-81 A)						
USB 3.0 port (USB_CN1); pin 1 to GND	Normal	5.025	1.8	8	8.20	100
USB 3.0 port (USB_CN1); pin 2-9 to GND	Normal	0	0	8	0	100
USB 2.0 port (USB_CN2); pin 1 to GND	Normal	5.028	1.7	8	7.18	100
USB 2.0 port (USB_CN2); pin 2-4 to GND	Normal	0	0	8	0	100
System maintenance port (COM1_J1); pin 1-2 to GND	Normal	0	0	8	0	100
All RJ45 ports; all pins to GND	Normal	0	0	8	0	100

Supplementary Information:

SC=Short circuit, OC=Open circuit

Test voltage: 264 V a.c., 60 Hz

Waived out the test on SFP slot, due to the SFP slot only transmission data by optical fiber.

Test conducted on USB 3.0 (USB_CN1) pin 1-9 to GND to represent USB 3.0 (USB_CN1) pin 10-18 to GND, because the same circuit design.

Test conducted on USB 2.0 (USB_CN2) pin 1-4 to GND to represent USB 2.0 (USB_CN2) pin 5-8 to GND, because the same circuit design.

Test conducted on USB 2.0 (USB_CN2) to represent USB 2.0 (USB_CN4), because the same circuit design.

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Clause	Requirement + Test	Result - Remark	Verdict

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Internal components	--	--	10	5	All safeguards remained effectively	
Internal barrier on redundant power supply	Metal	1.8	30	5	¹⁾	
Metal Enclosure/Top Side	See Table 4.1.2	See Table 4.1.2	250	5	¹⁾	
Metal Enclosure/Left Side	See Table 4.1.2	See Table 4.1.2	250	5	¹⁾	
Metal Enclosure/Right Side	See Table 4.1.2	See Table 4.1.2	250	5	¹⁾	
Metal Enclosure/Rear Side	See Table 4.1.2	See Table 4.1.2	250	5	¹⁾	
Metal Enclosure /Front side	See Table 4.1.2	See Table 4.1.2	250	5	¹⁾	
Supplementary information:						
¹⁾ No denting. Class 3 energy sources did not become accessible and all safeguards remain effective. No indication of dielectric breakdown.						

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Metal Enclosure/Top Side	See Table 4.1.2	See Table 4.1.2	1300	¹⁾	
Metal Enclosure/Left Side	See Table 4.1.2	See Table 4.1.2	1300	¹⁾	
Metal Enclosure/Right Side	See Table 4.1.2	See Table 4.1.2	1300	¹⁾	
Metal Enclosure/Rear Side	See Table 4.1.2	See Table 4.1.2	1300	¹⁾	
Metal Enclosure /Front side	See Table 4.1.2	See Table 4.1.2	1300	¹⁾	

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

¹⁾ No denting. Class 3 energy sources did not become accessible and all safeguards remain effective. No indication of dielectric breakdown.

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
--	--	--	--	--	
Supplementary information:					

T.8	TABLE: Stress relief test				N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
--	--	--	--	--	--
Supplementary information:					

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT						
Clause	Requirement + Test			Result - Remark		Verdict

ATTACHMENT TO TEST REPORT																																										
IEC 62368-1																																										
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES																																										
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)																																										
Differences according to : EN 62368-1:2014+A11:2017																																										
Attachment Form No : EU_GD_IEC62368_1B_II																																										
Attachment Originator : Nemko AS																																										
Master Attachment : Date 2017-09-22																																										
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	CENELEC COMMON MODIFICATIONS (EN)					P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".					P																																				
CONTENTS	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords					P																																				
	Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list: <table><tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr><tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr><tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr><tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr><tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr></table>					0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
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10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																					
	For special national conditions, see Annex ZB.					P																																				
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.					P																																				

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	<p>Add the following new subclause after 4.9:</p> <p>To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, 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 B.3.1 and B.4 shall be included as 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 instructions.</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>		P
5.4.2.3.2.4	<p>Add the following to the end of this subclause:</p> <p>The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.</p>		N/A
10.2.1	<p>Add the following to ^{c)} and ^{d)} in table 39:</p> <p>For additional requirements, see 10.5.1.</p>		N/A

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p>Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i> <i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i> NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. <i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</i> <i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i> <i>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</i> NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
10.6.1	<p>Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		N/A
10.Z1	<p>Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A
G.7.1	<p>Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>	Evaluated in Certified Power Supply.	P

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	<p>Add the following standards:</p> <p>Add the following notes for the standards indicated:</p> <p>IEC 60130-9 NOTE Harmonized as EN 60130-9.</p> <p>IEC 60269-2 NOTE Harmonized as HD 60269-2.</p> <p>IEC 60309-1 NOTE Harmonized as EN 60309-1.</p> <p>IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series.</p> <p>IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4.</p> <p>IEC 60664-5 NOTE Harmonized as EN 60664-5.</p> <p>IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified).</p> <p>IEC 61508-1 NOTE Harmonized as EN 61508-1.</p> <p>IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1.</p> <p>IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4.</p> <p>IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6.</p> <p>IEC 61643-1 NOTE Harmonized as EN 61643-1.</p> <p>IEC 61643-21 NOTE Harmonized as EN 61643-21.</p> <p>IEC 61643-311 NOTE Harmonized as EN 61643-311.</p> <p>IEC 61643-321 NOTE Harmonized as EN 61643-321.</p> <p>IEC 61643-331 NOTE Harmonized as EN 61643-331.</p>		P
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>	The marking text must be provided when marketed in applicable countries.	N/A
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		N/A

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	Finland and Sweden To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either <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. 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 <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Evaluated in Certified Power Supply.	P
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	Evaluated in Certified Power Supply.	P
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.	Evaluated in Certified Power Supply.	P
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplede utstyr – og er tilkoplede et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.</p>		N/A

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment , tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment , until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. 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. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c		N/A

ATTACHMENT 1- National differences

IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	United Kingdom To the end of the subclause the following is added: 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, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
G.7.1	United Kingdom To the first paragraph the following is added: Equipment 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 shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

ATTACHMENT 1- National differences

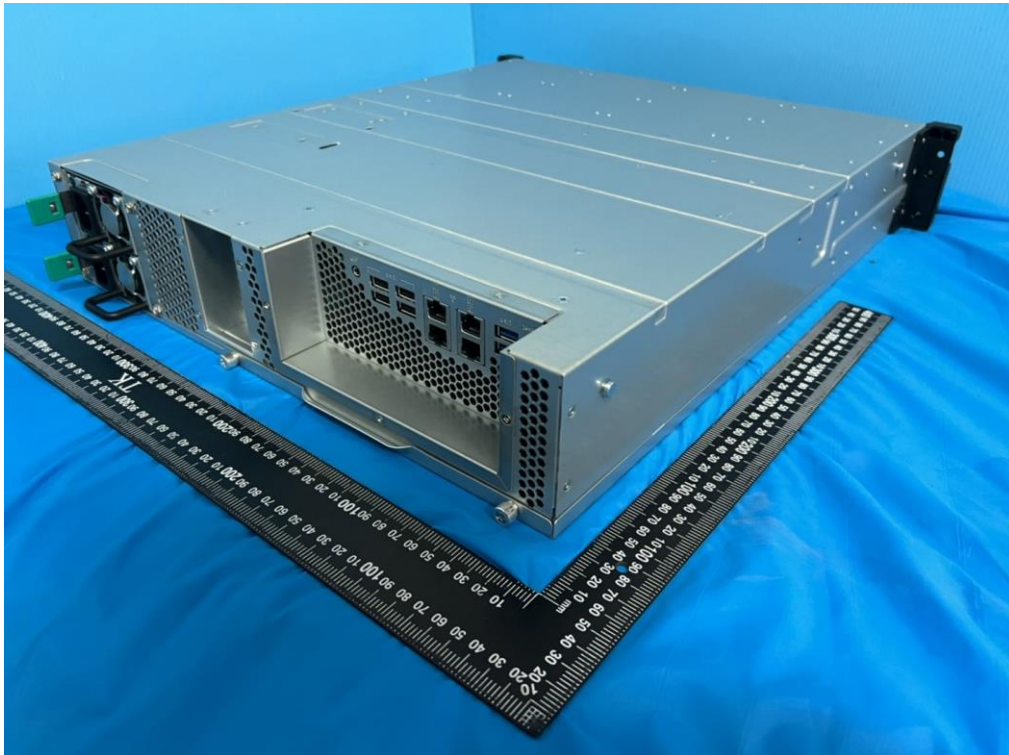
IEC 62368-1B_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	<p>Germany</p> <p>The following requirement applies:</p> <p>For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i></p> <p>German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de</p>		N/A

ATTACHMENT 2- Photographs

External view-1



External view-2



ATTACHMENT 2- Photographs

External view-3



External view-4



ATTACHMENT 2- Photographs

External view-5



Internal view

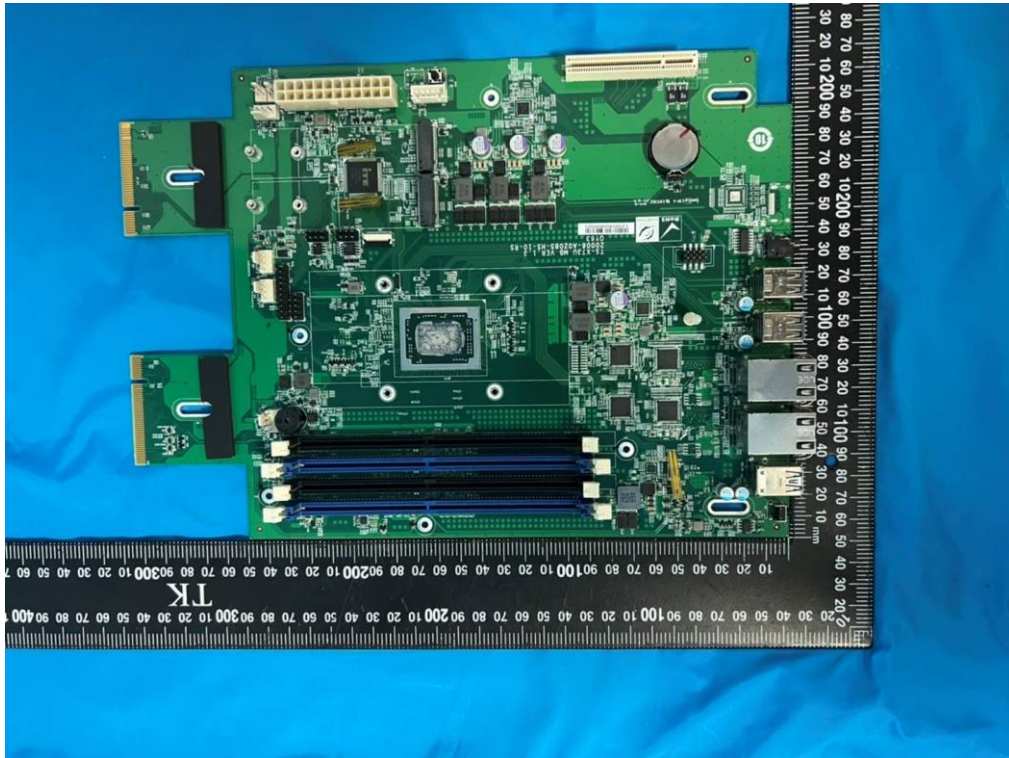


ATTACHMENT 2- Photographs

Main board-1



Main board-2

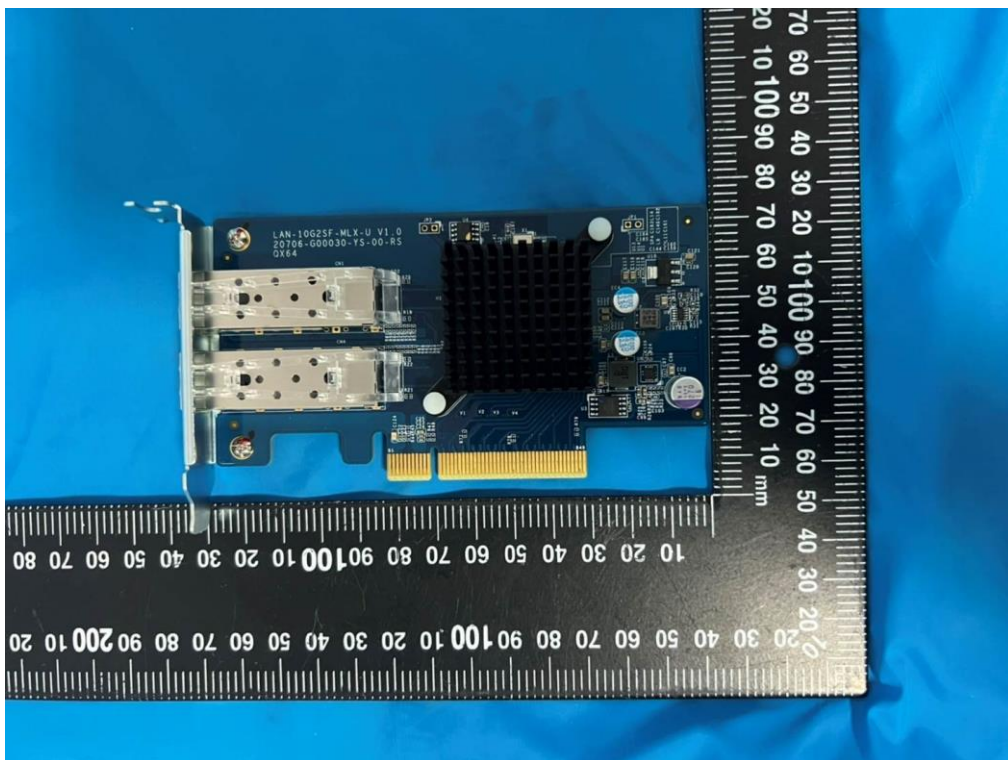


ATTACHMENT 2- Photographs

Main board-3

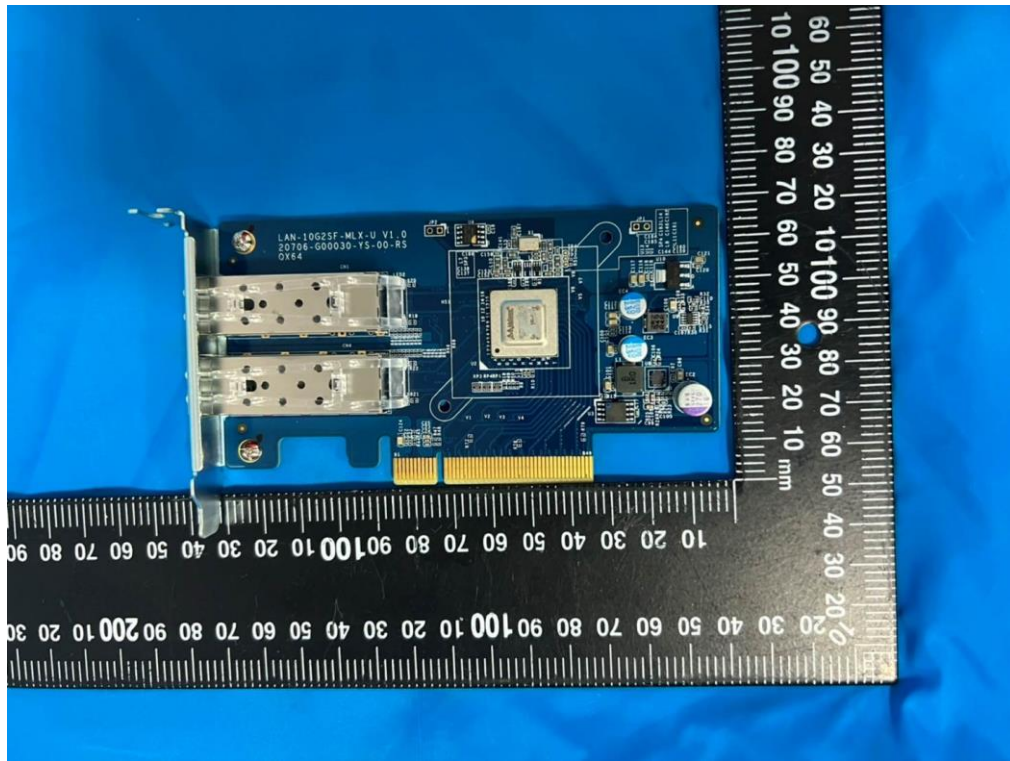


Fiber card-1



ATTACHMENT 2- Photographs

Fiber card-2



Fiber card-3



-End of report-