Test Report issued under the responsibility of:

TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number ..... :	350-190152
Date of issue ..... :	2020-02-21
Total number of pages ..... :	87 Pages
Applicant's name ..... :	JVCKENWOOD Corporation
Address ..... :	2967-3 Ishikawa-machi,Hachioji-shi,Tokyo, 192-8525, Japan
Test specification:	
Standard.....:	IEC 62368-1:2014 (Second Edition)
Test procedure.....:	CB Scheme
Non-standard test method .....:	N/A
Test Report Form No. .....:	IEC62368_1B
Test Report Form(s) Originator.....:	UL(US)
Master TRF .....:	2014-03

Copyright © 2014 Worldwide System for Conformity Testing and Certification of Electrotechnical Equipment and Components (IECEE), Geneva, Switzerland. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test Item description .....:		DIGITAL MEDIA RECEIVER	
Trade Mark .....:		JVC / KENWOOD	
Manufacturer .....:		JVCKENWOOD Corporation	
Model/Type reference .....:		KD-X262, KD-X161, KD-X162, KD-X163, KD-X165 / KMM-205, KMM-105AY, KMM-105GY, KMM-105RY, KMM-125, KMM-D125, KMM-L125	
Ratings .....:		D.C. 12V 6 A	
Testing procedure and testing location:			
☒	CB Testing Laboratory:	Japan Quality Assurance Organization, Safety & EMC Center - JQA Tokyo	
Testing location/ address ..... :		4-4-4, Minamiosawa, Hachioji-shi, Tokyo 192-0364, Japan	
☐	Associated CB Testing Laboratory:		
Testing location/ address .....:			
Tested by (name + signature) .....:		K. Tohyama	K. TL
Approved by (name + signature).....:		Y. Furuta	Y. Furuta
☐	Testing procedure: TMP/CTF Stage 1		
Testing location/ address ..... :			
Tested by (name + signature) .....:			
Approved by (name + signature).....:			
☐	Testing procedure: WMT/CTF Stage 2		
Testing location/ address .....:			
Tested by (name + signature) .....:			
Witnessed by (name + signature).....:			
Approved by (name + signature).....:			
☐	Testing procedure: SMT/CTF Stage 3 or 4		
Testing location/ address .....:			
Tested by (name + signature) .....:			
Approved by (name + signature).....:			
Supervised by (name + signature) .....:			

List of Attachments (including a total number of pages in each attachment):

ATTACHMENT: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (EN 62368-1:2014) (2015-08); 9 page(s)

ENCLOSURE 1: Exploded view; 1 page(s)

ENCLOSURE 2: Power IC, ST Microelectronics, Type JCV8034; 1 page(s)

ENCLOSURE 3: Connector (Plug) and Connector (Socket); 1 page(s)

Photo(s): 83 Fig(s); 42 page(s)

Summary of testing:

Tests performed (name of test and test clause): (350-190152)	**Testing location:** (350-190152)
Markings and instructions (Clause 4.1.15) Likelihood of fire or shock due to entry of conductive object (Clause 4.9) Electrical energy source ES1 and ES2 limits (Clause 5.2.2) Determination of working voltage (Clause 5.4.1.8) Power source circuit classifications (Clause 6.2.2) Arcing PIS (Clause 6.2.3.1) Resistive PIS (Clause 6.2.3.2) Safeguards against fire under normal operating conditions and abnormal operating conditions (Clause 6.3) Reduction of the likelihood of ignition under Single fault conditions in PS2 circuits and PS3 circuits (Clause 6.4.3) Control of fire spread in PS2 circuits (Clause 6.4.5) Separation of combustible materials from a PIS (Clause 6.4.7) Fire enclosures and fire barriers (Clause 6.4.8) Safeguards against parts with sharp edges and corners (Clause 8.4) Touch temperature levels (Clauses 9.2.6) Input test (Clause B.2.5)	Unless otherwise indicated, all tests were conducted at Japan Quality Assurance Organization, Safety & EMC Center - JQA Tokyo, 4-4-4, Minamiosawa, Hachioji-shi, Tokyo 192-0364, Japan.

Summary of compliance with National Differences:

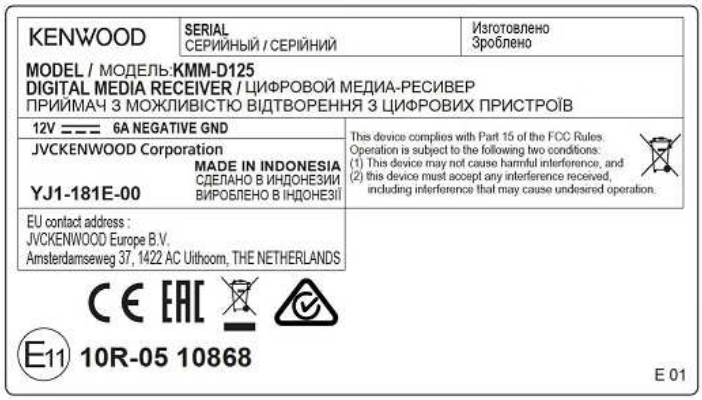
List of countries addressed: EU

Countries outside the CB Scheme membership may also accept this report.

☒ **The product fulfils the requirements of EN 62368-1:2014**

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.



TEST ITEM PARTICULARS:	
Classification of use by ..... :	☒ Ordinary person (Faceplate and Sub panel) ☐ Instructed person ☒ Skilled person ☒ Children likely to be present (Faceplate and Sub panel)
Supply Connection ..... :	☐ AC Mains ☐ DC Mains ☒ Not mains connected ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ +____%/ -_____% ☐ None
Supply Connection – Type ..... :	☐ Pluggable equipment type A - ☐ non-detachable supply cord ☐ appliance coupler ☐ direct plug-in ☐ mating connector ☐ Pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ Permanent connection ☐ Mating connector ☒ Other: Connected to battery installed in vehicle(s)
Considered current rating of protective device as part of building or equipment installation .....:	_____ A; Installation location: ☐ building; ☐ equipment ☒ N/A. Installed in vehicle(s)
Equipment mobility .....:	☐ Movable ☐ Hand-held ☐ Transportable ☒ Stationary ☐ For building-in ☐ Direct plug-in ☐ Rack-mounting ☐ Wall-mounted
Over voltage category (OVC) .....:	☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV ☒ Other: Connected to battery installed in vehicle(s)
Class of equipment .....:	☐ Class I ☐ Class II ☐ Class III ☒ Not classified
Access location .....:	☐ Restricted access location ☐ N/A ☒ Installed in vehicle(s)
Pollution degree (PD) .....:	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maxium operating ambient (T_{ma}) .....:	35 °C
IP protection class .....:	☒ IPX0 ☐ IP___
Power Systems .....:	☐ TN ☐ TT ☐ IT - ____ V $_{L-L}$ ☐ Not AC mains
Altitude during operation (m) .....:	☒ 2000 m or less ☐ _____ m
Altitude of test laboratory (m) .....:	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) .....:	☒ Approx. 0.6 kg (KD-X262 include Faceplate) ☒ Approx. 0.11 kg (Faceplate)

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.....:	2020-02-05
Date (s) of performance of tests.....:	2020-02-05 to 2020-02-14

GENERAL REMARKS:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.
☒ One factory
☐ No differences. See Manufacturer's declaration below.

Name and address of factory (ies) .....:	Name: PT.JVC ELECTRONICS INDONESIA Address: JL.SURYA LESTARI KAV I-16B, SURYACIPTA CITY OF INDUSTRY, KUTAMEKAR, CIAMPEL, KARAWANG 41363, JAWA BARAT, INDONESIA

GENERAL PRODUCT INFORMATION:

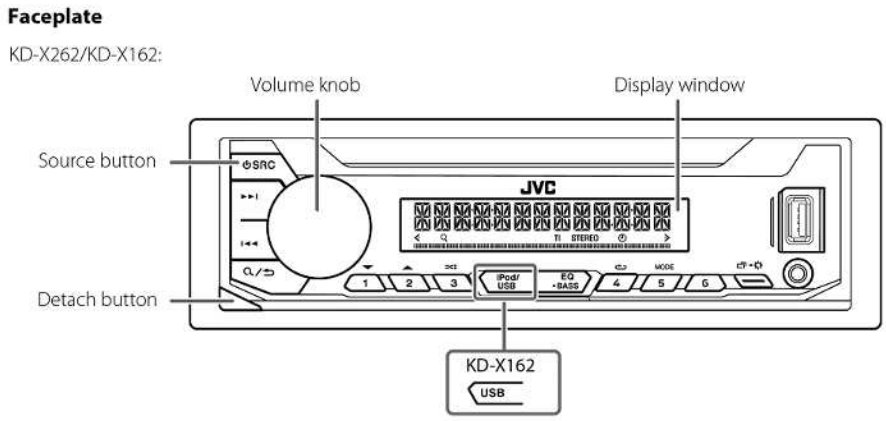
Product Description –

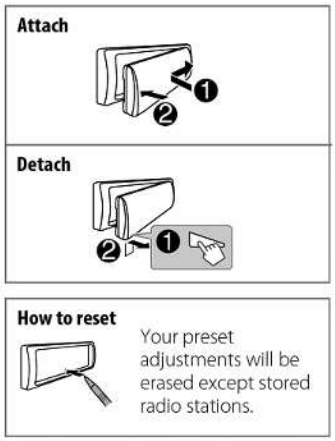
Product information:

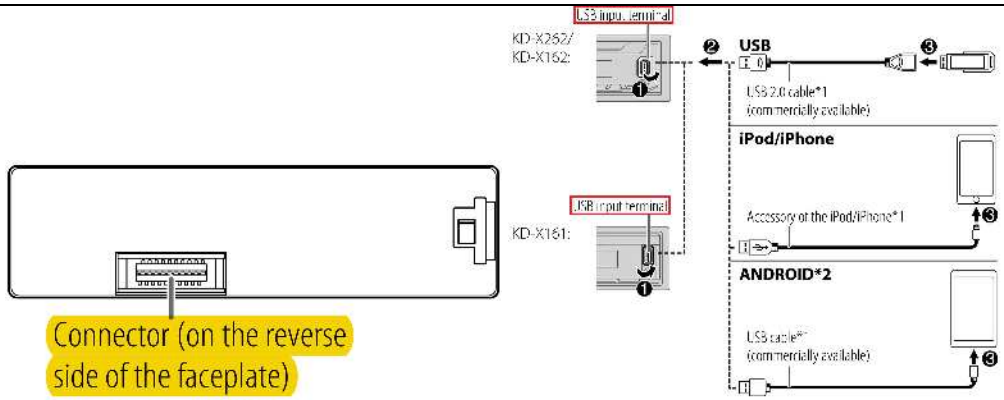
The subject model(s) are Vehicle's audio product(s). Mass of product is approx. 0.6 kg. Dimensions are approx. 182 mm (W) x 53 mm (H) x 100 mm (D). Speaker impedance is "4 Ω - 8 Ω". There are no ac output terminal(s). Faceplate is detachable. According to the applicant, the subject model(s) are to be installed in vehicles and connected to Vehicle's battery, accessories and/or speakers through the Wiring harness by skilled person in the field.

Two installations, "in-dash mounting" and "without mounting sleeve" are described in the INSTRUCTION MANUAL.

KD-X262:







Major component(s) used in the test sample(s), except for component(s) listed in appended table 4.1.2.

Circuit ID	Manufacturer	Type	Rating(s) and/or Specification(s)
R978	KOA Corporation	RK73B2BTTD473J	47 kΩ, 1/10 W, < 1750 mm^3
IC901	Semiconductor Components Industries, LLC	LV5685PV-H	< 1750 mm^3
IC861	Monolithic Power Systems	MP9942AGJ	< 1750 mm^3
IC891	ROHM Co., Ltd.	BD2242G-G	< 1750 mm^3.
IC601	NXP Semiconductors	TEF6657HNV101	< 1750 mm^3
IC841	ABLIC Inc.	S24C02DIK8002	< 1750 mm^3
IC411	Infineon Technologies	MFI337S395901	< 1750 mm^3
Q271	ROHM Co., Ltd.	LSAR523UBFS8	< 1750 mm^3

Test tool(s) and/or jig(s) provided from the applicant. (Their suitability have not been evaluated in this Test Report.)

Name	Manufacturer	Type	Rating(s) and/or Specification(s)
Wiring harness			
ISO connector (Socket)	Unknown	Unknown	See attached Photo(s)
Wires	Unknown	Unknown	See attached Photo(s)
Connector (Socket)	Mitsumi Electric Co., Ltd.	CCM-J06	See attached Photo(s)

The subject model(s) have been evaluated, according to IEC 60065:2014 and EN 60065:2014 under the CB Certificate and Report Ref. No. JPJQA-12397B1B2M1 / 350-190075.

Intended use:

1) According to the applicant's information, the subject model(s) are to be installed in vehicle's dashboard. Except for Faceplate, Sub panel and Remote controls, outer surface of the model(s) are not accessible to ordinary person(s) or instructed person(s). (Clause 4.4.4.1)
2) This apparatus was evaluated for use in altitude up to 2000 m. (Clauses 1 and 5.4.2.1)
3) The subject model(s) are supplied from a dedicated battery (vehicle's battery). Based on the applicant's request, EUT was connected to a dc test power supply having enough current capacity instead of battery in a fresh condition. (Clauses 5.4.2.3.2.3 and 5.4.2.3.3)
4) The subject model(s) are supplied from a dedicated battery (vehicle's battery). Based on the applicant's request, the battery was PS3 circuits. (Clause 6.2.2)
5) The subject model(s) are supplied from a dedicated battery (vehicle's battery). Based on the applicant's request, available power of the battery does not exceed 4000 W. (Clauses 6.4. and 6.4.3)
6) Unless otherwise specified, all tests were conducted with resistive load of 5 V_{dc}, 1 A at USB input terminal based on the marking(s). (Clause B.2.1)
7) Unless otherwise specified, all tests were conducted with designated output (350 mA) at Power control wire / Antenna control wire (P.CONT / ANT.CONT, Blue/White) of the Wiring harness based on the INSTRUCTION MANUAL. (Clause B.2.1)

Model Differences –

1) Unless otherwise specified, all tests were applied to representative model KD-X262. The major differences between models are shown in the table below. Derivative models have been evaluated, according to IEC 60065:2014 / EN 60065:2014 under the CB Certificate and Report Ref. No. JPJQA-12397B1B2M1 / 350-190075.

Brand(s)	JVC	
Model(s)	Basic	Divertive
Model designation(s)	KD-X262	KD-X161, KD-X162, KD-X163 and KD-X165
USB input terminal	Provided for USB, iPod, Android devices. (IC411 provided for iPod.)	Provided for USB. (IC411 NOT provided.)
RCA jack, J321	2 pins (Sanji Electronics Co., Ltd., Type AV2-151A020-01Z1 or Morning Star Industrial Co., Ltd., Type MSP-7002V-04-NI-FE-ABS(O80))	

Brand(s)	KENWOOD		
Model(s)	Divertive		
Model designation(s)	KMM-205	KMM-105AY, KMM-105GY and KMM-105RY	KMM-125, KMM-D125 and KMM-L125
USB input terminal	Provided for USB, iPod, Android devices. (IC411 provided for iPod.)	Provided for USB. (IC411 NOT provided.)	
RCA jack, J321	2 pins (Sanji Electronics Co., Ltd., Type AV2-151A020-01Z1)		4 pins (Sanji Electronics Co., Ltd., Type AV4-136A020-01Z1)

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

Explanation of the test program:

1) During equipment servicing, skilled person(s) can access to all outer surfaces of the equipment. Therefore, it was considered that all outer surfaces of the equipment are covered with a combustible material. (Clauses 0.5.5.4 and 6.4.3.1)
2) According to the applicant's information, the subject model(s) are to be installed in vehicles and connected to vehicle's battery, accessories and/or speakers though wiring harness by skilled person in the field. Therefore, Clause 4.9 (Likelihood of fire or shock due to entry of conductive object) was not applied to in-accessible part(s) from ordinary person. (Only applied to Faceplate and Sub panel). (Clauses 4.9, P.2 and V.1)
3) According to the applicant's information, the subject model(s) are to be connected to vehicle's battery though the Wiring harness by a skilled person in the field. Also, the speakers are to be connected by a skilled person in the field. Therefore, Clause 5.2.2.7 (Audio signals) was not applied to audio output terminal(s). (Clauses 5.2.2.7 and E.1)
4) Based on the applicant's request, Clause 6.4.3 was applied to PS3 circuit(s). (Clause 6.4.3)
5) Except for Faceplate and Sub panel, outer surface of the subject model(s) are not accessible to ordinary person(s) or instructed person(s). Therefore, it was considered that outer surfaces, only Faceplate and Sub panel are covered with a combustible material. (Clause 6.4.3.1)
6) Based on the applicant's request, Clause 6.4.5 was applied to PS2 circuit(s). (Clause 6.4.5)
7) Because the subject model(s) are to be installed in vehicle's dashboard, accessible parts given in Table 38 (Clause 9.2) was applied to accessible parts from ordinary person. (Only applied to Faceplate. When Faceplate removed, EUT does not operate. Therefore, Clause 9.2 was not applied to Sub panel.) (Clauses 9.2 and V.1)
8) The subject model(s) are to be installed in vehicle's dashboard of vehicle by a skilled person in the field, therefore, Fault condition, Ventilation openings covered was waived. (Clause B.3.2)
9) Clause F.1 was applied to the INSTRUCTION MANUAL in English only. Acceptability of the document(s) in other languages shall be evaluated by the authorities in the country where the apparatus is used. (Clause F.1)
10) Taking the product type into the consideration, bottom of product marking was acceptable without marking location in the INSTRUCTION MANUAL. (Clause F.3.1)

11) PT.Cipta Coilindo, Type CC-CH140.0μH-006 or PingHu Daming Electronics Factory, Type T15-255 are to be used at L990. These inductors have same rating and dimensions. Therefore, all tests were conducted with inductor PT.Cipta Coilindo, Type CC-CH140.0μH-006 representatively.

12) Following symbols and abbreviations are used in this test report.

Pri.	=	Primary	Sec.	=	Secondary	PW	=	Primary Wire
KH	=	Knob, Handle	IB	=	Insulating Barrier	PCB	=	Printed Circuit Board
IE	=	Inside of Enclosure	OE	=	Outside of Enclosure	MT	=	Mains Transformer
TW	=	Transformer Winding	TC	=	Transformer Core	TP	=	Thermal Protector
LC	=	Lead Connection at PCB				BC	=	Body of Component
S/C	=	Short-Circuit	O/C	=	Open-Circuit			
C/V	=	Covering of ventilation openings (Clause B.3.2)						
D/P	=	DC mains Polarity test (Clause B.3.3)						
S/V	=	Setting of Voltage selector (Clause B.3.4)						
M/L	=	Maximum Load (Clauses B.3.5 and G.5.3.3)						
R/P	=	Reverse battery Polarity (Clause B.3.6)						
A/A	=	Audio amplifier Abnormal operating conditions (Clauses B.3.7 and E.2)						
S/L	=	Stalling the rotor of a drive motor (Clause B.4.3.1)						
NCD	=	No Component Damaged.				NH	=	No Hazard occurred
NFR	=	No Further Results existed						
OSC	=	Oscillation of Switching power supply Circuit						
E	=	Emitter	C	=	Collector	B	=	Base
G	=	Gate	D	=	Drain	S	=	Source
A	=	Anode	K	=	Cathode			
(R)	=	Reinforced insulation				(B)	=	Basic insulation
(S)	=	Supplementary insulation				(F)	=	Functional insulation

Conditions of Acceptability:

When installed in vehicle(s), engineering consideration must be given as described below. Accepting NCB may require additional evaluation and/or testing.

1) Because ISO connectors are to be prepared by supplier(s) other than the applicant, based on the applicant's information. Therefore, their safeguards against fire have not been evaluated in this Test Report. (Clause 6)
2) Because Connector (Socket) is to be prepared by supplier(s) other than the applicant, based on the applicant's information. Therefore, their safeguards against fire have not been evaluated in this Test Report. (Clause 6)
3) All tests were conducted on test sample(s) as described in "Product Description". If manufacture would like to use component(s) other than major component(s) described above, accepting NCB's may require additional evaluation, testing and/or measurements for acceptance.
4) All tests were conducted with test tool(s) and/or jig(s) as described in "Product Description". Accepting NCB's may require additional evaluation, testing and/or measurements for acceptance.

Product Certification History:

Test Report Ref. No(s)	Description(s)
350-190152	New CB Test Certificate and Test Report were issued

Statement Conformity for the test

The verdict is performed based on the measurement result(s) according to the terms of agreement for applications regarding testing and certification service with the applicant unless otherwise stated. Otherwise statement means that uncertainty is reported and the statement that the verdict is including uncertainty is reported.

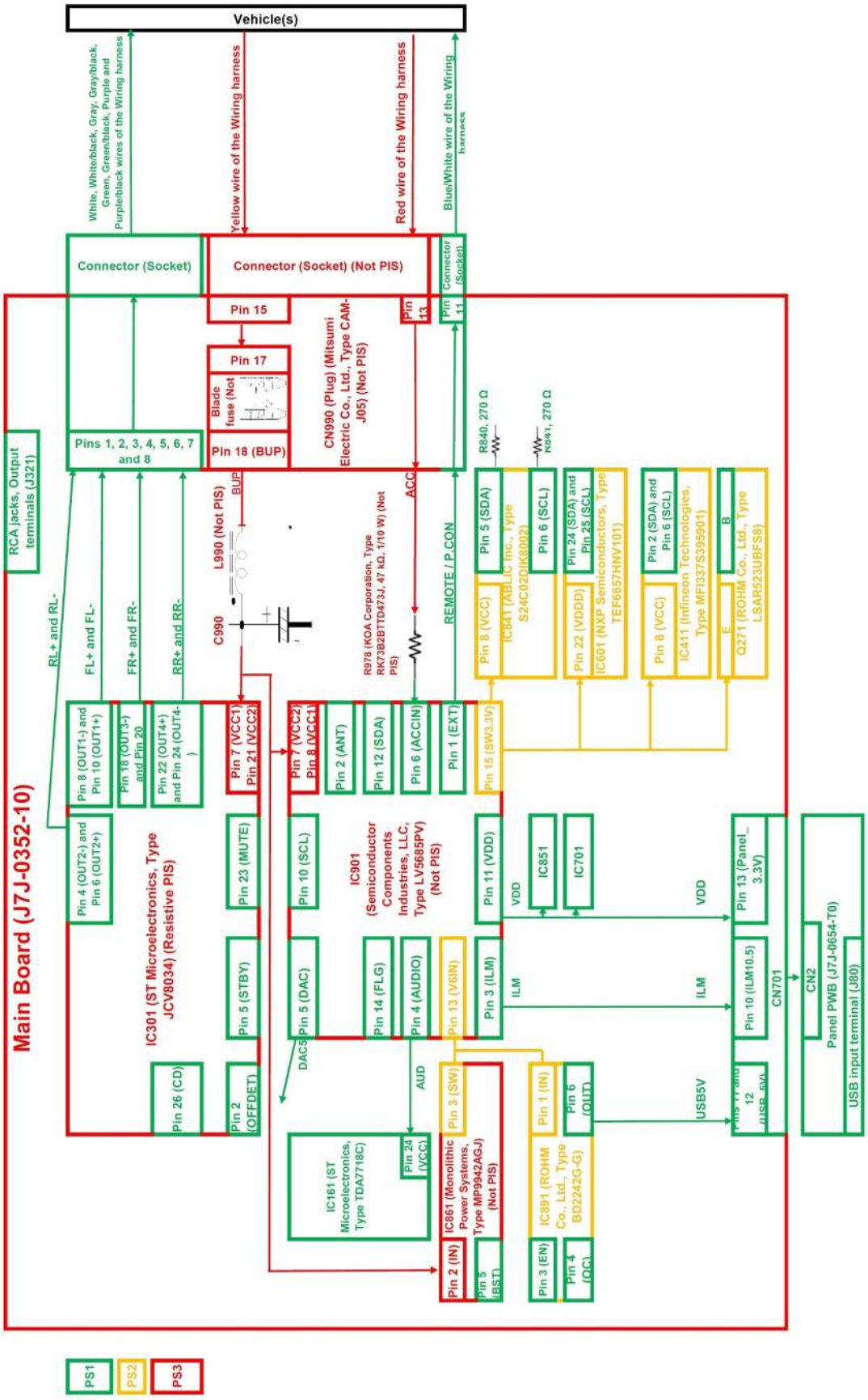
ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.	
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)**
Vehicle's battery	ES1
Wiring harness	ES1
KD-X262	
Main board (J7J-0352-10)	ES1
Panel PWB (J7J-0654-T0)	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)**
Wiring harness	
Yellow wire	PS3
Red wire	PS3
White, White/black, Gray, Gray/black, Green, Green/black, Purple and Purple/black wires	PS1 (Audio outputs)
Blue/White wire	PS1
KD-X262	
Main board (J7J-0352-10)	
Inputs of IC301	PS3
Audio outputs of IC301	PS1
Output(s) of IC301 other than audio outputs	PS1
Load side of R978	PS1
Inputs of IC901	PS3
Pin 13 (V6IN) of IC901	PS2
Pin 15 (SW3.3V) of IC901	PS2
Output(s) of IC901 other than Pins 13 and 15	PS1
Input of IC841	PS2
Output(s) of IC841	PS1
Input of IC601	PS2
Output(s) of IC601	PS1
Input of IC411	PS2
Output(s) of IC411	PS1
Input of Q271	PS2
Output(s) of Q271	PS1
Source side of R372	PS2
Load side of R372	PS1
Input of IC861	PS3
Pin 3 (SW) of IC861	PS2
Output(s) of IC861 other than Pin 3 (SW)	PS1

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
Input of IC891	PS2
Output(s) of IC891	PS1
Other PCBs	
Panel PWB (J7J-0654-T0)	PS1
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**
No such a source.	—
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)**
Sharp edges and corners	MS1
KD-X262 and Faceplate	MS1 (≤ 7 kg)
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)**
Faceplate	TS1
Heat sink	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)**
No such a source.	—
Entry of a foreign object (Clauses 4.9 and P.2.2)	
Source of power or PIS	**Accessible enclosure surface (top, side and rear)**
Main board (J7J-0352-10) (PS2 and PS3)	Faceplate
Main board (J7J-0352-10) (PS2 and PS3)	Sub panel
Spillage of internal liquids (Clauses 4.1.8 and P.3)	
Liquids and liquid filled components (LFC)	**Internal liquids**
No such a source.	—

ENERGY SOURCE DIAGRAM

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

☐ ES ☒ PS ☐ MS ☐ TS ☐ RS



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
Ordinary	ES1: Vehicle's battery	Not required	Not required	Not required
Ordinary	ES1: Main board (J7J-0352-10)	Not required	Not required	Not required
Ordinary	ES1:Panel PWB (J7J-0654-T0)	Not required	Not required	Not required
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	1st Supplementary	2nd Supplementary
KD-X262				
Component(s) on Main board (J7J-0352-10)				
Connector (Plug), CN990 (Mitsumi Electric Co., Ltd., Type CAM-J05) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Separated from restricted volume by distance (Equipment safeguard) (Clauses 6.4.3 and 6.4.7.2)	Single fault conditions (Clauses 6.4.3 and B.4)
Case of L990 (PT.Cipta Coilindo, Type CC-CH140.0μH-006) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Separated from restricted volume by distance (Fire barrier, Mold of IC301 (ST Microelectronics, Type JCV8034). Clause S.1) (Clauses 6.4.3, 6.4.7.3 and 6.4.8.2) Fire barrier smaller distance than 5 mm from Resistive PIS (V-0 or IEC 60695-11-5. Severities are identified in Clause S.2). (Clause 6.4.8.4)	Single fault conditions (Clauses 6.4.3 and B.4)

Cover of L990 (PingHu Daming Electronics Factory, Type T15-255) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Separated from restricted volume by distance (Fire barrier, Mold of IC301 (ST Microelectronics, Type JCV8034). Clause S.1) (Clauses 6.4.3, 6.4.7.3 and 6.4.8.2) Fire barrier, Smaller distance than 5 mm from Resistive PIS (V-0 or IEC 60695-11-5. Severities are identified in Clause S.2). (Clause 6.4.8.4)	Single fault conditions (Clauses 6.4.3 and B.4)
Mold of IC301 (ST Microelectronics, Type JCV8034) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Not separated, but IEC 60695-11-5 (Severities are identified in Clause S.2.) (Clauses 6.4.3 and 6.4.7.2)	Single fault conditions (Clauses 6.4.3 and B.4)
Housing of RCA jack, J321 (Sanji Electronics Co., Ltd., Type AV2-151A020-01Z1) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Separated from restricted volume by distance (Equipment safeguard) (Clauses 6.4.3 and 6.4.7.2)	Single fault conditions (Clauses 6.4.3 and B.4)
Main board (J7J-0352-10) (Draco PCB Public Company Limited, Type DPC-E7) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Separated from restricted volume by distance (Fire barrier, Mold of IC301 (ST Microelectronics, Type JCV8034). Clause S.1) (Clauses 6.4.3, 6.4.7.3 and 6.4.8.2) Fire barrier, Smaller distance than 5 mm from Resistive PIS (V-0 or IEC 60695-11-5. Severities are identified in Clause S.2). (Clause 6.4.8.4)	Single fault conditions (Clauses 6.4.3 and B.4)

Conductors and devices, Printed board(s) / Main board (J7J-0352-10) (Draco PCB Public Company Limited, Type DPC-E7) (Clauses 6.3.1 and 6.4.5)	PS2 circuit(s): PS2 part of Main board (J7J-0352-10) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	≥ V-1 or ≥ VTM-1 (Clause 6.4.5.2)	Not required
Other component(s) in PS2 circuit(s) / PS2 components (Clauses 6.3.1 and 6.4.5)	PS2 circuit(s): PS2 part of Main board (J7J-0352-10) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) Flammability class NOT applied due to < 1750 mm^3 (Clause 6.3.1)	< 1750 mm^3 (Clause 6.4.5.2)	Not required
Component(s) on Panel PWB (J7J-0654-T0)				
Panel PWB (J7J-0654-T0) (Draco PCB Public Company Limited, Type DPC-E7) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Separated from restricted volume by distance (Equipment safeguard) (Clauses 6.4.3 and 6.4.7.2)	Single fault conditions (Clauses 6.4.3 and B.4)
Enclosure(s)				
Faceplate (Toray Industries Inc., Type TOYOLAC 700-X01) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Separated from restricted volume by distance (Equipment safeguard) (Clauses 6.4.3 and 6.4.7.2)	Single fault conditions (Clauses 6.4.3 and B.4)
Sub panel (Toray Industries Inc., Type TOYOLAC 700-X01) (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. (Clause 6.3.1)	Separated from restricted volume by distance (Equipment safeguard) (Clauses 6.4.3 and 6.4.7.2)	Single fault conditions (Clauses 6.4.3 and B.4)

Other combustible material(s)				
Combustible material(s) covering accessible outer surface (Clauses 6.3.1 and 6.4.3)	Resistive PIS: IC Chip of IC301 (ST Microelectronics, Type JCV8034) (≤ 4000 W)	No Ignition under normal and abnormal operations (Clause 6.3.1) ≤ 300 ºC. (Clause 6.3.1) ≥ HB75, < 3 mm thick. or ≥ HB40, ≥ 3 mm thick.	Separated from restricted volume by distance (Fire barrier, Mold of IC301 (ST Microelectronics, Type JCV8034). Clause S.1) (Clauses 6.4.3, 6.4.7.3 and 6.4.8.2) Fire barrier smaller distance than 5 mm from Resistive PIS (V-0 or IEC 60695-11-5. Severities are identified in Clause S.2). (Clause 6.4.8.4)	Single fault conditions (Clauses 6.4.3 and B.4)
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3: High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary person	MS1: Faceplate and Sub panel (Body motion relative to sharp edges and corners)	Not required	Not required	Not required
Ordinary person	MS1: Faceplate (Equipment motion due to instability), 0.11 kg (≤ 7 kg)	Not required	Not required	Not required
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Faceplate	Not required (Equipment safeguard(s), Material and Distance from thermal inertia)	Not required	Not required
Skilled persons	TS3: Heat sink	Skill	Not required	Not required
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A

P.2.2 (4.9)	Entry of a foreign object			
Accessible enclosure surface (top, side and rear)	Class and Energy Source (PS2, PS3, ES3)	Safeguards		
		Basic	Supplementary	Reinforced
Faceplate	PS2 and PS3: Main board (J7J-0352-10)	Persons are not expected to insert a foreign object into the equipment	No opening	Not required
Sub panel On the reverse side of the faceplate	PS2 and PS3: Main board (J7J-0352-10)	Persons are not expected to insert a foreign object into the equipment	No opening	Not required
P.2.3 (4.9)	The consequences of entry of a foreign object			
Accessible enclosure surface (top, side and rear)	Class and Energy Source (PS2, PS3, ES3)	Safeguards		
		Basic	Supplementary	Reinforced
Faceplate	PS2 and PS3: Main board (J7J-0352-10)	Persons are not expected to insert a foreign object into the equipment	Complies with Clause P.2.2	N/A
Sub panel On the reverse side of the faceplate	PS2 and PS3: Main board (J7J-0352-10)	Persons are not expected to insert a foreign object into the equipment	Complies with Clause P.2.2	N/A
P.3 (4.1.8)	Spillage of internal liquids			
Internal liquids (P.3)	Liquids and liquid filled components (LFC)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
P.4 (4.4.4.1)	Metallized coatings and adhesives securing parts			
Metallized coatings and adhesives	Metallized coatings and adhesives securing parts (P.4)	Safeguards		
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				

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

0	SAFEGUARDS		Pass
0.5.3	Installation safeguard		—
0.5.5.2	Instructional safeguard	Not required.	N/A
0.5.5.4	Skill safeguard (used by a skilled person)	Equipment servicing is to be provided by skilled person(s). However, skill safeguard was not applied to all outer surfaces of the equipment, during Clause 6. See General product information and other remarks (Explanation of the test program).	Pass
0.5.6	Safeguards during ordinary or instructed person service conditions		N/A
0.5.7	Equipment safeguards during skilled person service conditions	No class 3 energy source located outside the view of the skilled person.	N/A

4	GENERAL REQUIREMENTS		Pass
4.1.1	Application of requirements and acceptance of materials, components and subassemblies		N/A
4.1.2	Use of components	(See appended table 4.1.2.)	Pass
4.1.3	Equipment design and construction		Pass
4.1.4	Equipment installation		Pass
	Manufacturer's instructions with regard to installation	Manufacturer's instructions taken into account. See Remark 1).	Pass
	Manufacturer's instructions with regard to relocation		N/A
	Manufacturer's instructions with regard to servicing		N/A
	Manufacturer's instructions with regard to operation		Pass
4.1.5	Constructions and components not specifically covered	No Constructions and components such as Clause 4.1.5.	N/A
4.1.6	Orientation during transport and use	Orientation(s) of use specified in the installation or user instructions were taken into account during tests. (Mount angle 0 º and 30 º during Clauses 4.9, 6 and 9.) See Remark 1).	Pass
4.1.8	Liquids and liquid filled components (LFC)	No LFC	N/A
4.1.15	Markings and instructions	(See Annex F)	Pass
4.4.4	Safeguard robustness		N/A
4.4.4.1	General	No accessible solid safeguard to an ordinary person or to an instructed person Mold of IC301 (ST Microelectronics, Type JCV8034): Inaccessible solid safeguard to an ordinary person or to an instructed person checked by Clause V.1.2 (Test probe of Figure V.1)	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.4.2	Steady force tests	No accessible safeguard to an ordinary person or to an instructed person.	N/A
4.4.4.3	Drop tests	No accessible safeguard to an ordinary person or to an instructed person	N/A
4.4.4.4	Impact tests	No accessible safeguard to an ordinary person or to an instructed person	N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests	No accessible safeguard to an ordinary person or to an instructed person	N/A
4.4.4.6	Glass Impact tests	No accessible safeguard to an ordinary person or to an instructed person	N/A
4.4.4.7	Thermoplastic material tests	No accessible safeguard to an ordinary person or to an instructed person	N/A
4.4.4.8	Air comprising a safeguard	No Air comprising a safeguard.	N/A
4.4.4.9	Compliance criteria (Accessibility and safeguard effectiveness)	No accessible safeguard to an ordinary person or to an instructed person	N/A
4.5	**Explosion**		**Pass**
4.5.1	General		—
4.5.2	Requirements (No explosion during normal/abnormal operating condition)	No explosion.	Pass
	No injury by explosion during single fault conditions	No explosion	Pass
4.6	**Fixing of conductors**		**N/A**
4.6.1	Requirements (Fix conductors not to defeat a safeguard)	No critical conductor	N/A
4.6.2	Compliance criteria (The test of Clause T.2)	No critical conductor	N/A
4.7	**Equipment for direct insertion into mains socket - outlets**		**N/A**
4.7.2	Requirements (Mains plug part complies with the relevant standard for the mains plug)	Not Equipment for direct insertion into mains socket-outlets	N/A
4.7.3	Compliance criteria (Torque (Nm)).....:		N/A
4.8	**Equipment containing coin/button cell batteries**		**N/A**
4.8.1	General	No coin/button cell batteries	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		N/A
	Battery compartment door / cover requires the application of a min. of two independent and simultaneous movements to open by hand		N/A
4.8.4	Battery Compartment Mechanical Tests		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A

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

4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance criteria (Battery Accessibility)		N/A
	30 N force test with test probe		N/A
	20 N force test with test hook		N/A
4.9	**Likelihood of fire or shock due to entry of conductive object**		**Pass**
	Where the entry of a conductive object from outside the equipment or from another part of the equipment can result in: – bridging within PS2, PS3 and ES3 circuits; or – bridging an ES3 circuit to accessible, unearthed conductive parts	Faceplate and Sub panel: Checked. Orientation(s) of use specified in the installation or user instructions were taken into account during tests. Mount angle 0 º and 30 º during Clause 4.9) Except for Faceplate and Sub panel: Not required due to in-accessible part(s) from ordinary person. See General product information and other remarks (Explanation of the test program).	Pass
	Top and side openings above PS2, PS3 and ES3 circuits	Faceplate: No top and side openings Sub panel: (See Clause P.2.)	Pass

5	**ELECTRICALLY-CAUSED INJURY**		**Pass**
5.2	**Classification and limits of electrical energy sources**		**—**
5.2.1	Electrical energy source classifications ..... :		—
5.2.2	Electrical energy source ES1 and ES2 limits		—
5.2.2.2	Steady-state voltage and current limits..... :	(See appended table 5.2.)	—
5.2.2.3	Capacitance limits ..... :	(See appended table 5.2) No X−capacitor(s)	—
5.2.2.4	Single pulse limits..... :	No single pulse	—
5.2.2.5	Limits for repetitive pulses..... :	No repetitive pulse	—
	For pulse off times	No repetitive pulse	—
5.2.2.6	Ringing signals ..... :	No ringing signals	—
5.2.2.7	Audio signals ..... :	Audio output(s): Only skilled person accessible. See General product information and other remarks (Explanation of the test program)	—
5.3	**Protection against electrical energy sources**		**Pass**
5.3.1	General (Requirements for accessible parts to ordinary, instructed and skilled persons)		Pass
	During service operations by a skilled person	No ES3	N/A
5.3.2	Accessibility to electrical energy sources and safeguards		N/A
5.3.2.1	Requirements For ordinary persons	No ES2 and ES3	N/A
	For instructed persons	Not for instructed persons	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.2.2	Contact requirements	Ordinary person (Faceplate and Sub panel): No ES2 and ES3 bare internal conductive part Skilled person (Except for Faceplate, Sub panel and Remote controls: Not required.	Pass
	Test with test probe from Annex V..... :		—
	For ES3 voltages up to 420 V_{peak}	No ES3.	N/A
	For ES3 voltages above 420 V_{peak}, either a) or b)	No ES3.	N/A
5.3.2.2 a)	Air gap – Electric strength test potential (V) ..... :	No ES3.	N/A
5.3.2.2 b)	Air gap – distance (mm) ..... :	No ES3.	N/A
5.3.2.3	Compliance criteria	Not required.	N/A
5.3.2.4	Terminals for connecting stripped wire	Wiring harness: For skilled person No ES2 and ES3 (Ordinary person)	N/A
5.4	**Insulation materials and requirements**		**N/A**
5.4.1.2	Properties of insulating material	No ES2 and ES3	N/A
5.4.1.3	Compliance criteria (Humidity conditioning for Hygroscopic nature of the material)..... :	Insulation material against ES NOT required.	N/A
5.4.1.4	Maximum operating temperature for insulating materials, components and systems ..... :	Insulation material against ES NOT required.	N/A
	Vicat test .....:	Not required.	N/A
	Ball pressure test.....:	Not required.	N/A
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	Not pollution degree 1.	N/A
5.4.1.5.3	Thermal cycling test procedure		N/A
5.4.1.6	Insulation in transformers with varying dimensions	No transformer has different working voltages	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No circuits generating starting pulses	N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	—
5.4.1.8.3	Peak working voltage		—
5.4.1.9	Insulating surfaces		—
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Insulation material against ES NOT required.	N/A
5.4.1.10.2	Vicat test .....:	Not required.	N/A
5.4.1.10.3	Ball pressure test..... :	Not required.	N/A
5.4.2	Clearances	No ES2 and ES3	N/A
5.4.2.1	General requirements	Altitude up to 2000 m.	—
	Clearances between the outer insulating surface of a connector and conductive parts at ES3 voltage level	No ES3	N/A
5.4.2.2	Procedure for determining clearance using peak working voltage	Clearance NOT required.	N/A
5.4.2.3	Procedure for determining clearance using required withstand voltage	Clearance NOT required.	N/A
5.4.2.3.2	Determining transient voltages	DC apparatus	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.3.2.2	Determining AC mains transient voltages.....:	Not equipment to be supplied from the AC mains	N/A
5.4.2.3.2.3	Determining DC mains transient voltages.....:	No DC mains	N/A
5.4.2.3.2.4	Determining external circuit transient voltages .....:	No external circuit	N/A
5.4.2.3.2.5	Determining transient voltage determined by measurement.....:	DC apparatus	N/A
5.4.2.3.3	Determining required withstand voltage		N/A
	Circuit isolated from the mains is connected to the main protective earthing terminal		N/A
	In a circuit isolated from the mains supplied by a DC source with capacitive filtering, and connected to protective earth		N/A
	If equipment is supplied from a dedicated battery that has no provision for charging from the mains supply without removal from the equipment		N/A
5.4.2.3.4	Determining clearances using required withstand voltage		—
5.4.2.4	Alternate to Procedure 2 (Determining the adequacy of a clearance using an electric strength test)	Clearance NOT required.	N/A
5.4.2.5	Multiplication factors for altitudes higher than 2000 m above sea level	Clearance NOT required.	N/A
5.4.2.6	Compliance criteria	Clearance NOT required.	N/A
5.4.3	Creepage distances.....:	Clearance NOT required.	N/A
5.4.3.1	General		—
5.4.3.2	Test method	No ES2 and ES3	N/A
5.4.3.3	Material Group and CTI.....:	II	—
5.4.3.4	Compliance criteria	Creepage distance NOT required.	N/A
5.4.4	Solid insulation	Solid insulation NOT required.	N/A
5.4.4.2	Minimum distance through insulation .....:	Solid insulation NOT required.	N/A
5.4.4.3	Insulation compound forming solid insulation	Solid insulation NOT required.	N/A
5.4.4.4	Solid insulation in semiconductor devices	Solid insulation NOT required.	N/A
5.4.4.5	Insulating compound forming cemented joints	Solid insulation NOT required.	N/A
5.4.4.6	Thin sheet material	Solid insulation NOT required.	N/A
5.4.4.6.1	General requirements	No thin sheet material	N/A
5.4.4.6.2	Separable thin sheet material	No thin sheet material	N/A
	Number of layers (pcs) .....:	No thin sheet material provided.	N/A
5.4.4.6.3	Non-separable thin sheet material	No Non-separable thin sheet material.	N/A
	Number of layers (pcs) .....:		—
5.4.4.6.4	Standard test procedure for non-separable thin sheet material.....:	No non-separable thin sheet material.	N/A
5.4.4.6.5	Mandrel test	No non-separable thin sheet material.	N/A
5.4.4.7	Solid insulation in wound components	No wound components	N/A
5.4.4.8	Compliance criteria		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.9	Solid insulation requirements at frequencies >30 kHz ....:	No Solid insulation at frequencies	N/A
	E_P (kV/mm) ....:		—
	Reduction factor K_R for the breakdown electric field strength of the insulating material at the applicable frequency ....:		—
	Total thickness (d in mm) of the insulating material....:		—
	Actual electric strength V_W (E_P x K_R x d)....:		—
	Measured high frequency peak of the working voltage, V_{PW} ....:		—
	For basic insulation or supplementary insulation, V_W > 1.2 x V_{PW} / 1.41		N/A
	For reinforced insulation, V_W > 1.2 x 2 x V_{PW} / 1.41		N/A
5.4.5	Antenna terminal insulation	Not connected to the Mains.	N/A
5.4.5.1	General	Not connected to the Mains.	—
5.4.5.2	Test method (Voltage surge test)	Not connected to the Mains.	N/A
5.4.5.3	Compliance criteria Insulation resistance (MΩ)....:	Not connected to the Mains.	N/A
	As an alternative to the above, Electric strength test according to 5.4.9.1 ....:	Not connected to the Mains.	N/A
5.4.6	Insulation of internal wire as part of a supplementary safeguard ....:		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A
	Relative humidity (%)....:		—
	Temperature (°C) ....:		—
	Duration (h) ....:		—
5.4.9	Electric strength test ....:		N/A
5.4.9.1	Test procedure for type testing of solid insulation type test		—
5.4.9.2	Test procedure for routine tests	Not required.	N/A
5.4.10	Safeguards against transient voltages from external circuits	No external circuit.	N/A
5.4.10.1	Requirements (Parts and circuits separated from external circuits)	No external circuit.	N/A
5.4.10.2	Test methods		—
5.4.10.2.1	General	No external circuit.	N/A
5.4.10.2.2	Impulse test....:	No external circuit.	N/A
5.4.10.2.3	Steady-state test ....:	No external circuit.	N/A
5.4.10.3	Compliance criteria	No external circuit.	N/A
5.4.11	Separation between external circuits and earthed circuitry....:		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		—
5.4.11.2	Requirements		—

IEC 62368-1			
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} .....:		—
	$U_{op}= U_{peak} + \Delta U_{sp} + \Delta U_{sa}$.....:		—
5.4.11.3	Test method and compliance criteria		N/A
5.5	**Components as safeguards**		**N/A**
5.5.1	General		—
5.5.2	Capacitors and RC units	No Capacitors and RC units.	N/A
5.5.2.1	General requirement		—
5.5.2.2	Capacitor discharge after disconnection of a connector ..... :		N/A
5.5.3	Transformers	No transformer(s).	N/A
5.5.4	Optocouplers	No Optocoupler(s).	N/A
5.5.5	Relays	No Relay(s).	N/A
5.5.6	Resistors Comply with the relevant tests as indicated in Table 29	No Resistor(s)	N/A
5.5.7	SPD's	No SPD(s).	N/A
	Earth connection comply with 5.6.7	No varistor	N/A
	Varistor comply with Clause G.8.	No varistor	N/A
	SPD between the mains and protective earthing	No varistor and a GDT connected in series	N/A
	The varistor	No varistor and a GDT connected in series	N/A
	The GDT	No varistor and a GDT connected in series	N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable ..... :	Not used.	N/A
5.6	**Protective conductor**		**N/A**
5.6.1	General		—
5.6.2	Requirement for protective conductors	No protective conductors.	N/A
5.6.2.1	General requirements		—
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) .....:		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirement for protective bonding conductors	No protective bonding conductors.	N/A
5.6.4.1	Requirements (Protective bonding conductors)	No protective bonding conductors.	N/A
	Protective bonding conductor size (mm^2). ..... :		—
5.6.4.2	Determination of the Protective current rating (A) :		—
5.6.4.2.1	Mains supply as the source	No protective bonding conductors.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.4.2.2	Other than mains supply as the source	No protective bonding conductors.	N/A
5.6.4.2.3	Internal circuit as the source	No protective bonding conductors.	N/A
5.6.4.3	Current limiting and overcurrent protective devices	Not used.	N/A
5.6.4.4	Compliance criteria		N/A
5.6.5	Terminals for protective conductors	No terminals for protective conductors.	N/A
5.6.5.1	Requirements, Terminal size for connecting protective earthing conductors	No terminals for protective earthing conductors.	N/A
	Conductor size (mm^2), nominal thread diameter (mm)..... :		—
	Requirements, Terminal size for connecting protective bonding conductors	No terminals for protective bonding conductors.	N/A
	Conductor size (mm^2), nominal thread diameter (mm).....:		—
5.6.5.2	Corrosion	No terminals for protective conductors.	N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements	No protective system.	N/A
5.6.6.2	Test Method		—
5.6.6.3	Compliance criteria (Resistance (Ω) or voltage drop .....:)	No protective system.	N/A
5.6.7	Reliable connection of a protective earthing conductor	No connection of a protective earthing conductor.	N/A
5.7	**Prospective touch voltage, touch current and protective conductor current**		**N/A**
5.7.1	General		—
5.7.2	Measuring devices and networks		—
5.7.2.1	Measurement of touch current		—
5.7.2.2	Measurement of prospective touch voltage		—
5.7.3	Equipment set-up, supply connections and earth connections	DC apparatus	N/A
	System of interconnected equipment (separate connections/single connection)..... :		—
	Multiple connections to mains (one connection at a time/simultaneous connections)..... :		—
5.7.4	Earthed accessible conductive parts .....:	DC apparatus	N/A
5.7.5	Protective conductor current Requirements when touch current exceeds ES2 limits	DC apparatus	N/A
	Supply Voltage (V) ..... :		—
	Measured Protective conductor current (mA)..... :		—
	Construction of the protective earthing conductor circuit and its connections		N/A
	Instructional Safeguard ..... :		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No external circuit(s)	N/A
5.7.6.1	Touch current from coaxial cables		N/A

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

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**		**Pass**
6.1	**General**	Orientation(s) of use specified in the installation or user instructions were taken into account during tests. (Mount angle 0 º and 30 during Clause 6.) Wiring harness: Not evaluated. See Conditions of Acceptability in General product information and other remarks.	**—**
6.2	**Classification of power sources (PS) and potential ignition sources (PIS)**		**—**
6.2.2	Power source circuit classifications	(See appended table 6.2.2)	—
6.2.2.1	General		—
6.2.2.2	Power measurement for worst-case load fault .....:		—
6.2.2.3	Power measurement for worst-case power source fault.....:		—
6.2.2.4	PS1 .....:	(See appended table 6.2.2)	—
6.2.2.5	PS2 .....:	(See appended table 6.2.2)	—
6.2.2.6	PS3 .....:	(See appended table 6.2.2)	—
6.2.3	Classification of potential ignition sources		—
6.2.3.1	Arcing PIS .....:	No Arcing PIS	—
6.2.3.2	Resistive PIS .....:	(See appended table 6.2.3.2) L990 did not become PIS due to opening of Blade fuse. Taking Clause G.3.5 into the consideration, measurement repeated two more times with same results.	—
6.3	**Safeguards against fire under normal operating and abnormal operating conditions**		**Pass**
6.3.1	Requirements Under normal operating conditions and abnormal operating conditions, the following basic safeguards	See Basic safeguard of table, OVERVIEW OF EMPLOYED SAFEGUARDS above. Wiring harness: Not evaluated. See Conditions of Acceptability in General product information and other remarks.	—
6.3.1 (a)	No ignition.....:	No ignition	Pass
6.3.1 (b)	Attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials .....:	(See appended table 6.3)	Pass

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.3.1 (c)	Combustible materials for components and other parts (including electrical enclosures, mechanical enclosures and decorative parts) not inside a fire enclosure	Min. HB and/or Glow-Wire test at 550 °C according to IEC 60695-2-11, except followings. Housing of blade fuse: < 1750 mm^3 R978: < 1750 mm^3 Compound of IC901: < 1750 mm^3 Compound of IC861: < 1750 mm^3 Compound of IC891: < 1750 mm^3 Compound of IC601: < 1750 mm^3 Compound of IC841: < 1750 mm^3 Compound of IC411: < 1750 mm^3 Compound of Q271: < 1750 mm^3	Pass
6.3.2	Compliance criteria	(See appended table 6.3)	Pass
6.4	**Safeguards against fire under single fault conditions**		**Pass**
6.4.1	General (Safeguard Method)	Reduce the likehood of ignition applied to PS1 circuit(s) See Clause 6.4.2. Reduce the likehood of ignition applied to PS3 circuit(s). See Clause 6.4.3. Control fire spread applied to PS2 circuit(s). See Clause 6.4.5. Wiring harness: Not evaluated. See Conditions of Acceptability in General product information and other remarks.	—
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	PS1 part of Main Board (J7J-0352-10) and Panel PWB (J7J-0654-T0): PS1 circuit(s)	Pass
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	PS3 part of Main board (J7J-0352-10): PS3 circuit(s) PS2 part of Main board (J7J-0352-10): PS2 circuit(s). Control fire spread applied. See Clause 6.4.5.	Pass
6.4.3.2	Requirements (Supplementary safeguards)	See Supplementary safeguard of table, OVERVIEW OF EMPLOYED SAFEGUARDS above.	Pass
	Special conditions if conductors on printed boards are opened or peeled	Printed boards not opened or peeled.	N/A
6.4.3.3	Test method (Single fault conditions) .....:		—
	Either interrupt or short-circuit a component	No component damaged	N/A
	Special conditions for temperature limited by fuse	Blade fuse (Not IEC 60127): Not opened (See appended table 6.4.3)	Pass
6.4.3.4	Compliance criteria	(See appended table 6.4.3)	Pass
6.4.4	Control of fire spread in PS1 circuits	Reduce the likehood of ignition applied.	N/A
6.4.5	Control of fire spread in PS2 circuits	PS2 part of Main board (J7J-0352-10): PS2 circuit(s).	Pass
6.4.5.1	General	PS2 part of Main board (J7J-0352-10): Not meet Annex Q. See Clause 6.4.5.2	Pass

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.5.2	Requirements (Supplementary safeguards) .....:	See Supplementary safeguard of table, OVERVIEW OF EMPLOYED SAFEGUARDS above.	Pass
6.4.5.3	Compliance criteria		Pass
6.4.6	Control of fire spread in PS3 circuit	Reduce the likehood of ignition applied to PS3 circuit(s).	N/A
	Supplementary safeguards	Reduce the likehood of ignition applied to PS3 circuit(s).	N/A
	Within the fire enclosure, combustible materials that are not part of a PS2 or PS3 circuits	Reduce the likehood of ignition applied to PS3 circuit(s).	N/A
	For PS2 or a PS3 circuit within a fire enclosure, all requirements for PS2.	Reduce the likehood of ignition applied to PS3 circuit(s).	N/A
	For a PS1 circuit within a fire enclosure	Reduce the likehood of ignition applied to PS3 circuit(s).	N/A
	A fire enclosure is not necessary for the following components and materials	Reduce the likehood of ignition applied to PS3 circuit(s).	N/A
6.4.7	Separation of combustible materials from a PIS	No Arcing PIS. Resistive PIS: Chip of IC301 (ST Microelectronics, Type JCV8034). Orientation(s) of use specified in the installation or user instructions were taken into account during tests. (Mount angle 0 º and 30 º during Clause 6.)	Pass
6.4.7.1	General ..... :		—
6.4.7.2	Separation by distance	See Supplementary safeguard of table, OVERVIEW OF EMPLOYED SAFEGUARDS above.	Pass
6.4.7.3	Separation by a fire barrier	See Supplementary safeguard of table, OVERVIEW OF EMPLOYED SAFEGUARDS above.	Pass
6.4.8	Fire enclosures and fire barriers	Mold of IC301 (ST Microelectronics, Type JCV8034): Fire barrier	Pass
6.4.8.2	Fire enclosure and fire barrier material properties		—
6.4.8.2.1	Requirements for a fire barrier	Mold of IC301 (ST Microelectronics, Type JCV8034): See Clause S.1	Pass
6.4.8.2.2	Requirements for a fire enclosure	No fire enclosure	N/A
6.4.8.2.3	Compliance criteria		Pass
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	Mold of IC301 (ST Microelectronics, Type JCV8034): Fire barrier	Pass
6.4.8.3.1	Fire enclosure and fire barrier openings		—
6.4.8.3.2	Fire barrier dimensions	Mold of IC301 (ST Microelectronics, Type JCV8034): Dimensions sufficient. The edges of the fire barrier(s) extend to beyond the restricted volume.	Pass
6.4.8.3.3	Top Openings and top opening properties:		Pass

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Top opening properties of a fire enclosure	Mold of IC301 (ST Microelectronics, Type JCV8034): No top opening(s) fall within the volume defined in Fig. 41.	Pass
	Top openings fall within the volume defined in Figure 41	Mold of IC301 (ST Microelectronics, Type JCV8034): No top opening(s)	Pass
	Openings dimensions (mm).....:	Mold of IC301 (ST Microelectronics, Type JCV8034): No top opening(s)	Pass
6.4.8.3.4	Bottom Openings and properties of a fire enclosure and a fire barrier	Mold of IC301 (ST Microelectronics, Type JCV8034): No bottom opening(s)	Pass
	Openings located in the volume as shown in Figure 42.	Mold of IC301 (ST Microelectronics, Type JCV8034): No bottom opening(s)	Pass
	a) Openings dimensions (mm).....:	Mold of IC301 (ST Microelectronics, Type JCV8034): No bottom opening(s)	Pass
	b) Openings under Components and Parts are ≥ V-1, ≥ HF-1 or the needle-flame test of IEC 60695-11-5 using a 30 s flame application	Mold of IC301 (ST Microelectronics, Type JCV8034): No bottom opening(s)	Pass
	c) Mesh	Mold of IC301 (ST Microelectronics, Type JCV8034): No bottom opening(s)	Pass
	d) Openings in the metal bottom enclosure	Mold of IC301 (ST Microelectronics, Type JCV8034): No bottom opening(s)	Pass
	Instructional Safeguard.....:	Not fixed equipment intended to be floor standing on a non-combustible surface	N/A
6.4.8.3.5	Integrity of the fire enclosure consists of a door or cover opened by an ordinary person, condition met: a), b) or c)..... :	No fire enclosure	N/A
	a) Door or Cover interlocked and comply with Annex K.		N/A
	b) Door or Cover, intended to be routinely opened by the ordinary person, shall comply with both of the following conditions: – it shall not be removable from other parts of the fire enclosure by the ordinary person; and – it shall be provided with a means to keep it closed during normal operating conditions.		N/A
	c) Door or Cover intended only for occasional use by the ordinary person, such as for the installation of accessories, may be removable if an instructional safeguard is provided for correct removal and reinstallation of the door or cover.		N/A
6.4.8.3.6	Compliance criteria	No Fire enclosure consists of a door or cover opened by an ordinary person.	N/A
6.4.8.4	Separation of PIS from combustible fire enclosure and combustible fire barrier distance (mm) or flammability rating .....:	Mold of IC301 (ST Microelectronics, Type JCV8034): Fire barrier, 0 mm (< 5 mm) distance from resistive PIS. See flammability rating.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Flammability rating	Mold of IC301 (ST Microelectronics, Type JCV8034): Fire barrier, 0 mm (< 5 mm) distance from resistive PIS, IEC 60695-11-5. Severities are identified in Clause S.2. No holes that are bigger than allowed in Clause 6.4.8.3.3 or Clause 6.4.8.3.4 as appropriate	Pass
6.5	**Internal and external wiring**		**N/A**
6.5.1	General Requirements	Red wire of the Wiring harness: May be required to comply with this clause. See Conditions of Acceptability in General product information and other remarks. Yellow wire of the Wiring harness: May be required to comply with this clause. See Conditions of Acceptability in General product information and other remarks. Speaker wires of the Wiring harness: May be required to comply with this clause. See Conditions of Acceptability in General product information and other remarks. No Internal wiring in PS2 or PS3 circuit(s).	N/A
6.5.2	Compliance criteria Cross-sectional area (mm^2) .....:		—
6.5.3	Requirements for interconnection to building wiring ..... :	Not equipment intended to provide power over the wiring system to remote equipment	N/A
6.6	**Safeguards against fire due to connection to additional equipment**		**Pass**
	External port limited to PS2 or complies with Clause Q.1	USB input terminal (J80): PS1 circuit(s). (Connected equipment and/or accessories limited to PS2 circuit(s)) Power control wire / Antenna control wire (P.CONT / ANT.CONT, Blue/White) of the Wiring harness: PS1. (Connected equipment and/or accessories limited to PS2)	Pass

7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		**N/A**
7.2	**Reduction of exposure to hazardous substances**		**N/A**
7.3	**Ozone exposure**		**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) ..... :	No hazardous substances except batteries. See Clause 7.6 for batteries	N/A
7.6	**Batteries and their protection circuits**		**N/A**

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

	Batteries and their protection circuits comply with Annex M	No batteries	N/A

8	**MECHANICALLY-CAUSED INJURY**		**Pass**
8.1	**General**		**—**
8.2	**Mechanical energy source classifications**		**—**
8.3	**Safeguards against mechanical energy sources**		**Pass**
	Except as given below, safeguard requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3.	Faceplate and Sub panel: Ordinary persons All surfaces: Skilled persons	Pass
	An instructional safeguard shall be provided for MS2 that is not obvious to an instructed person or for MS3 that is not obvious to a skilled person.		N/A
	Other MS3 parts not actively being serviced shall be located or guarded so that unintentional contact with such parts during service operations is an unlikely result in the skilled person involuntary recoiling from class 2 or class 3 energy sources being serviced.	No other MS3 parts	N/A
8.4	**Safeguards against parts with sharp edges and corners**		**Pass**
8.4.1	Requirements (Safeguards)		—
	Classification of the energy sources	Faceplate and Sub panel: MS1	—
	Safeguards	Faceplate and Sub panel: Not required. (MS1)	N/A
	Instructional Safeguard .....:	Not required. (MS1)	N/A
8.4.2	Compliance criteria	Faceplate and Sub panel: MS1	Pass
8.5	**Safeguards against moving parts**		**N/A**
8.5.1	Requirements		**—**
	Equipment safeguard provided to prevent entry of body parts or entanglement of Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 part required to be accessible for the function of the equipment to ordinary person		N/A
	MS3 part required to be accessible for the function of the equipment to ordinary person or an instructed person		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional Safeguard .....:		N/A
8.5.3	Compliance criteria	No moving parts.	N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		—
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	General requirements (Safeguards and Safety Interlocks).....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard .....:		N/A
8.5.4.2.3	Disconnection from the supply (to disconnect power to MS3 moving parts)		N/A
8.5.4.2.4	Test method (Probe type and force (N)) .....:		N/A
8.5.4.2.5	Compliance criteria		N/A
8.5.5	High Pressure Lamps	No High Pressure Lamps	N/A
8.5.5.1	General (Energy Source Classification)		—
8.5.5.2	High Pressure Lamp Explosion Test .....:	No High Pressure Lamps	N/A
8.5.5.3	Compliance criteria		N/A
8.6	**Stability of equipment**		**N/A**
8.6.1	Requirements (Product classification)	MS1: Faceplate Except Faceplate: Fixed equipment(s). No stability requirements. See Clause 8.7	—
	Instructional Safeguard (for MS2 and MS3 television sets).....:	Not TV	N/A
8.6.2	Static stability	Faceplate: Not required (MS1)	N/A
8.6.2.2	Static stability test	Faceplate: Not required (MS1)	N/A
	Applied Force..... :		—
8.6.2.3	Downward Force Test	Faceplate: Not required (MS1)	N/A
8.6.2.4	Compliance criteria		N/A
8.6.3	Relocation stability test	Faceplate: Not required (MS1)	N/A
8.6.3.2	Requirements Wheels diameter (mm).....:		—
8.6.3.2	Test method and compliance criteria (Unit configuration during 10° tilt)..... :		N/A
8.6.4	Glass slide test	Faceplate: Not required (MS1)	N/A
8.6.4.2	Test method and compliance criteria		N/A
8.6.5	Horizontal force test (Applied Force) ..... :	Faceplate: Not required (MS1)	N/A
	Position of feet or movable parts ..... :		—
8.7	**Equipment mounted to wall, or ceiling**		**N/A**
8.7.1	Requirements	Not mounted to wall, or ceiling	—
	Manufacturer defines specific mounting means (Length of screws (mm) and mounting surface) ... :		N/A
	Manufacturer does not define specific mounting means		N/A
	Equipment is provided with threaded parts for attachment of the mounting means		N/A
8.7.2	Test methods (Direction and applied force)..... :		—
	Test 1, additional downwards force (N) .....:		N/A
	Test 2, number of attachment points and test force (N) .....:		N/A
	Test 3, Nominal diameter (mm) and applied torque (Nm) .....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.7.3	Compliance criteria		N/A
8.8	**Handles strength**		**N/A**
8.8.1	General (Classification)	No handles	N/A
8.8.2	Test method (Applied Force) ..... :	No handles	N/A
8.9	**Wheels or casters attachment requirements**		**N/A**
8.9.1	General (Classification)		N/A
8.9.2	Test method (Applied Force) ..... :		—
8.10	**Carts, stands and similar carriers**		**N/A**
8.10.1	General	No Carts, stands and similar carriers.	—
8.10.2	Marking and instructions		N/A
	Instructional Safeguard ..... :		N/A
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		**N/A**
8.11.1	General	Not SRME.	N/A
8.11.2	Requirements (Product Classification)		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test		—
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.11.5	Compliance criteria		N/A
8.12	**Telescoping or rod antennas**		**N/A**
	Button/Ball diameter (mm).....:	No telescoping or rod antennas	N/A

9	**THERMAL BURN INJURY**		**Pass**
9.1	**General**	Orientation(s) of use specified in the installation or user instructions were taken into account during tests. (Mount angle 0 º and 30 º during Clause 9.)	**—**
9.2	**Thermal energy source classifications**		**—**
9.2.1	General		—
9.2.5	Test method and compliance criteria		—
9.2.6	Touch temperature levels	(See appended table 9.2.6)	—
9.3	**Safeguard against thermal energy sources**		**Pass**

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Except as given below, safeguard requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3.	Ordinary person: TS1 (Faceplate). No safeguard (Equipment safeguard(s), Material and Distance from thermal inertia) (Comply with Clause 4.3.2). Skilled person: Comply with Clause 4.3.4. TS3 (Except Faceplate and Remote controls) protected by Skill safeguard. No class 3 energy source located outside the view of the skilled person (Clause 0.5.7).	Pass
	For protection of an ordinary person against TS2, an instructional safeguard in accordance with Clause 9.5.2 may be used as the basic safeguard	No TS2 for Ordinary person	N/A
	For protection of an ordinary person or an instructed person against TS3, the supplementary safeguard may be replaced with an instructional safeguard in accordance with Clause 9.4.2.	No TS3 for Ordinary person and/or Instructed person	N/A
	Parts and surfaces classed TS3 shall be provided with an equipment safeguard or provided with an instructional safeguard so that unintentional contact with such parts and surfaces during service operations is unlikely to cause the skilled person to recoil into other class 3 energy sources (see Figure 19).	Except Faceplate: Equipment and Instructional safeguards not required. No class 3 energy source located outside the view of the skilled person.	N/A
9.4	**Requirements for safeguards**		**N/A**
9.4.1	Equipment safeguard	Faceplate: TS1 Except Faceplate: Not required. See Clause 9.3.	N/A
9.4.2	Instructional safeguard .....:		N/A

10	**RADIATION**		**N/A**
10.2	**Radiation energy source classification**		**N/A**
10.2.1	General classification		N/A
	Lasers .....:		N/A
	Lamps and LEDs.....:		N/A
	X-Ray .....:		N/A
	Acoustic.....:		N/A
10.3	**Safeguards against laser radiation**		**N/A**
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault .....:		N/A
	Instructional safeguard.....:	Not required.	—
	Tool .....:		—
10.4	**Safeguards against visible, infra-red, and ultra-violet radiation**		**N/A**
10.4.1	General		—
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 ..... :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	**Safeguards against 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	**Safeguards against acoustic energy sources**		**N/A**
10.6.1	General		—
10.6.2	Classification		N/A
	Acoustic output, dB(A) .....:		N/A
	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 .....:		—
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) .....:		—

Annex B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**	**Pass**
B.1	**General**	**—**

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.1.6	Temperature measurement conditions		—
B.2	**Normal Operating Conditions**		**Pass**
B.2.1	General	USB input terminal: Resistive load of 5 V_{dc}, 1 A connected. Blue/White wire of the Wiring harness: Resistive load of 12 V_{dc}, 350 mA connected. (See Test Item Particulars and appended test tables)	—
	Audio Amplifiers and equipment with audio amplifiers..... :	(See Annex E)	—
B.2.2	Supply frequency	DC	—
B.2.3	Supply voltage	+10 % / -10 % based on the applicant's request	—
B.2.4	Normal operating voltages	12 V_{dc}	—
B.2.5	Input test ..... :	Evaluated. Apparatus not directly connected to the Mains, but rating(s) marked. (See Clause F.3.3.2) (See appended table B.2.5) The measured input current under normal operating conditions did not exceed the rated current by more than 10 %.	Pass
B.2.6	Operating temperature measurement conditions	Comply with Clause B.2.6.3.	—
B.2.6.2	Operating temperature dependent heating/cooling	NOT depend on heating/cooling. See Clause B.2.6.3.	—
B.2.6.3	Operating temperature independent heating/cooling	NOT dependent on heating/cooling. T_{ma} = 35 ºC	—
B.2.7	Battery charging and discharging under normal operating conditions	No battery	—
B.3	**Simulated abnormal operating conditions**		**Pass**
B.3.1	General		—
B.3.2	Covering of ventilation openings	Not required based on product type. See General product information and other remarks (Explanation of the test program).	—
	Instructional safeguard..... :	Not required based on product type. See Additional application considerations (Explanation of the test program).	—
B.3.3	D.C. mains polarity test	Not connected to DC mains	—
B.3.4	Setting of voltage selector ..... :	No Setting of voltage selector	—
B.3.5	Maximum load at output terminals..... :	(See appended table B.3)	—
B.3.6	Reverse battery polarity	No battery	—
B.3.7	Abnormal operating conditions as specified in Clause E.2.	(See appended table B.3)	—
B.3.8	Safeguards functional during and after abnormal operating conditions	(See appended table B.3)	Pass
B.4	**Simulated single fault conditions**		**Pass**

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.4.1	General	Single fault conditions required in Clause 6.4.3. Tested for Supplementary safeguard for IC301 (ST Microelectronics, Type JCV8034). Clause 9 refer to following single fault condition(s). (But Compliance checked by Clause 9.2.5)	—
B.4.2	Temperature controlling device open or short-circuited..... :	No temperature controlling device(s)	—
B.4.3	Motor tests	No Motor(s)	—
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature ..... :	Not required.	—
B.4.4	Functional insulation		—
B.4.4.1	Clearances for functional insulation	Shorted (See appended table B.4)	—
B.4.4.2	Creepage distances for functional insulation	Shorted (See appended table B.4)	—
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards	—
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	—
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	—
B.4.7	Continuous operation of components	No component(s) intended for short–time operation or intermittent operation	—
B.4.8	Compliance criteria during and after single fault conditions (Class 1 and Class 2 energy sources within limits during and after single fault conditions)	(See appended table B.4) Not exceed the relevant energy class as specified in Clauses 9.4, 10.3, 10.4.1. Compliance checked by Clauses 6.4.3.2 and B.4.8. No ignition. No opening of conductor. Compliance checked by Clause 9.2.5. See Clause 9.2.5.	Pass
B.4.9	Battery charging and discharging under single fault conditions ..... :	No battery	—
Annex C	**UV RADIATION**		**N/A**
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		—
C.1.3	Test method and compliance criteria		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		—
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
Annex 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

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

Annex E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		**Pass**
E.1	**Audio amplifier normal operating conditions**		**Pass**
	Audio signal source type..... :	1000 Hz	—
	Audio output power (W)..... :	(See appended table B.2.5)	—
	Maximum non-clipped output power (W)..... :	Audio output(s): Only skilled person accessible. See General product information and other remarks (Explanation of the test program)	—
	Audio signal voltage (V)..... :	(See appended table B.2.5)	—
	Rated load impedance (Ω) ..... :	(See appended table B.2.5)	—
	Requirements for temperature measurement	All amplifier channels are operated simultaneously.	—
	The instruction manual provided by the manufacturer..... :	No manufacture's instruction. EUT positioned 5 cm behind the front edge of an open-fronted wooden test box with 1 cm free space along the sides and top and 5 cm depth behind EUT.	—
E.2	**Audio amplifier abnormal operating conditions**		**Pass**
	Most unfavourable output power into the most unfavourable rated load impedance	(See appended table B.3)	Pass
Annex F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		**Pass**
F.1	**General**		**—**
	Instructions – Language .....:	English. For acceptability of other languages, see additional application considerations (Explanation of the test program).	—
F.2	**Letter symbols and graphical symbols**		**Pass**
F.2.1	Letter symbols according to IEC60027-1		Pass
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		Pass
F.3	**Equipment markings**		**Pass**
F.3.1	Equipment marking locations	Permanently connected equipment (KD-X262): Markings on the equipment	Pass
F.3.2	Equipment identification markings		Pass
F.3.2.1	Manufacturer identification ..... :	JVC KENWOOD Corporation	Pass
F.3.2.2	Model identification ..... :	KD-X262	Pass
F.3.3	Equipment rating markings	KD-X262: Evaluated. Apparatus not directly connected to the Mains, but rating(s) marked.	N/A
F.3.3.1	Equipment with direct connection to mains	Not directly connected to the Mains. See Clause F.3.3.2.	N/A
F.3.3.2	Equipment without direct connection to mains	Not directly connected to the Mains. Rated power or rated current marking on the equipment, comply with Clause B.2.5. EUT marked: 6 A EUT measured: 3.21 A	Pass

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.3	Nature of supply voltage .....:	Not directly connected to the Mains.	N/A
F.3.3.4	Rated voltage.....:	Not directly connected to the Mains.	N/A
F.3.3.5	Rated frequency.....:	Not directly connected to the Mains.	N/A
F.3.3.6	Rated current or rated power..... :	Not directly connected to the Mains.	N/A
F.3.3.7	Equipment with multiple supply connections	Not Equipment with multiple supply connections.	N/A
F.3.4	Voltage setting device		N/A
	Setting	No Voltage setting device	N/A
F.3.5	Markings on terminals and operating devices		Pass
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :	No mains appliance outlet	N/A
F.3.5.2	Switch position identification marking..... :	No disconnect switch and circuit-breaker	N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :	Replaceable by skilled person	Pass
	Fuse replaceable by ordinary person or instructed person, identification of a suitable replacement fuse	NOT replaceable by ordinary person or instructed person	N/A
	Fuse replaceable by ordinary person, the coding(s) of the relevant fuses	NOT replaceable by ordinary person	N/A
	Fuse NOT replaceable by ordinary person or instructed person, identification of a suitable replacement fuse	Suitable replacement fuse marked with replacement symbol ⚠ (ISO 7000-0434) in the service schematic diagrams and/or service documents. See Remark 2). Also, see Clause F.4. i).	Pass
	Fuse NOT replaceable by ordinary person or instructed person, Instructional safeguards for neutral fuse ..... :	Not connected to the Mains.	N/A
F.3.5.4	Replacement battery identification marking..... :		N/A
F.3.5.5	Terminal marking location	DC apparatus	N/A
F.3.6	Equipment markings related to equipment classification		N/A
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Equipment class marking	DC apparatus	N/A
	Class II equipment with or without functional earth		N/A
	Class II equipment with functional earth terminal marking	No connection of functional earthing	N/A
F.3.7	Equipment IP rating marking ..... :	IPX0	N/A
	Equipment bear the IP number according to the degree of protection against ingress of water in accordance with IEC 60529	Not required for IPX0	N/A
F.3.8	External power supply output marking	Not external power supply unit(s) (EUT is NOT AC adaptor(s))	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.9	Durability, legibility and permanence of marking	Product marking (KD-X262): Adhesive label. See Clause F.3.10.	Pass
F.3.10	Test for permanence of markings	Product marking (KD-X262): Adhesive label. Tested.	Pass
F.4	**Instructions**		**Pass**
	Information prior to installation and initial use	Information with regard to safety located before any operating instructions in an instruction for installation. See Remark 1).	Pass
	Equipment for use in locations where children not likely to be present	Children likely to be present	N/A
	The instructions shall include the following as far as applicable		—
	a) Instructions given for installation or initial use	Instructions given in the INSTRUCTION MANUAL. See Remark 1).	Pass
	b) Equipment intended for use only in restricted access area	Not used only in restricted access area.	N/A
	c) Equipment intended to be fastened in place	Instructions given in the INSTRUCTION MANUAL. See Remark 1).	Pass
	d) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No ES3 audio terminals	N/A
	e) Protective earthing employed as safeguard	DC apparatus	N/A
	f) Protective earthing conductor current exceeding ES 2 limits	DC apparatus	N/A
	g) Graphical symbols placed on equipment and used as an instruction safeguard		N/A
	h) Permanently connected equipment not provided with all-pole mains switch	Not connected to the Mains	N/A
	i) Replaceable components or modules providing safeguard function	For Blade fuse, identification of a suitable replacement component or module provided in the skilled person instructions. See Remark 2).	Pass
	j) For equipment containing an insulating liquid	Not containing insulating liquid.	N/A
	k) The installation instructions for outdoor equipment	Not for outdoor equipment	N/A
F.5	**Instructional safeguards**		**—**
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		—
Annex G	**COMPONENTS**		**Pass**
G.1	**Switches**		**N/A**
G.1.1	General	No switch(s) located in PS3 circuit(s).	N/A
G.1.2	Requirements (Ratings, endurance, spacing, maximum load)	Not connected to the Mains	N/A
G.1.3	Test method and compliance criteria		N/A
G.2	**Relays**		**N/A**

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.2.1	Requirements (Relay(s) located in PS3)	No relay(s) located in PS3 circuit(s).	N/A
G.2.2	Overload test		N/A
G.2.3	Mains relay controlling connectors supply power to other equipment	No Mains relay(s) controlling connectors supply power to other equipment	N/A
G.2.4	Test method and compliance criteria (Mains relay, IEC 61810-1 and modified as stated in G.2)	No Mains relay.	N/A
G.3	**Protection Devices**		**N/A**
G.3.1	Thermal cut-offs	No thermal cut-off(s).	N/A
G.3.1.1 a) & b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	No thermal cut-outs	N/A
G.3.1.1. c)	Thermal cut-outs tested as part of the equipment as indicated in c)	No thermal cut-out	N/A
G.3.1.2	Test method and compliance criteria (Thermal cut-off connections maintained and secure)	No thermal cut-out	N/A
G.3.2	Thermal links	No thermal link(s)	N/A
G.3.2.1 a)	Thermal links separately tested, comply with IEC 60691	No thermal link(s)	N/A
G.3.2.1 b)	Thermal links tested as part of the equipment	No thermal link(s)	N/A
	Aging hours (H)..... :		—
	Single Fault Condition..... :		—
	Test Voltage (V) and Insulation Resistance (Ω) .. :		—
G.3.2.2	Test method and compliance criteria	No thermal link(s)	N/A
G.3.3	PTC Thermistors	No PTC thermistor(s)	N/A
G.3.4	Overcurrent protection devices	No Overcurrent protection devices (Except for devices covered by Clause G.3.5)	N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4	Blade fuse: Jenn Feng Electric Industrial Co., Ltd., Type ATS10A	Pass
G.3.5.1	Requirements (Non-resettable devices suitably rated and marking provided)	Blade fuse: Not IEC 60127. For non-resettable protective devices, such as fuse-links, marking provided in accordance with Clause F.3.5.3. See Clause F.3.5.3.	Pass
G.3.5.2	Test method and compliance criteria (Single faults conditions).....:	Test repeated three times with no failure. (See appended table B.4)	Pass
G.4	**Connectors**		**Pass**
G.4.1	Clearance and creepage distance requirements		N/A
G.4.2	Mains connectors..... :	No Mains connector	N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No risk of insertion.	Pass
G.5	**Wound Components**		**N/A**
G.5.1	Wire insulation in wound components ..... :		N/A
G.5.1.2	Protection against mechanical stress Two wires in contact inside wound component, angle between 45° and 90°		N/A
	Construction subject to routine testing		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.1.3	Test method and compliance criteria		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		—
	Time (s) ..... :		—
	Temperature (°C) ..... :		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.2.4	Compliance criteria		N/A
G.5.3	Transformers	No transformer(s)	N/A
G.5.3.1	General Requirements applied (IEC 61204-7, IEC 61558-1/-2, and/or IEC 62368-1) ..... :		N/A
	Position ..... :		—
	Method of protection ..... :		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings ..... :		—
G.5.3.3	Transformer overload test..... :	No transformer(s)	N/A
G.5.3.3.1	Test conditions	No transformer(s)	—
G.5.3.3.2	Compliance criteria (Winding Temperatures testing in the unit)	No transformer(s)	N/A
G.5.3.3.3	Winding Temperatures - Alternative test method	No transformer(s)	N/A
G.5.4	**Motors**	No critical motor(s)	**N/A**
G.5.4.1	General		—
	Position ..... :		—
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
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Test method and compliance criteria (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 Pass
	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 ..... :		—
	Electric strength test (V) ..... :		—
G.5.4.6.3	Alternative method (Motor covered with a single layer of cheesecloth and placed on a wooden board that is covered with a single layer of wrapping tissue)		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test (V)..... :		—
G.5.4.7	Test method and compliance criteria for Motors with capacitors		N/A
G.5.4.8	Test method and compliance criteria for Three-phase motors		N/A
G.5.4.9	Test method and compliance criteria for Series motors		N/A
	Operating voltage ..... :		—
G.6	**Wire Insulation**		**N/A**
G.6.1	General		N/A
	a) Not under mechanical stress (for example, from winding tension).		N/A
	b) Under mechanical stress. ≥ 0.4 mm thick of single layer insulation on wire.		N/A
	b) Under mechanical stress. Not a winding wire.		N/A
	b) Under mechanical stress. Winding wire.		N/A
	c) Under mechanical stress. Winding wire.		N/A
	d) FIW used as a safeguard in transformers		N/A
G.6.2	Solvent-based enamel wiring insulation	No enameled winding wires used as basic insulation	N/A
G.7	**Mains supply cords**		**N/A**
G.7.1	General	No Mains supply cords	N/A
	Power supply connection ..... :		—
	Mass..... :		—
	Equipment mobility..... :		—
	Equipment intended to be used by musicians while performing (for example, musical instruments and amplifiers) ..... :		—
	Type ..... :		—
	Rated current of the equipment (A) ..... :		—
	Cross-sectional area (mm^2), (AWG) ..... :		—
G.7.2	Compliance and test method	No Mains supply cords	N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords	No Mains 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 (basic safeguard) 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
G.7.4	Cord Entry..... :		N/A
G.7.5	Non-detachable cord bend protection	No Mains supply cords	N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Mass (g) ..... :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Overall diameter or minor overall dimension, *D* (mm)..... :		—
	Temperature (°C)..... :		—
	Radius of curvature after test (mm) ..... :		—
G.7.6	Supply wiring space	No Mains supply cords	N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		—
G.7.6.2.2	Test method and compliance criteria (Test with 8 mm strand)		N/A
G.8	**Varistors**		**N/A**
G.8.1	General	No varistor(s)	—
G.8.2	Safeguard against shock	No Varistor(s)	N/A
G.8.3	Safeguard against fire	No Varistor(s)	N/A
8.3.1	General		—
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	No Resistor(s)	—
G.10.2	Resistor test	No Resistor(s)	N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable	No resistor(s) between a mains connected circuit and a coaxial cable	N/A
G.10.3.1	General		—
G.10.3.2	Voltage surge test	No resistor(s) between a mains connected circuit and a coaxial cable	N/A
G.10.3.3	Impulse test	No resistor(s) between a mains connected circuit and a coaxial cable	N/A
G.10.3.4	Compliance criteria		N/A
G.11	**Capacitor and RC units**		**N/A**
G.11.1	General requirements		—
G.11.2	Conditioning of capacitors and RC units	No Capacitor(s)	N/A
G.11.3	Rules for selecting capacitors	No Capacitor(s)	N/A
G.11.4	Examples of the application of capacitors	No Capacitor(s)	N/A
G.12	**Optocouplers**		**N/A**

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results) ..... :	No Optocoupler(s)	N/A
	Type test voltage Vini ..... :		—
	Routine test voltage, Vini,b ..... :		—
G.13	**Printed boards**		**N/A**
G.13.1	General		—
G.13.2	Uncoated printed boards	Printed boards NOT used as basic insulation, supplementary insulation, reinforced insulation and double insulation.	N/A
G.13.3	Coated printed boards	Uncoated	N/A
G.13.4	Insulation between conductors on the same inner surface	No multilayer board	N/A
	Compliance with cemented joint requirements (Specify construction) .....:	No multilayer board	N/A
G.13.5	Insulation between conductors on different surfaces	No multilayer board	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.13.6.2 a)	Thermal conditioning		N/A
G.13.6.2 b)	Electric strength test		N/A
G.13.6.2 c)	Abrasion resistance test		N/A
G.14	**Coating on components terminals**		**N/A**
G.14.1	Requirements .....:	Uncoated	N/A
G.14.2	Test method and compliance criteria		N/A
G.15	**Pressurized liquid filled components**		**N/A**
G.15.1	General requirements		—
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**
G.16.1	Requirements		N/A
G.16.2	Tests		N/A

IEC 62368-1			
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 Uc = 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 ..... :		—
Annex H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		**N/A**
H.1	General		—
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)..... :		—
Annex J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		**N/A**
	General		N/A
Annex K	**SAFETY INTERLOCKS**		**N/A**
K.1	General		N/A
K.1.1	General requirements Instructional safeguard		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
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
K.7.3	Endurance test		N/A
K.7.4	Electric strength test ..... :		N/A
Annex L	**DISCONNECT DEVICES**		**N/A**
L.1	General requirements	Not connected to the Mains	—
L.2	Permanently connected equipment	Not connected to the Mains	N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment	Not connected to the Mains	N/A
L.5	Three-phase equipment	Not connected to the Mains	N/A
L.6	Switches as disconnect devices	Not connected to the Mains	N/A
L.7	Plugs as disconnect devices	Not connected to the Mains	N/A
L.8	Multiple power sources		N/A
	Instructional safeguard ..... :		N/A
Annex M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		**N/A**
M.1	General requirements		N/A
	Instructional safeguard for equipment containing a battery that is replaceable by an ordinary person		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements	Not used	—
M.2.2	Compliance and test method (identify method).:		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements	No battery	N/A
M.3.2	Tests	No battery	—
	- Overcharging of a rechargeable battery	No rechargeable battery.	—
	- Unintentional charging of a non-rechargeable battery	No battery	—
	- Reverse charging of a rechargeable battery	No battery	—
	- Excessive discharging rate for any battery	No battery	—
M.3.3	Compliance criteria ..... :	No battery	N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General	No Secondary lithium battery	N/A
M.4.2	Charging safeguards	No Secondary lithium battery	N/A
M.4.2.1	Requirements (Charging operating limits)		—
M.4.2.2	Compliance criteria ..... :	No Secondary lithium battery	N/A
	Charging voltage, current and temperature..... :		—
	Single faults in charging circuitry ..... :		—
M.4.3	Fire Enclosure	No Secondary lithium battery	N/A
M.4.4	Drop test of equipment containing a secondary lithium battery	No Secondary lithium battery	N/A
M.4.4.2	Preparation and procedure for the drop test		—
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Discharge		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.4.4.6	Compliance criteria		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirements		—
M.5.2	Compliance criteria and Test Method (Test of P.2.3)	Not Battery with exposed bare conductive terminals	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	No battery	N/A
M.6.1.2	Compliance criteria	No battery	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 criteria 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		—
M.8.2	Test method		N/A
M.8.2.1	General requirements		—
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	No battery	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)		N/A
	Replacement of a battery with an incorrect type that can defeat a safeguard (for example, in the case of some lithium battery types)		N/A
	Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion		N/A
	Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas		N/A
	A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex N	**ELECTROCHEMICAL POTENTIALS**		**N/A**
	Metal(s) used ..... :	Pollution degree considered	—
Annex O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		**Pass**
	Figures O.1 to O.20 of this Annex applied		—
	Value of *X* (mm)..... :	1.00 mm (Pollution degree 2)	—
Annex P	**SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS**		**Pass**
P.1	General requirements		—
P.2	Safeguards against entry or consequences of entry of a foreign object		Pass
P.2.1	General	Faceplate and Sub panel: See Clauses P.2.2 and/or P.2.3. Except for Faceplate and Sub panel: Not required due to in-accessible part(s) from ordinary person. See General product information and other remarks (Explanation of the test program).	—
P.2.2	Safeguards against entry of foreign object	No opening(s)	Pass
	Location and Dimensions (mm) .....:	No opening(s)	—
P.2.3	Safeguard against the consequences of entry of foreign object	No openings	N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment	Not transportable	N/A
	Transportable equipment with metalized plastic parts ..... :	Not transportable	N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) ..... :	Prevented the entry of a foreign object.	N/A
P.3	Safeguards against spillage of 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	Tests (Conditioning testing)		N/A
	T_c (°C) ..... :		—
	T_R (°C)..... :		—
	T_A (°C)..... :		—
	Metallized coating or a part secured by adhesive	Not used	N/A
	Abrasion resistance testing ..... :	Not used	N/A
	Mechanical strength testing..... :	Not used	N/A
Annex Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		**N/A**
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) .....:		—
	Current limiting method .....:		—
Annex R	**LIMITED SHORT CIRCUIT TEST**		**N/A**
R.1	General requirements		—
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
Annex S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		**Pass**
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		Pass
	Samples, material .....:	Mold of IC301 (ST Microelectronics, Type JCV8034): Tested.	—
	Wall thickness (mm) .....:	1.5 mm	—
	Conditioning (°C) .....:	200	—
	Test flame according to IEC 60695-11-5 with conditions as set out	Vertical part involved, the flame is applied at an angle of approximately 45° from the vertical. Test repeated on the remaining two test specimens.	—
	- Material not consumed completely	After every application of the test flame, the test specimen shall not be consumed completely	Pass
	- Material extinguishes within 30s	After any application of the test flame, any self-sustaining flame shall extinguish within 30 s	Pass
	- No burning of layer or wrapping tissue	No burning of the specified layer or wrapping tissue	Pass
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		—
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		—
S.3.2	Test method and compliance criteria		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Samples, material .....:		—
	Wall thickness (mm) .....:		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
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		—
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
	No burning of the specified cotton indicator		N/A
Annex T	**MECHANICAL STRENGTH TESTS**		**—**
T.1	General requirements		—
T.2	Steady force test, 10 N ..... :		—
T.3	Steady force test, 30 N ..... :		—
T.4	Steady force test, 100 N ..... :		—
T.5	Steady force test, 250 N ..... :		—
T.6	Enclosure impact test		—
	Fall test		—
	Swing test		—
T.7	Drop test ..... :		—
T.8	Stress relief test ..... :		—
T.9	Impact Test (glass)		—
	Impact energy (J) .....:		—
	Height (m).....:		—
T.10	Glass fragmentation test .....:		—
T.11	Test for telescoping or rod antennas		—
	Torque value (Nm) ..... :		—
Annex U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION**		**N/A**
U.1	General		—
	CRTs with a maximum face dimension exceeding 160 mm	No CRT	N/A
	Face of a non-intrinsically protected CRT	No CRT	N/A
	CRT, other than the face of an intrinsically protected CRT	No CRT	N/A
	A protective film attached to the faceplate of the picture tube as part of the implosion protection system	No CRT	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard for CRT with protective film attached to the faceplate as part of the safety implosion system ..... :		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen .....:		N/A
Annex V	**DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)**		**—**
V.1	Accessible parts of equipment		—
V.1.1	General	Faceplate and Sub panel Except for Faceplate and Sub panel: Not required due to in-accessible part(s) from ordinary person. See General product information and other remarks (Explanation of the test program).	—
V.1.2	Test method 1 – Surfaces and openings tested with jointed test probes (likely to be accessible to children)	Accessibility to solid safeguard (Mold of IC301 (ST Microelectronics, Type JCV8034) from Sub panel checked by Test probe of Figure V.1. (Clause 4.4.3) For ordinary persons, no ES2 and ES3. Clause V.1 not required. (Clause 5.3.2.1)	—
	Test method 1 – Surfaces and openings tested with jointed test probes (not likely to be accessible to children)	Faceplate: Likely to be accessible to children. (Test probe of Figure V.2 NOT used)	—
V.1.3	Test method 2 – Openings preventing access to a part tested with straight unjointed version of the respective test probes	Sub panel: Straight unjointed version of test probe of Figure V.1 applied with 30 N re-conducted.	—
V.1.4	Test method 3 – Plugs, jacks, connectors (tested with blunt probe)	For ordinary persons, no ES2 and ES3. Clause V.1 not required. (Clause 5.3.2.1)	—
V.1.5	Test method 4 – Slot openings (tested with wedge probe)		—
V.1.6	Test method 5 – Terminals intended to be used by an ordinary person (tested with rigid test wire)	No terminals for connecting stripped wire intended to be used by an ordinary person. Clause V.1 not required. (Clause 5.3.2.4)	—
V.2	Accessible part criterion		—

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

4.1.2	TABLE: Use of components (List of critical components)				Pass
Object / part No.	Manufacturer / trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
KD-X262					
Component(s) on Main board (J7J-0352-10)					
Connector (Plug) / CN990	Mitsumi Electric Co., Ltd.	CAM-J05	In PS3 (BUP and ACC) circuits, but NOT PIS.	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
			≥ 1750 mm³, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by distance (Equipment safeguard)	IEC 62368-1:2014, Clause 6.4.7.2	Tested in apparatus.
			1.1 mm thick.	IEC 62368-1:2014	Tested in apparatus.
			14 V_{dc}, 10 A	IEC 62368-1:2014	Tested in apparatus.
Material	Toray Industries Inc.	1164G-30	V-0 at 0.75 mm thick	IEC 60695-11-10	UL / E41797
Blade fuse	Jenn Feng Electric Industrial Co., Ltd.	ATS10A	10 A, 32 V. In PS3 circuit (BUP), but NOT PIS.	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
			Separated from the restricted volume by distance (Equipment safeguard)	IEC 62368-1:2014, Clause 6.4.7.2	Tested in apparatus.
		Certified as ATS	Special purpose fuse, 10 A, 32 V	UL 248-1	UL / E488363
- Description:	Housing is < 1750 mm³. (IEC 62368-1:2014, Clause 6.3.1) Not safeguard, but L990 did not become PIS due to opening of this blade fuse in Clause 6.2.3.				
Choke coil / L990	PT.Cipta Coilindo	CC-CH140.0μH-006	In PS3 circuit, but NOT PIS. 7 A, 140 μH	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
Case	Nan Ya Plastics Corp. Plastics 3rd. Div.	1403G3	≥ 1750 mm³, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by barrier(s)	IEC 62368-1:2014, Clause 6.4.7	Tested in apparatus.
			Min. 1.0 mm thick.	IEC 62368-1:2014	Tested in apparatus.
			PBT, V-0 and 130 °C at 0.75 mm	IEC 60695-11-10	UL / E130155

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

Alternate L990	PingHu Daming Electronics Factory	T15-255	7 A, 140 µH	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
Cover	Nan Ya Plastics Corp. Plastics 3rd. Div.	1403G3	≥ 1750 mm^3, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by barrier(s)	IEC 62368-1:2014, Clause 6.4.7	Tested in apparatus.
			Min. 1.0 mm thick.	IEC 62368-1:2014	Tested in apparatus.
			PBT, V-0 and 130 °C at 0.75 mm	IEC 60695-11-10	UL / E130155
Power IC / IC301	ST Microelectronics	JCV8034	In PS3 (BUP and ACC) and PS2 (Audio output signals) circuits.	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
IC Chip			Resistive PIS. Mounted on and enclosed by Mold of IC301		
Mold	KYOCERA Corporation	KE-G280T	≥ 1750 mm^3, Min. HB. 1.5 mm thick.	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Not separated from the restricted volume of IC Chip of IC301	IEC 62368-1:2014, Clause 6.4.7	Tested in apparatus.
				IEC 60695-11-5 (Severities are identified in Clause S.2.)	Tested in apparatus.
			V-0 at 0.75-0.83 mm thick.	IEC 60695-11-10	UL / E43857
- Description:	Mold of IC301 is fire barrier for IC Chip of IC301. See “Fire barrier(s)” below.				
RCA jack / J321	Sanji Electronics Co., Ltd.	AV2-151A020-01Z1	In PS1 circuit. DC 34 V, 2 A	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
Housing	Chang Chun Plastics Co., Ltd.	4815	≥ 1750 mm^3, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by distance (Equipment safeguard)	IEC 62368-1:2014, Clause 6.4.7.2	Tested in apparatus.
			Min. 5 mm thick.	IEC 62368-1:2014	Tested in apparatus.
			PBT, V-0 at 3.0-3.2 mm	IEC 60695-11-10	UL / E59481

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

Alternate J321	Morning Star Industrial Co., Ltd.	MSP-7002V-04-NI-FE-ABS(O80)	In PS1 circuit. DC 34 V, 2 A	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
Housing	Chi Mei Corporation	PA-777D	≥ 1750 mm^3, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by distance (Equipment safeguard)	IEC 62368-1:2014, Clause 6.4.7.2	Tested in apparatus.
			Min. 5 mm thick.	IEC 62368-1:2014	Tested in apparatus.
			ABS/PMI, HB at 1.5-1.7 mm	IEC 60695-11-10	UL / E56070
Alternate J321	Sanji Electronics Co., Ltd.	AV4-136A020-01Z1	In PS1 circuit. DC 34 V, 2 A	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
Housing	Chang Chun Plastics Co., Ltd.	4815	≥ 1750 mm^3, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by distance (Equipment safeguard)	IEC 62368-1:2014, Clause 6.4.7.2	Tested in apparatus.
			Min. 5 mm thick.	IEC 62368-1:2014	Tested in apparatus.
			PBT, V-0 at 3.0-3.2 mm	IEC 60695-11-10	UL / E59481
PCB / J7J-0352-10	Draco PCB Public Company Limited /	DPC-E7	PS3 and PS2 circuits	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
			≥ 1750 mm^3, Min. HB (for PS3 circuit(s))	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			≥ V-1 or ≥ VTM-1 (for PS2 circuit(s))	IEC 62368-1:2014, Clause 6.4.5.2	Tested in apparatus.
			Separated from the restricted volume by barrier(s)	IEC 62368-1:2014, Clause 6.4.7	Tested in apparatus.
			130 ºC, V-0.	UL 94	UL / E216636
Alternate J7J-0352-10	Interchangeable	Interchangeable	130 ºC, V-0	UL 94	UL
- Description:	Interchangeability based on specified rating				
Component(s) on Panel PWB (J7J-0654-T0)					
PCB / J7J-0654-T0	Draco PCB Public Company Limited /	DPC-E7	PS1 circuit.	IEC 62368-1:2014, Clause 6.2.3	Tested in apparatus.
			≥ 1750 mm^3, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by distance (Equipment safeguard)	IEC 62368-1:2014, Clause 6.4.7.2	Tested in apparatus.
			130 ºC, V-0.	UL 94	UL / E58548

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

Alternate J7J-0654-T0	Interchangeable	Interchangeable	130 ºC, V-0	UL 94	UL
- Description:	Interchangeability based on specified rating				
Fire barrier(s)					
Mold of IC301	ST Microelectronics	JCV8034	Not accessible to an Ordinary person.	IEC 62368-1:2014	Tested in apparatus.
Material	KYOCERA Corporation	KE-G280T	Fire barrier. 1.5 mm thick.	IEC 62368-1:2014, Clauses 6.4.8 and S.1	Tested in apparatus.
			0 mm distance from resistive PIS.	IEC 62368-1:2014, Clause 6.4.8 and IEC 60695-11-5. (Severities are identified in Clause S.2)	Tested in apparatus.
			V-0 at 0.75-0.83 mm thick.	IEC 60695-11-10	UL / E43857
Enclosure(s)					
Front / Faceplate	Toray Industries Inc.	TOYOLAC 700-X01	≥ 1750 mm^3, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by distance (Equipment safeguard)	IEC 62368-1:2014, Clause 6.4.7.2	Tested in apparatus.
			Accessible parts (>1 s and < 10 s)	IEC 62368-1:2014, Clause 9.2	Tested in apparatus.
			Min. 1.6 mm thick.	IEC 62368-1:2014	Tested in apparatus.
		Certified as 700(rn)	HB75 at 1.2 mm thick. HB40 at 3.0 mm thick.	IEC 60695-11-10	UL / E41797
Front / Sub panel	Toray Industries Inc.	TOYOLAC 700-X01	≥ 1750 mm^3, Min. HB	IEC 62368-1:2014, Clause 6.3.1	Tested in apparatus.
			Separated from the restricted volume by distance (Equipment safeguard)	IEC 62368-1:2014, Clause 6.4.7.2	Tested in apparatus.
			Min. 1.5 mm thick.	IEC 62368-1:2014	Tested in apparatus.
		Certified as 700(rn)	HB75 at 1.2 mm thick. HB40 at 3.0 mm thick.	IEC 60695-11-10	UL / E41797

Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

2) Description line content is optional. Main line description needs to clearly detail the component used for testing

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

4.4.4.2	**TABLE: Steady force tests**				**N/A**
	EUT:	☐ Transportable equipment. Clause T.4 applied. ☐ Hand-held equipment. Clause T.4 applied. ☐ Direct plug-in equipment. Clause T.4 applied. ☐ Other equipment. Clause T.5 applied.			—
T.4	Steady force test, 100 N for 5 sec.	100 N ± 10 N over a circular plane surface 30 mm in diameter for a short time duration of approximately 5 s, applied in turn to the top, bottom, and sides.			N/A
T.5	Steady force test, 250 N for 5 sec.	250 N ± 10 N over a circular plane surface 30 mm in diameter for a short time duration of approximately 5 s, applied in turn to the top, bottom, and sides.			N/A
T.4 / T.5	Accessible safeguard tested:	Material			
		Manufacturer	UL File No.	Cat. No.	
	N/A	N/A	N/A	N/A	
	Test force applied to:	Test force (± 10 N) for 5 secs via 30 mm diam. circular plan	Any equipment safeguard defeated after test ? (Clause 4.4.3.10)	Class 3 energy sources other than PS3 accessible after test ? (Clause 4.4.3.10)	
	N/A	N/A	N/A	N/A	
Supplementary information: Equipment mass: kg User instruction permits multiple orientations during normal use: ☐ Yes ☐ No					
T.3	Steady force test, 30 N for 5 sec.	Accessible Safeguard only acts as a fire enclosure or fire barrier			N/A
	Accessible Safeguard only acts as:	Material			
		Manufacturer	UL File No.	Cat. No.	
	N/A	N/A	N/A	N/A	
	Test force applied to:	Test force (30 N) for 5 secs via the straight unjointed version of the applicable test probe	Any equipment safeguard defeated after test ? (Clause 4.4.4.9)	Class 3 energy sources other than PS3 accessible after test ? (Clause 4.4.4.9)	
	N/A	N/A	N/A	N/A	
Supplementary information: The test is conducted by means of the straight unjointed version of the applicable test probe of Figure V.1 or Figure V.2, applied with a force of 30 N ± 3 N for a short time duration of approximately 5 s.					

4.4.4.3	**TABLE: Drop tests**			**N/A**
	EUT and height of the drop:	☐ Moveable Equipment: from a drop of 750 mm ± 10 mm ☐ Hand-held, direct plug-in or transportable equipment: from a drop of 1,000 mm ± 10 mm		—
T.7	Drop test			N/A
Sample No.	Height of the drop (mm)	Any equipment safeguard defeated after test ? (Clause 4.4.4.9)	Class 3 energy sources other than PS3 accessible after test ? (Clause 4.4.4.9)	
N/A	N/A	N/A	N/A	
Supplementary information: N/A				

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

4.4.4.4	TABLE: Impact tests					N/A
T.6	Enclosure impact test					N/A
Enclosure surface tested	Material			Any equipment safeguard defeated after test ? (Clause 4.4.4.9)	Class 3 energy sources other than PS3 accessible after test ? (Clause 4.4.4.9)	
	Manufacturer	UL File No.	Cat. No.			
N/A	N/A	N/A	N/A	N/A	N/A	
Supplementary information: N/A						

4.4.4.5	TABLE: Internal accessible safeguard tests			N/A
T.3	Steady force, 30 N for 5 sec.		N/A	
Internal accessible safeguard tested:	Material			
	Manufacturer	UL File No.	Cat. No.	
N/A	N/A	N/A	N/A	
Test force applied to:	Test force (30 N) for 5 secs via the straight unjointed version of the applicable test probe:	Any equipment safeguard defeated after test ? (Clause 4.4.4.9)	Class 3 energy sources other than PS3 accessible after test ? (Clause 4.4.4.9)	
N/A	N/A	N/A	N/A	
Supplementary information: N/A				

4.4.4.6	TABLE: Glass impact tests						N/A
	Glass that is accessible to an ordinary person or to an instructed person :	> 0.1 m^2 or having a major dimension > 450 mm or prevents access to class 3 energy sources other than PS3					—
Location/Part		Length (mm)	Width (mm)	Thick. (mm)	Area	Tested ?	
N/A		N/A	N/A	N/A	N/A	N/A	
T.9	Glass impact test	Impact test - Single impact applied to area representing centre of the glass					N/A

Part tested	Impact energy E (J)	Steel ball mass m (kg)	Impact height h (mm)	Any equipment safeguard defeated after test? (Clause 4.4.4.9)	Glass shall be one of the below (Clause 4.4.4.9)			Class 3 energy sources other than PS3 accessible after test? (Clause 4.4.4.9)
					Glass not break or crack?	Glass > 30 g expelled > 50 mm in any direction?	Glass passes Annex T.10 fragmentation test?	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Supplementary information: N/A								

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

4.4.4.6	TABLE: Glass fragmentation test									N/A
T.9	Glass impact test				Impact test - Single impact applied to area representing center of the glass					N/A
	Part tested	Impact energy E (J)	Steel ball mass m (kg)	Impact height h (mm)	Any equipment safeguard defeated after test? (Clause 4.4.4.9)	Glass shall be one of the below (Clause 4.4.4.9)			Class 3 energy sources other than PS3 accessible after test? (Clause 4.4.4.9)	
						Glass not break or crack?	Glass > 30 g expelled > 50 mm in any direction?	Glass passes Annex T.10 fragmentation test?		
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4.4.4.6	Push/pull test with 10 N				10 N applied in the centre of the glass in the least favourable direction					N/A
	Component / Part		Force applied (N)		Any equipment safeguard defeated after test? (Clause 4.4.4.9)		Class 3 energy sources other than PS3 accessible after test? (Clause 4.4.4.9)			
	N/A		N/A		N/A		N/A			
Supplementary information: N/A										

4.4.4.7	TABLE: Thermoplastic material tests					N/A
	Moulded or formed thermoplastic material safeguard subjected to the stress relief test of Clause T.8 ..... :	Location / Part	N/A			—
		Component ID / Name	N/A			
		Material manufacture	N/A			
		Material Cat. No.	N/A			
		Thick. (mm)	N/A			
T.8	Stress relief test					N/A
Component ID / Name	Max temperature under normal operating conditions (°C)		Oven Temperature (°C)	Any equipment safeguard defeated after test? (Clause 4.4.4.9)	Class 3 energy sources other than PS3 accessible after test? (Clause 4.4.4.9)	
N/A	N/A		N/A	N/A	N/A	
Supplementary information: N/A						

4.4.4.8	TABLE: Air comprising a safeguard			N/A
T.3	Steady force test, 30 N for 5 Sec.		Applied by ☒ the straight unjointed version of jointed test probe for equipment likely to be accessible to children, Figure V.1 / ☐ the straight unjointed version of jointed test probe for equipment not likely to be accessible to children, Figure V.2 during measurement. ☐ Enclosure ☐ Barrier	N/A
T.4	Steady force test, 100 N for 5 Sec.		☐ Enclosure ☐ Barrier	N/A
T.5	Steady force test, 250 N for 5 Sec.		☐ Enclosure ☐ Barrier	N/A
T.3 / T.4 / T.5	Part	Any equipment safeguard defeated after test? (Clause 4.4.3.10)	Class 3 energy sources other than PS3 accessible after test? (Clause 4.4.3.10)	
	N/A	N/A	N/A	
Supplementary information: N/A				

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

4.8	**TABLE: Equipment containing coin/button cell batteries**		**N/A**
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	**TABLE: Stress Relief test**	Tested according to the stress relief test of Clause T.8	N/A
T.8	**Stress relief test**		**—**

Part	**Material**			**Oven Temperature (°C)**	**Comments**
	Manufacturer	UL File No.	Cat. No.		
N/A	N/A	N/A	N/A	N/A	N/A

4.8.4.3	**TABLE: Battery replacement test**		**N/A**
Battery part no. .....:		CR2025	**—**
Battery compartment door / cover .....:		Tray	**—**
Nominal diameter of screw (mm) .....:		No screw	**—**

Battery Installation / withdrawal	Battery Installation / Removal Cycle	Continuous linear torque according to Table 37 (Nm)	Comments
N/A	1	N/A	N/A
	2	N/A	N/A
	3	N/A	N/A
	4	N/A	N/A
	5	N/A	N/A
	6	N/A	N/A
	8	N/A	N/A
	9	N/A	N/A
	10	N/A	N/A

4.8.4.4	**TABLE: Drop test**		**N/A**
T.7	**Drop test**		—

Impact Area	Drop Distance (m)	Drop No.	Observations
N/A	N/A	1	N/A
		2	N/A
		3	N/A
N/A	N/A	1	N/A
		2	N/A
		3	N/A
		4	N/A
		5	N/A
		6	N/A
		7	N/A
		8	N/A
		9	N/A
		10	N/A

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

Supplementary information:
☐ Portable equipment, ≤ 7 kg, subjected to three drops from a height of 1 m
☐ Remote control, subjected to ten drops from a height of 1 m

4.8.4.5	TABLE: Impact		N/A
T.6	Enclosure impact test		—

Impacts per surface	Surface tested	Impact energy (J)	Comments
N/A	N/A	N/A	N/A

Supplementary information:
☐ 0.5 J (102 mm ± 10 mm height) for glasses for watching, for example, 3 dimensional television
☐ 2 J (408 mm ± 10 mm height) for all other doors / covers.

4.8.4.6	TABLE: Crush test		N/A

Test position	Surface tested	Crushing Force (N)	Duration force applied (s)
N/A	N/A	N/A	N/A

Supplementary information: Hand held remote control devices are to be supported by a fixed rigid supporting surface in a position likely to produce the most adverse results as long as the position can be self-supported.

4.8.5	TABLE: Compliance criteria (Lithium coin/button cell batteries mechanical test result)		N/A

Test position	Surface tested	Force (N)	Duration force applied (s)
N/A	N/A	N/A	N/A

Supplementary information:
☐ The battery compartment door / cover shall remained functional.
☐ The battery did not become accessible
☐ The battery became accessible, but impossible to remove the battery from the product with the test hook of Figure 20 using a force of approximately 20 N.

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

5.2	**Table: Classification and limits of electrical energy sources**		**—**
5.2.2	Electrical energy source ES1 and ES2 limits		—

5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (V_{rms} or V_{peak})	I (A_{peak} or A_{rms})	Hz	
1	13.2 V_{dc}	C990	Normal	13.2 V_{dc}	—	—	1
			Abnormal	13.2 V_{dc}	—	—	1
2	13.2 V_{dc}	Blade fuse	Single fault – SC of C990 (Blade fuse opened)	13.2 V_{dc}	—	—	1

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	U_{peak} (V)	
N/A	N/A	N/A	N/A	N/A	N/A	N/A

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	U_{peak} (V)	I_{peak} (mA)	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	U_{peak} (V)	I_{peak} (mA)	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Test Conditions: N/A

5.2.2.7	**TABLE: Audio signals**			**Reference only**
Supply Voltage U_{rms} (V_{rms})	Location (e.g. circuit designation)	Load(s)	Audio signal voltage (V_{rms})	ES Class
13.2 V_{dc}	Speaker wires of the Wiring harness	Max. non-clipped output power into its rated load impedance	7.77	N/A (Skilled person)

Supplementary information:
Audio signal voltage is open-circuit output voltage when the load was removed.
ES2 Insulated terminals marked with ISO 7000, symbol 0434a (2004-01) ⚠ or symbol 0434b (2004-01) ⚠ , and Instructional safeguard provided.
ES3 connectors conforming to the requirements of IEC 61984 and marked with the symbol of IEC 60417-6042 (2010-11) ⚠

5.3.2	**TABLE: Accessibility to electrical energy sources and safeguards**		**N/A**
5.3.2.1	Requirements	Bare parts at ES2, except for the pins of connectors	—

Bare parts at ES2, except for the pins of connectors	Through opening at	Straight unjointed version of the applicable test probe	Test probe contact a bare part at ES2 Yes / No
N/A	N/A	N/A	N/A

Supplementary information:
The test is conducted by means of the straight unjointed version of the applicable test probe of Figure V.1 or Figure V.2, applied with a force of 30 N ± 3 N for a short time duration of approximately 5 s.

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

5.3.2	**TABLE: Accessibility to electrical energy sources and safeguards**		**N/A**
5.3.2.1	Requirements	Pins of connectors at ES2 under normal operating conditions	—

Pins of connectors at ES2 under normal operating conditions	Blunt probe of Figure V.3 contact Pins of connectors at ES2 Yes / No
N/A	N/A

Supplementary information:
Not accessible under normal operating conditions by the blunt probe of Figure V.3

5.3.2	**TABLE: Accessibility to electrical energy sources and safeguards**		**N/A**
5.3.2.1	Requirements	Bare parts at ES3	—
5.3.2.2	Contact requirements	Accessibility to ES3 voltages ≤ 420 V_{peak}	—

Bare internal conductive part at ES3 voltages ≤ 420 V_{peak}	Tests probe through opening at	Peak working voltage (V_{peak} or V_{dc})	Straight unjointed version of the applicable test probe	Test probe contact bare internal conductive part at ES3 voltages ≤ 420 V_{peak} Yes / No
N/A	N/A	N/A	N/A	N/A

Supplementary information:
The test is conducted by means of the straight unjointed version of the applicable test probe of Figure V.1 or Figure V.2, applied with a force of 30 N ± 3 N for a short time duration of approximately 5 s.

5.3.2	**TABLE: Accessibility to electrical energy sources and safeguards**		**N/A**
5.3.2.1	Requirements	Bare parts at ES3	—
5.3.2.2 a)	Contact requirements	Accessibility to ES3 voltages > 420 V_{peak} Air gap – electric strength test potential	—

Bare internal conductive part at ES3 voltages > 420 V_{peak}	Test probe through opening at	Through opening at	Contact a bare internal conductive part at ES3 Yes / No	Straight unjointed version of the applicable test probe	Test voltage for basic insulation in Table 27 (V)	Breakdown Yes / No
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
The test is conducted by means of the straight unjointed version of the applicable test probe of Figure V.1 or Figure V.2, applied with a force of 30 N ± 3 N for a short time duration of approximately 5 s.

5.3.2	**TABLE: Accessibility to electrical energy sources and safeguards**		**N/A**
5.3.2.1	Requirements	Bare parts at ES3	—
5.3.2.2 b)	Contact requirements	Accessibility to ES3 voltages > 420 V_{peak} Air gap – distance	—

Bare internal conductive part at ES3 voltages > 420 V_{peak}	Test probe through opening at	Peak working voltage (V_{peak} or V_{dc})	Pollution degree	Minimum air gap distance from test probe according Table 9 (mm)	Straight unjointed version of the applicable test probe	Measured air gap distance from test probe (mm)
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
The test is conducted by means of the straight unjointed version of the applicable test probe of Figure V.1 or Figure V.2, applied with a force of 30 N ± 3 N for a short time duration of approximately 5 s.

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

5.3.2	**TABLE: Accessibility to electrical energy sources and safeguards**		**N/A**
5.3.2.1	Requirements	ES3 basic safeguard	—
5.3.2.2	Contact requirements	Accessibility to ES3 voltages ≤ 420 V_{peak}	—

ES3 basic safeguard	Tests probe through opening at	Peak working voltage (V_{peak} or V_{dc})	Straight unjointed version of the applicable test probe	Test probe contact ES3 basic safeguard Yes / No
N/A	N/A	N/A	N/A	N/A

Supplementary information:
The test is conducted by means of the straight unjointed version of the applicable test probe of Figure V.1 or Figure V.2, applied with a force of 30 N ± 3 N for a short time duration of approximately 5 s.

5.3.2	**TABLE: Accessibility to electrical energy sources and safeguards**		**N/A**
5.3.2.1	Requirements	ES3 basic safeguard	—
5.3.2.2 a)	Contact requirements	Accessibility to ES3 voltages > 420 V_{peak} Air gap – electric strength test potential	—

ES3 basic safeguard (ES3 voltages > 420 V_{peak})	Test probe through opening at	Through opening at	Contact a bare internal conductive part at ES3 Yes / No	Straight unjointed version of the applicable test probe	Test voltage for basic insulation in Table 27 (V)	Breakdown Yes / No
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
The test is conducted by means of the straight unjointed version of the applicable test probe of Figure V.1 or Figure V.2, applied with a force of 30 N ± 3 N for a short time duration of approximately 5 s.

5.3.2	**TABLE: Accessibility to electrical energy sources and safeguards**		**N/A**
5.3.2.1	Requirements	ES3 basic safeguard	—
5.3.2.2 b)	Contact requirements	Accessibility to ES3 voltages > 420 V_{peak} Air gap – distance	—

ES3 basic safeguard (ES3 voltages > 420 V_{peak})	Test probe through opening at	Peak working voltage (V_{peak} or V_{dc})	Pollution degree	Minimum air gap distance from test probe according Table 9 (mm)	Straight unjointed version of the applicable test probe	Measured air gap distance from test probe (mm)
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
The test is conducted by means of the straight unjointed version of the applicable test probe of Figure V.1 or Figure V.2, applied with a force of 30 N ± 3 N for a short time duration of approximately 5 s.

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

5.4.1.4	**TABLE: Maximum operating temperatures for materials, components and systems**					**N/A**
B.2	Normal operating conditions					—
	Manufacturer's specified ambient temperature range of the equipment (T_{ma}) (°C) .....:	N/A				—
	Supply voltage (V) .....:	N/A	N/A	N/A	N/A	—
	Ambient T_{min} (°C) .....:	N/A	N/A	N/A	N/A	—
	Ambient T_{max} (°C) .....:	N/A	N/A	N/A	N/A	—
	T_{ma} (°C) .....:	N/A	N/A	N/A	N/A	—
Maximum measured temperature T of part/at:		T (°C) at T_{ma}				Allowed T_{max} (°C)
N/A		N/A	N/A	N/A	N/A	N/A
Supplementary information: N/A						

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
Note 1: T_{ma} should be considered as directed by appliable requirement

5.4.1.4 and 5.4.1.10.2	**TABLE: Maximum operating temperatures for materials, components and systems, Vicat test**		**N/A**
	The measured temperature during normal operating conditions of Clause B.2	At least 15 K less than the Vicat softening temperature	N/A
	The measured temperature during abnormal operating conditions of Clause B.3	Less than the Vicat softening temperature	N/A
Penetration (mm) .....:		1	—

Object / Part No.	Component	Material			Thick. (mm)	T softening (°C)
	Manufacturer / trademark and Type	Manufacturer	UL File No.	Cat. No.		
N/A	N/A	N/A	N/A	N/A	N/A	N/A

B.2	**TABLE: Normal operating conditions**					**N/A**
	Manufacturer's specified ambient temperature range of the equipment (T_{ma}) (°C) .....:	N/A				—
	Supply voltage (V) .....:	N/A	N/A	N/A	N/A	—
	Ambient T_{min} (°C) .....:	N/A	N/A	N/A	N/A	—
	Ambient T_{max} (°C) .....:	N/A	N/A	N/A	N/A	—
	T_{ma} (°C) .....:	N/A	N/A	N/A	N/A	—
Maximum measured temperature T of part/at:		T (°C) at T_{ma}				Allowed T_{max} (°C)
N/A		N/A	N/A	N/A	N/A	N/A
B.3	**TABLE: Simulated abnormal operating conditions**					**N/A**

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

	Manufacturer's specified ambient temperature range of the equipment (T_{ma}) (°C) .....:	N/A	—
	Ambient temperature T_{amb} (°C) .....:	N/A	—
	Power source for EUT: Manufacturer, model/type, outputrating.....:	N/A	—

Component No.	Condition	Supply voltage (V_{rms})	Test time	Fuse No.	Fuse current (A)	Temp. at T_{ma} (°C)	Allowed T_{max} (°C)	Observation
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:

ISO 306 test B50 Vicat softening temperature

Test method: B50

Test force: 50 N ± 1 N Test duration: 5 min

Bath heating rate: 50 ºC/h ± 5 ºC/h Penetration depth: 1 mm ± 0.01 mm

Manufacturer's specified Vicat temperature: ºC

5.4.1.4 and 5.4.1.10.3	**TABLE: Maximum operating temperatures for materials, components and systems, Ball pressure test**	**N/A**
Allowed impression diameter (mm) .....:	≤ 2 mm	—

Object / Part No.	Component	Material			Test temperature (°C)	Impression diameter (mm)
	Manufacturer / trademark and Type	Manufacturer	UL File No.	Cat. No.		
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information: N/A

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

5.4.1.8	TABLE: Determination of working voltage				—
Location		RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
C990		—	12.0	DC	—

Supplementary information:

☐ Unearthed accessible conductive parts earthed.

☐ The winding or other part are assumed to be earthed at a point by which the highest working voltage is obtained if a transformer winding or other part is not connected to a circuit that establishes its potential relative to earth.

☐ For insulation between two transformer windings, the highest voltage between any two points in the two windings is the working voltage, taking into account the voltages to which the input windings will be connected.

☐ For insulation between a transformer winding and another part, the highest voltage between any point on the winding and the other part is the working voltage.

☐ Where double insulation is used, the working voltage across the basic insulation is determined by imagining a short circuit across the supplementary insulation, and vice versa. For double insulation between transformer windings, the short circuit is assumed to take place at the point by which the highest working voltage is produced in the other insulation.

☐ When the working voltage is determined by measurement, the input power supplied to the equipment shall be the rated voltage or the voltage within the rated voltage range that results in the highest measured value.

☐ The working voltage between any point in the circuit supplied by the mains and any part connected to earth and any point in the circuit supplied by the mains and any point in a circuit isolated from the mains, shall be assumed to be the greater of the following:

- the rated voltage or the upper voltage of the rated voltage range; and
- the measured voltage

☐ When determining the working voltage for an ES1 or ES2 external circuit, the normal operating voltages shall be taken into account. If the operating voltages are not known, the working voltage shall be taken as the upper limits of ES1 or ES2 as applicable. Short duration signals (such as telephone ringing) shall not be taken into account for determining working voltage.

☐ For circuits generating starting pulses (for example, discharge lamps, see Clause G.9), the peak working voltage is the peak value of the pulses with the lamp connected but before the lamp ignites. The working voltage to determine minimum creepage distances is the voltage measured after the ignition of the lamp.

☐ Temporary overvoltages and recurring peak voltages are considered.

5.4.1.10 and 5.4.1.10.2	TABLE: Thermoplastic parts on which conductive metallic parts are directly mounted (Vicat test)		N/A
	The measured temperature during normal operating conditions of Clause B.2	At least 15 K less than the Vicat softening temperature	N/A
	The measured temperature during abnormal operating conditions of Clause B.3	Less than the Vicat softening temperature	N/A
	The Vicat softening temperature of a non-metallic part supporting parts in a circuit supplied from the mains	Not less than 125 °C.	N/A
Method.....:		ISO 306 / B50	—

Object / Part No.	Component	Material			Thick. (mm)	T softening (°C)
	Manufacturer / trademark and Type	Manufacturer	UL File No.	Cat. No.		
N/A	N/A	N/A	N/A	N/A	N/A	N/A

B.2	TABLE: Normal operating conditions	N/A

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

	Manufacturer's specified ambient temperature range of the equipment (T_{ma}) (°C)..... :	N/A				—
Supply voltage (V_{rms})..... :		N/A	N/A	N/A	N/A	—
Ambient temperature during test T_{amb} (°C)..... :		N/A	N/A	N/A	N/A	—
Maximum measured temperature T of part/at:		T (°C) at T_{ma}				Allowed T_{max} (°C)
N/A		N/A	N/A	N/A	N/A	N/A
B.3	**TABLE: Simulated abnormal operating conditions**					**N/A**
	Manufacturer's specified ambient temperature range of the equipment (T_{ma}) (°C) ..... :	N/A				—
	Ambient temperature T_{amb} (°C) .....:	N/A				—
	Power source for EUT: Manufacturer, model/type, output rating :	N/A				—

Component No.	Condition	Supply voltage (V_{rms})	Test time	Fuse No.	Fuse current (A)	Temp. at T_{ma} (°C)	Allowed T_{max} (°C)	Observation
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
ISO 306 test B50 Vicat softening temperature
Test method: B50
Test force: 50 N ± 1 N Test duration: 5 min
Bath heating rate: 50 °C/h ± 5 °C/h Penetration depth: 1 mm ± 0.01 mm
Manufacturer's specified Vicat temperature: °C

5.4.1.10 and 5.4.1.10.3	**TABLE: Thermoplastic parts on which conductive metallic parts are directly mounted (Ball pressure test)**					**N/A**
Allowed impression diameter (mm) .....:		≤ 2 mm				—
Object / Part No.	Component: Manufacturer / trademark and Type	Material: Manufacturer	Material: Cat. No.	Thick. (mm)	Test temp. (°C)	Impression diam. (mm)
N/A	N/A	N/A	N/A	N/A	N/A	N/A
Supplementary information: N/A						

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

5.4.2.2 and 5.4.3	TABLE: Clearances (Procedure 1 for determining clearance) / Creepage distance						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	U_{peak} (V)	$U_{r.m.s.}$ (V)	Frequency (kHz)[1]	Required cl (mm)	cl (mm)[2]	Required[3] cr (mm)	cr (mm)
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:

Note 1: Only for frequency above 30 kHz

Note 2: See table 5.4.2.4 if this is based on electric strength test

Note 3: Provide Material Group

- Movable parts are placed in their most unfavourable positions.
- Clearances from an enclosure of insulating material through a slot or opening are measured according to Figure O.13, point X
- After the tests of Annex T (Clause 4.4.4), the dimensions for clearances are measured.
- For the glass impact test of Clause T.9, damage to the finish, small dents that do not reduce clearances below the specified values, surface cracks and the like are ignored. If a through crack appears, clearances shall not be reduced. For cracks not visible to the naked eye, an electric strength test shall be conducted.

5.4.2.3	TABLE: Clearances (Procedure 2 for determining clearance)		N/A
	Overvoltage Category (OV) ..... :	II	—
	Pollution Degree ..... :	2	—

Clearance distanced between:	Required withstand voltage (V_{peak} or V_{dc})	Required cl (mm)	Measured cl (mm)
N/A	N/A	N/A	N/A

Supplementary information: N/A

5.4.2.4	TABLE: Clearances (Alternate to Procedure 2. Determining the adequacy of a clearance using an electric strength test)		N/A
Test voltage applied between:	Required cl (mm)	Test voltage (kV) peak / r.m.s. / d.c.	Breakdown Yes / No
N/A	N/A	N/A	N/A

Supplementary information: N/A

5.4.4.2	TABLE: Minimum distance through insulation				N/A
Distance through insulation dti at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information: N/A

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

5.4.4.6.2	TABLE: Spearble thin sheet material						N/A
Insulation used at	Material			Insulation	Test Voltage (kV_{peak})	No. of Layers	Thick. per layer (mm)
	Manufacturer	UL File No.	Cat. No.				
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
The insulation is subjected to the highest test voltage as follows:
– by applying an AC voltage of substantially sine-wave form having a frequency of 50 Hz or 60 Hz; or
– by applying a DC voltage for the time specified below.
The voltage applied to the insulation under test is gradually raised from zero to the prescribed voltage and maintained at that value for 60 s

5.4.4.9	TABLE: Solid insulation requirements at frequencies >30 kHz							N/A
Insulation material	Electric field strength E_P (kV/mm)	Frequency (kHz)	Reduction factor, K_R	Thickness d (mm)	Insulation	Measured high frequency peak of the working voltage V_{PW} (kV_{peak})	Value of the breakdown electric field strength at the applicable frequency E_F	Actual electric strength V_w
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
Alternative to this requirement was applied.

5.4.9	TABLE: Electric strength tests		N/A
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:			
N/A	N/A	N/A	N/A
Basic/Supplementary:			
N/A	N/A	N/A	N/A
Reinforced:			
N/A	N/A	N/A	N/A
Routine Tests:			
N/A	N/A	N/A	N/A

Supplementary information:
Unless otherwise specified, compliance is checked either:
– immediately following the temperature test in 5.4.1.4; or
– if a component or subassembly is tested separately outside the equipment, it is brought to the temperature attained by that part during the temperature test in 5.4.1.4 (for example, by placing it in an oven) prior to performing the electric strength test.
Alternatively, thin sheet material for supplementary insulation or reinforced insulation may be tested at room temperature.

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

5.5.2.2	TABLE: Capacitor discharge after disconnection of a connector							N/A
User accessible location / Connector	Measured capacitance (nF)	Supply Voltage (V_{rms}), (Hz)	Operating Condition (N, S)	Mains switch position On or off	User type	Applicable limits	Measured Voltage (after 2 seconds) (V_{peak})	ES Class
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information:
X-capacitors installed for testing are: μF
☐ bleeding resistor rating: R , MΩ, W
☐ ICX:
Notes:
A. User accessible 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

5.5.3	Transformers		N/A
G.5.3	Transformers	Transformers meet the requirements given in G.5.3.2 and G.5.3.3	N/A

G.5.3.3.2	TABLE: Transformer overload tests		N/A
	Ambient temperature (°C) ..... :	N/A	—
	Transformer manufacture..... :	N/A	—
	Cat. No. ..... :	N/A	—
	Maximum rated ambient temperature (T_{amb} = T_{ma}) (°C). :	N/A	—
	Power source for EUT: Manufacturer, model/type, output rating.....:	N/A	—

Cond. No.	Component	Supply voltage (V_{rms})	Pri. current (A)	M/L at	Output current under M/L (A)	Test time	Temp. (T-couple / Resistance method) (ºC)	Allowed T_{max} (°C)	Observation
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

G.5.3.3.3	TABLE: Transformer overload tests (Alternative test method)		N/A
	Ambient temperature (°C) ..... :	N/A	—
	Power source for EUT: Manufacturer, model/type, output rating.....:	N/A	—

Cond. No.	Component	Supply voltage (V_{rms})	Pri. current (A)	M/L at	Output current under M/L (A)	Test time	Observation
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

5.4.9	TABLE: Electric strength tests		N/A
	Method 1: Test voltages according to Table 25 using the required withstand voltage (based on transient voltages from the AC mains or DC mains or from external circuits)		N/A
	Method 2: Test voltages according to Table 26 using the peak of the working voltage or the recurring peak voltages, whichever is higher		N/A

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

	Method 3: Test voltages according to Table 27 using the nominal AC mains voltage (to cover temporary overvoltage)		N/A

Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
N/A	N/A	N/A	N/A
Supplementary information: N/A			

5.6.6	**TABLE: Resistance of the protective bonding system**			**N/A**
Accessible part	Test current (A)	Duration (min)	Voltage drop (V_{rms})	Resistance (Ω)
N/A	N/A	N/A	N/A	N/A
Supplementary information: N/A				

5.7.4	**TABLE: Earthed accessible conductive part**	**N/A**
Supply voltage (V_{rms}) ..... :	N/A	—
Phase(s) ..... :	[ ] Single Phase; [ ] Three Phase: [ ] Delta [ ] Wye	—
Power Distribution System ..... :	☐ TN ☐ TT ☐ IT	—

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)
N/A	1	N/A
	2*	N/A
	3	N/A
	4	N/A
	5	N/A
	6	N/A
	8	N/A

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.

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

6.2.2	**TABLE: Power source circuit classifications**		**—**
6.2.2.2	Power measurement for worst-case fault		—
6.2.2.3	Power measurement for worst-case power source fault		—
	Rated load impedance (Ω)..... :	4 Ω at 4 speakers (Front speakers (L and R) and Rear speakers (L and R))	—
	USB input terminal ..... :	1.0 A (5 Ω) resistive load connected.	—
	Power control (Pin A5 of ISO connector, Blue/White) ..... :	350 mA (33.14 Ω) resistive load connected.	—

Location	Measuring condition[2)]	Voltage (V)	Current (A)	Max. Power[1)] (W)	Time (S)	PS class
Main board (J7J-0352-10)						
Connector (Plug), CN990, Pin 15 (Source side of blade fuse)	LC	(See Explanation of the test program in General product information and other remarks.)				PS3
Connector (Plug), CN990, Pin 13 (ACC)	LC	(See Explanation of the test program in General product information and other remarks.)				PS3
Connector (Plug), CN990, Pin 18 (BUP) (Load side of blade fuse)	LC (Across C990)	12.9	1.2	15.5 (> 15 W)	3	> PS1
		10.5	9.6	101 (> 100 W)	5	> PS2 (PS3)
Load side of R978 (KOA Corporation, Type RK73B2BTTD473J, 47 kΩ, 1/10 W)	LC (Across C909)	4.48	0.004	< 1 (≤ 15 W)	3	PS1
	PSC (S/C of R978)	12.95	0.003	0.004 (≤ 15 W)	3	PS1
IC301 (ST Microelectronics, Type JCV8034), Pin 7 (VCC1) (represents IC301, Pin 21 (VCC2))	LC (Between IC301, Pin 7 and Pin 9)	12.9	1.2	15.5 (> 15 W)	3	> PS1
		10.5	9.6	101 (> 100 W)	5	> PS2 (PS3)
IC301 (ST Microelectronics, Type JCV8034), Pin 4 (OUT2 (-)), Pin 6 (OUT2 (+)) (represents other audio outputs)	LC (Between IC301, Pin 4 and Pin 6)	1.4	2.7	3.78 (≤ 15 W)	3	PS1
	PSC (S/C of IC301, Pin 7 – Pin 6)	13.1	0.003	0.039 (≤ 15 W) Audio output shut-down immediately	3	PS1
IC861 (Monolithic Power Systems, Type MP9942AGJ), Pin 2 (IN)	LC (Between IC861, Pin 2 and Pin 4)	12.9	1.2	15.5 (> 15 W)	3	> PS1
		10.5	9.6	101 (> 100 W)	5	> PS2 (PS3)
IC861 (Monolithic Power Systems, Type MP9942AGJ), Pin 3 (SW)	LC (Across C868)	5.13	2.16	10.95 (≤ 15 W)	3	PS1
	PSC (S/C of IC861, Pin 2 – Pin 3)	9.38	2.92	27.4 (> 15 W) IC891 damaged immediately.	3	> PS1
		9.38	2.92	27.4 (≤ 100 W)	5	PS2

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

IC891 (ROHM Co., Ltd., Type BD2242G-G), Pin 1 (IN)	LC (Between IC891, Pin 1 and Pin 2)	5.13	2.16	10.95 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 13 – Pin 8)	9.38	2.92	27.4 (> 15 W) IC891 damaged immediately.	3	> PS1
		9.38	2.92	27.4 (≤ 100 W)	5	PS2
IC891 (ROHM Co., Ltd., Type BD2242G-G), Pin 6 (OUT)	LC (Across C891)	4.95	1.21	5.98 (≤ 15 W)	3	PS1
	PSC (S/C of IC891, Pin 1 – Pin 6)	5.08	1.04	5.28 (≤ 15 W)	3	PS1
IC891 (ROHM Co., Ltd., Type BD2242G-G), Pin 4 (OC)	LC (Across C893)	0.5	0.002	0.001 (≤ 15 W)	3	PS1
	PSC (S/C of IC891, Pin 1 – Pin 4)	5.18	0.001	0.005 (≤ 15 W)	3	PS1
IC891 (ROHM Co., Ltd., Type BD2242G-G), Pin 3 (EN)	LC (Across C893)	0.5	0.002	0.001 (≤ 15 W)	3	PS1
	PSC (S/C of IC891, Pin 1 – Pin 3)	5.18	0.001	0.005 (≤ 15 W)	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 8 (VCC1) (represents Pin 7 (VCC2))	LC (Between IC901, Pin 8 and Pin 9)	12.9	1.2	15.5 (> 15 W)	3	> PS1
		10.5	9.6	101 (> 100 W)	5	> PS2 (PS3)
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 1 (EXT) → REMOTE/P.COM (Blue/White wire)	LC (Across C390)	11.4	0.8	9.1 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 1 – Pin 8)	12.0	0.363	4.36 (≤ 15 W)	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 2 (ANT)	LC (Between IC901, Pin 2 and Pin 9)	< 1	< 1	< 1 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 2 – Pin 8)	12.96	0.0	0.0 (≤ 15 W)	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 3 (ILM) → ILLUMINATION	LC (Across C920)	10.26	0.57	5.82 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 3 – Pin 8)	12.77	0.107	1.37 (≤ 15 W)	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 4 (AUDIO) → VCC	LC (Across C908)	8.44	0.6	5.05 (≤ 15 W)	3	PS1
	PSC (SC of IC901, Pin 4 – Pin 8)	12.84	0.03	0.39 (≤ 15 W)	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 5 (DAC)	LC (Across C904)	4.78	2.0	9.56 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 5 – Pin 8)	12.93	0.004	0.05 (≤ 15 W)	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 6 (ACCIN)	LC (Across C909)	5.4	0.006	< 1 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 6 – Pin 8)	12.95	0.003	0.004	3	PS1

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

IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 10 (SCL)	LC (Between IC901, Pin 10 and Pin 9)	1.6	0.016	< 1 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 10 – Pin 8)	12.79	0.1	1.28 (≤ 15 W)	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 11 (VDD)	LC (Between IC901, Pin 11 and Pin 9)	3.2	0.612	1.95 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 11 – Pin 8)	12.74	0.84	10.7 (≤ 15 W) Q270 (Type KRA303E-P) damaged immediately	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 12 (SDA)	LC (Between IC901, Pin 12 and Pin 9)	1.8	0.01	< 1 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 12 – Pin 8)	12.8	0.08	1.02 (≤ 15 W) IC701 damaged immediately.	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 13 (V6IN)	LC (Across C912)	5.13	2.16	10.95 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 13 – Pin 8)	9.38	2.92	27.4 (> 15 W) IC891 damaged immediately.	3	> PS1
		9.38	2.92	27.4 (≤ 100 W)	5	PS2
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 14 (FLG)	LC (Between IC901, Pin 14 and Pin 9)	2.2	0.014	0.03 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 14 – Pin 8)	12.9	0.12	1.60 (≤ 15 W) IC701 damaged immediately.	3	PS1
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV), Pin 15 (SW33V)	LC (Between IC901, Pin 15 and Pin 9)	3.22	1.02	3.28 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 15 – Pin 8)	12.6	1.4	17.6 (> 15 W) IC601 damaged immediately.	3	> PS1
		12.6	1.4	17.6 (≤ 100 W)	5	PS2
IC841 (ABLIC Inc., Type S24C02DIK8002), Pin 8 (VCC)	LC (Between IC901, Pin 15 and Pin 9)	3.22	1.02	3.28 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 15 – Pin 8)	12.6	1.4	17.6 (> 15 W) IC601 damaged immediately.	3	> PS1
		12.6	1.4	17.6 (≤ 100 W)	5	PS2
IC841 (ABLIC Inc., Type S24C02DIK8002), Pin 5 (SDA)	LC (Between IC841, Pin 5 and Pin 4)	3.0	< 5	< 15 (≤ 15 W)	3	PS1
	PSC (S/C of IC841, Pin 8 – Pin 5)	3.3	< 4.5	< 15 (≤ 15 W)	3	PS1

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

IC841 (ABLIC Inc., Type S24C02DIK8002), Pin 6 (SCL)	LC (Between IC841, Pin 6 and Pin 4)	3.0	< 5	< 15 (≤ 15 W)	3	PS1
	PSC (S/C of IC841, Pin 8 – Pin 6)	3.3	< 4.5	< 15 (≤ 15 W)	3	PS1
IC601 (NXP Semiconductors, Type TEF6657HNV101), Pin 1 (VDDA_IFADC) (represents Pin 7 (VDDA_RF) , Pin 22 (VDDD) and Pin 32 (XTAL_IN))	LC (Between IC901, Pin 15 and Pin 9)	3.22	1.02	3.28 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 15 – Pin 8)	12.6	1.4	17.6 (> 15 W) IC601 damaged immediately.	3	> PS1
		12.6	1.4	17.6 (≤ 100 W)	5	PS2
IC601 (NXP Semiconductors, Type TEF6657HNV101), Pin 24 (SDA)	LC (Between IC601, Pin 24 and Pin 23)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
	PSC (S/C of IC601, Pin 1 – Pin 24)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
IC601 (NXP Semiconductors, Type TEF6657HNV101), Pin 25 (SCL)	LC (Between IC601, Pin 25 and Pin 23)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
	PSC (S/C of IC601, Pin 1 – Pin 25)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
IC601 (NXP Semiconductors, Type TEF6657HNV101), Pin 29 (DAC_R)	LC (Between IC601, Pin 29 and Pin 23)	1.5	< 10	< 15 (≤ 15 W)	3	PS1
	PSC (S/C of IC601, Pin 1 – Pin 29)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
IC601 (NXP Semiconductors, Type TEF6657HNV101), Pin 30 (DAC_L)	LC (Between IC601, Pin 30 and Pin 23)	1.5	< 10	< 15 (≤ 15 W)	3	PS1
	PSC (S/C of IC601, Pin 1 – Pin 30)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
IC411 (Infineon Technologies, Type MFI337S395901), Pin 8 (VCC)	LC (Between IC901, Pin 15 and Pin 9)	3.22	1.02	3.28 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 15 – Pin 8)	12.6	1.4	17.6 (> 15 W) IC601 damaged immediately.	3	> PS1
		12.6	1.4	17.6 (≤ 100 W)	5	PS2
IC411 (Infineon Technologies, Type MFI337S395901), Pin 2 (SDA)	LC (Between IC411, Pin 2 - Pin 1)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
	PSC (S/C of IC411, Pin 2 – Pin 8)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
IC411 (Infineon Technologies, Type MFI337S395901), Pin 6 (SCL)	LC (Between IC411, Pin 6 to Pin 1)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1
	PSC (S/C of IC411, Pin 6 – Pin 8)	3.3	< 4.54	< 15 (≤ 15 W)	3	PS1

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

Q271 (ROHM Co., Ltd., Type LSAR523UBFS8), E	LC (Between IC901, Pin 15 and Pin 9)	3.22	1.02	3.28 (≤ 15 W)	3	PS1
	PSC (S/C of IC901, Pin 15 – Pin 8)	12.6	1.4	17.6 (> 15 W) IC601 damaged immediately.	3	> PS1
		12.6	1.4	17.6 (≤ 100 W)	5	PS2
Q271 (ROHM Co., Ltd., Type LSAR523UBFS8), B	LC (Between Q271, B to Q272, E)	1.65	0.889	1.47 (≤ 15 W)	3	PS1
	PSC (S/C of Q271, B – E)	3.3	< 4.5	< 15 (≤ 15 W)	3	PS1

Supplementary information:

Abbreviation: SC = short circuit; OC = open circuit

1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.
2) For Load Circuits = LC (Power source under normal operating conditions as specified by the manufacturer into a worst-case fault (Clause 6.2.2.2)); For Power Source Circuits = PSC (a worst-case power source fault into the specified normal load circuit (Clause 6.2.2.3))
3) Equipment containing audio amplifiers, tested under abnormal operating conditions as specified in Clause E.3.

6.2.3.1	**Table: Potential Ignition Sources (Arcing PIS)**			—
Location	Open circuit voltage After 3 s (V_{peak} or V_{dc})	Measured r.m.s current (I_{rms})	Calculated value (V_{peak} or V_{dc} x I_{rms})	Arcing PIS? Yes / No
Main board (J7J-0352-10)				
CN990, BUP (Pin 15) to GND (Pin 16)	13.2 (≤ 50)	—	—	No
CN990, FRONT LEFT(+) (Pin 1) to FRONT LEFT(-) (Pin 3)	2.72 (≤ 50)	—	—	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 (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.

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

6.2.3.2	Table: Potential Ignition Sources (Resistive PIS)					—
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured dissipating power (wattage or VA) After 30 s (W / VA)	Measured power if electronic circuits, regulators or PTC devices are used (wattage or VA) During first 30 s (W / VA)	Measured available power (wattage or VA) After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
Blade fuse (Jenn Feng Electric Industrial Co., Ltd., Type ATS10A)	Normal	0.0 W (0.0 V x 3.34 A)	—	—	No	No
	Single fault (S/C of C990 on Main board (J7J-0352-10))	—	—	0 W (Blade fuse opened immediately)	Blade fuse opened immediately	
Main board (J7J-0352-10)						
R978 (KOA Corporation, Type RK73B2BTTD473J, 47 kΩ, 1/10 W)	Normal	0.03 W (7.58 V x 0.004 A)	—	—	No	No
	Single fault (S/C of C909 on Main board (J7J-0352-10))	—	—	0.05 W (13.2 V x 0.004 A)	No	
IC301 (ST Microelectronics, Type JCV8034)	Normal	28.0 W (13.2 V x 2.14 A)	—	—	No	Yes
L990 (PT.Cipta Coilindo, Type CC-CH140.0μH-006)	Normal	0.20 W (0.06 V x 3.34 A)	—	—	No	No
	Single fault (S/C of C990 on Main board (J7J-0352-10))	—	0 W (Blade fuse opened immediately)	—	Blade fuse opened immediately	
IC861 (Monolithic Power Systems, Type MP9942AGJ)	Normal	3.6 W (7.55 V x 0.48 A)	—	—	No	No
	Single fault (S/C of C868 on Main board (J7J-0352-10))	—	—	5.1 W (13.0 V x 0.389 A)	No	
IC901 (Semiconductor Components Industries, LLC, Type LV5685PV)	Normal	6.0 W (13.0 V x 0.46 A)	—	—	No	No
	Single fault (S/C of C920 on Main board (J7J-0352-10))	—	—	6.8 W (13.0 V x 0.52 A)	No	

Supplementary Information:

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (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.

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

6.3	**Safeguards against fire under normal operating conditions and abnormal operating conditions**		**Pass**
	Basic safeguards are required	Ignition did not occur	Pass
		When the spontaneous ignition temperature of the material is not known, the temperature shall be limited to 300 °C	Pass

B.2	**TABLE: Normal operating conditions**					**Pass**
	Manufacturer's specified ambient temperature range of the equipment (T_{ma}) (°C) .....:	35				—
	Supply voltage (V_{rms}) .....:	13.2 V_{dc}	12.0 V_{dc}	10.8 V_{dc}	N/A	—
	Ambient temperature during test T_{amb} (°C) .....:	25.5	25.3	25.4	N/A	—
Maximum measured temperature *T* of part/at:		*T* (°C) at T_{ma}				Allowed T_{max} (°C)
Component(s) on Main board (J7J-0352-10) (Limit based on the spontaneous ignition temperature of the material is not known)						
Case of L990 (PT.Cipta Coilindo, Type CC-CH140.0μH-006)		99	101	102	N/A	300
IC301 (ST Microelectronics, Type JCV8034)		131	132	132	N/A	300

B.3	**TABLE: Simulated abnormal operating conditions**		**Pass**
	Power source for EUT: Manufacturer, model/type, outputrating..... :	KIKUSUI, PWR1600L, 0 -80 V, 100 A, 1600 W	—

Component No.	Condition	Supply voltage (V_{rms})	Test time	Fuse No.	Fuse current (A)	Temp. at T_{ma} (°C)	Allowed T_{max} (°C)	Observation
IC301 (ST Microelectronics, Type JCV8034)	Audio amplifier abnormal operating conditions (Clause B.3.7), 2/8 output	10.8 V_{dc}	4 hours	Blade fuse	3.84 → 2.72	133	300	No Ignition and ≤ 300 °C. Audio output changed from 3.05 V to 1.79 V.
		13.2 V_{dc}	4 hours	Blade fuse	4.34 → 2.16	132	300	No Ignition and ≤ 300 °C. Audio output changed from 3.71 V to 1.24 V.
IC301 (ST Microelectronics, Type JCV8034)	Audio amplifier abnormal operating conditions (Clause B.3.7), 8/8 output	10.8 V_{dc}	4 hours	Blade fuse	6.56 → 2.69	132	300	No Ignition and ≤ 300 °C. Audio output changed from 6.11 V to 1.66 V.
		13.2 V_{dc}	4 hours	Blade fuse	7.58 → 2.13	131	300	No Ignition and ≤ 300 °C. Audio output changed from 7.42 V to 1.16 V.
Supplementary information: N/A								

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

6.4	**TABLE: Safeguards against fire under single fault conditions**		**Pass**
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 circuits and PS3 circuits		Pass
6.4.3.3	Test method	The conditions of Clause B.4, that are possible causes for ignition, are applied in turn.	Pass
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.6	Control of fire spread in a PS3 circuit		N/A

B.4	**TABLE: Simulated single fault conditions**		**Pass**
	Power source for EUT: Manufacturer, model/type, outputrating.....:	KIKUSUI, PWR1600L, 0-80 V, 100 A, 1600 W	—

Component No.	Condition	Supply voltage (V_{rms})	Test time	Fuse No.	Fuse current (A)	Observation
IC301 (ST Microelectronics, Type JCV8034)	Front speaker L terminals shorted. (Short-circuit and interruption of electrodes in tubes and semiconductors, Clause B.4.5) Functional insulation (Clauses B.4.4.1 and B.4.4.2)	10.8 V_{dc}	4 hours	Blade fuse	3.06 → 2.45	NCD. During and after single fault conditions, no ignition (Clause B.4.8). No hazard.
		13.2 V_{dc}	4 hours	Blade fuse	3.34 → 2.04	NCD. During and after single fault conditions, no ignition (Clause B.4.8). No hazard.
IC301 (ST Microelectronics, Type JCV8034)	Short-circuit of IC301, Pin 7 (VCC1) and Pin 10 (OUT1+) on Main board (J7J-0352-10)) Functional insulation (Clauses B.4.4.1 and B.4.4.2) Short-circuit or disconnection of passive components (Clause B.4.6)	10.8 V_{dc}	4 hours	Blade fuse	3.06 → 1.09	NCD. During and after single fault conditions, no ignition (Clause B.4.8). No hazard.
		13.2 V_{dc}	4 hours	Blade fuse	3.34 → 1.16	NCD. During and after single fault conditions, no ignition (Clause B.4.8). No hazard.
Supplementary information: N/A						

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

8.5.5	TABLE: High Pressure Lamp		N/A
Description	Values	Energy Source Classification	
Lamp type .....:	N/A	—	
Manufacturer.....:	N/A	—	
Cat no.....:	N/A	—	
Pressure (cold) (MPa) .....:	N/A	N/A	
Pressure (operating) (MPa).....:	N/A	N/A	
Operating time (minutes).....:	N/A	—	
Explosion method .....:	N/A	—	
Max particle length escaping enclosure (mm).....:	N/A	N/A	
Max particle length beyond 1 m (mm) .....:	N/A	N/A	
Overall result .....:	N/A		
Supplementary information:			

8.10.4	TABLE: Cart, stand or carrier impact test				N/A
T.6	Enclosure impact test				N/A
Cart, stand or carrier surface tested	Material			Produce a risk of injury to persons ?	
	Manufacturer	UL File No.	Cat. No.		
N/A	N/A	N/A	N/A	N/A	
Supplementary information: N/A					

9.2.6	TABLE: Touch temperature levels					Pass
9.2.5	Test method and compliance criteria (Room ambient temperature)	25 ºC ± 5 ºC (If the test is performed at a temperature between 20 ºC and 25 ºC, the results are adjusted to reflect a value of 25 ºC.)				—
B.2	TABLE: Normal operating conditions					Pass
	Manufacturer's specified ambient temperature range of the equipment (T_{ma}) (°C) .....:	35				—
Supply voltage (V_{rms}).....:		13.2 V_{dc}	12.0 V_{dc}	10.8 V_{dc}	N/A	—
Room ambient temperature during test T_{amb} (°C).....:		25.5	25.3	25.4	N/A	—
Maximum measured temperature T of part/at:		T (°C) at 25 ºC				Allowed T_{max} (°C)
Faceplate, Top (Limit based on Handle, knobs, grips etc., and surfaces touched occasionally for very short periods (>1 s and < 10 s), Plastic and rubber, TS1, Table 38)		65	64	66	N/A	77
Faceplate, display (Limit based on Handle, knobs, grips etc., and surfaces touched occasionally for very short periods (>1 s and < 10 s), Plastic and rubber, TS1, Table 38)		44	44	44	N/A	77
Faceplate, ⏻ SRC button (Limit based on Handle, knobs, grips etc., and surfaces touched occasionally for very short periods (>1 s and < 10 s), Plastic and rubbe, TS1, Table 38)		44	42	43	N/A	77

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

B.3	TABLE: Simulated abnormal operating conditions		Pass
	Manufacturer's specified ambient temperature range of the equipment (T_{ma}) (°C) .....:	35	—
	Ambient temperature T_{amb} (°C) .....:	25	—
	Power source for EUT: Manufacturer, model/type, outputrating.....:	KIKUSUI, PWR1600L, 0 -80 V, 100 A, 1600 W	—

Maximum measured temperature *T* of part/at:	Condition	Supply voltage (V_{rms})	Input current (A)	Test time	*T* (°C) at 25 ºC	Allowed T_{max} (°C)	Observation
Faceplate, Top	USB input terminal, (Maximum load at output terminals, Clause B.3.5, 1.23 A)	10.8 V_{dc}	3.21 → 2.87	4 hours	66	87	NCD. Audio output changed from 2.16 V to 1.80 V. No hazard.
		13.2 V_{dc}	3.45 → 2.26	4 hours	68		NCD. Audio output changed from 2.62 V to 1.28 V. No hazard.
Faceplate, display	USB input terminal, (Maximum load at output terminals, Clause B.3.5, 1.23 A)	10.8 V_{dc}	3.21 → 2.87	4 hours	44	87	NCD. Audio output changed from 2.16 V to 1.80 V. No hazard.
		13.2 V_{dc}	3.45 → 2.26	4 hours	44		NCD. Audio output changed from 2.62 V to 1.28 V. No hazard.
Faceplate, ⏻ SRC button	USB input terminal, (Maximum load at output terminals, Clause B.3.5, 1.23 A)	10.8 V_{dc}	3.21 → 2.87	4 hours	43	87	NCD. Audio output changed from 2.16 V to 1.80 V. No hazard.
		13.2 V_{dc}	3.45 → 2.26	4 hours	43		NCD. Audio output changed from 2.62 V to 1.28 V. No hazard.
Faceplate, Top	Power control wire / Antenna control wire (P.CONT / ANT.CONT, Blue/White), (Maximum load at output terminals, Clause B.3.5, 760 mA)	10.8 V_{dc}	3.47 → 3.11	4 hours	65	87	NCD. Audio output changed from 2.16 V to 1.75 V. No hazard.
		13.2 V_{dc}	3.75 → 2.55	4 hours	64		NCD. Audio output changed from 2.62 V to 1.24 V. No hazard.
Faceplate, display	Power control wire / Antenna control wire (P.CONT / ANT.CONT, Blue/White), (Maximum load at output terminals, Clause B.3.5, 760 mA)	10.8 V_{dc}	3.47 → 3.11	4 hours	44	87	NCD. Audio output changed from 2.16 V to 1.75 V. No hazard.
		13.2 V_{dc}	3.75 → 2.55	4 hours	45		NCD. Audio output changed from 2.62 V to 1.24 V. No hazard.
Faceplate, ⏻ SRC button	Power control wire / Antenna control wire (P.CONT / ANT.CONT, Blue/White), (Maximum load at output terminals, Clause B.3.5, 760 mA)	10.8 V_{dc}	3.47 → 3.11	4 hours	42	87	NCD. Audio output changed from 2.16 V to 1.75 V. No hazard.
		13.2 V_{dc}	3.75 → 2.55	4 hours	43		NCD. Audio output changed from 2.62 V to 1.24 V. No hazard.
Faceplate, Top	Audio amplifier abnormal operating	10.8 V_{dc}	3.84 → 2.72	4 hours	62	87	NCD. Audio output changed from 3.05 V to 1.79 V. No hazard.

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

	conditions (Clause B.3.7), 2/8 output	13.2 V_{dc}	4.31 → 2.16	4 hours	66		NCD. Audio output changed from 3.71 V to 1.24 V. No hazard.
Faceplate, display	Audio amplifier abnormal operating conditions (Clause B.3.7), 2/8 output	10.8 V_{dc}	3.84 → 2.72	4 hours	44	87	NCD. Audio output changed from 3.05 V to 1.79 V. No hazard.
		13.2 V_{dc}	4.31 → 2.16	4 hours	44		NCD. Audio output changed from 3.71 V to 1.24 V. No hazard.
Faceplate, ⏻ SRC button	Audio amplifier abnormal operating conditions (Clause B.3.7), 2/8 output	10.8 V_{dc}	3.84 → 2.72	4 hours	44	87	NCD. Audio output changed from 3.05 V to 1.79 V. No hazard.
		13.2 V_{dc}	4.31 → 2.16	4 hours	43		NCD. Audio output changed from 3.71 V to 1.24 V. No hazard.
Faceplate, Top	Audio amplifier abnormal operating conditions (Clause B.3.7), 8/8 output	10.8 V_{dc}	6.56 → 2.69	4 hours	64	87	NCD. Audio output changed from 6.11 V to 1.66 V. No hazard.
		13.2 V_{dc}	7.58 → 2.13	4 hours	63		NCD. Audio output changed from 7.42 V to 1.16 V. No hazard.
Faceplate, display	Audio amplifier abnormal operating conditions (Clause B.3.7), 8/8 output	10.8 V_{dc}	6.56 → 2.69	4 hours	44	87	NCD. Audio output changed from 6.11 V to 1.66 V. No hazard.
		13.2 V_{dc}	7.58 → 2.13	4 hours	44		NCD. Audio output changed from 7.42 V to 1.16 V. No hazard.
Faceplate, ⏻ SRC button	Audio amplifier abnormal operating conditions (Clause B.3.7), 8/8 output	10.8 V_{dc}	6.56 → 2.69	4 hours	42	87	NCD. Audio output changed from 6.11 V to 1.66 V. No hazard.
		13.2 V_{dc}	7.58 → 2.13	4 hours	42		NCD. Audio output changed from 7.42 V to 1.16 V. No hazard.

B.4	TABLE: Simulated single fault conditions		Pass
	Power source for EUT: Manufacturer, model/type, outputrating..... :	KIKUSUI, PWR1600L, 0 -80 V, 100 A, 1600 W	—

Maximum measured temperature *T* of part/at:	Condition	Supply voltage (V_{rms})	Input current (A)	Test time	*T* (°C) at 25 ºC	Allowed T_{max} (°C)	Observation
Faceplate, Top (Limit based on Handle, knobs, grips etc., and surfaces touched occasionally for very short periods (>1 s and < 10 s), Plastic and rubber, TS2, Table 38)	S/C of C4 on Panel PWB (J7J-0654-T0) Functional insulation (Clause B.4.4) and Short-circuit of passive components (Clause B.4.6)	10.8 V_{dc}	3.06 → 2.74	4 hours	66	87	Not exceed touch temperature limits. NCD. No hazard.
		13.2 V_{dc}	3.34 → 2.16	4 hours	65	87	Not exceed touch temperature limits. NCD. No hazard.
Supplementary information: N/A							

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

B.2.5	TABLE: Input test								Pass
	Rated load impedance (Ω) .....:					4 Ω at 4 speakers (Front speakers (L and R) and Rear speakers (L and R))			—
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	U_{out} (V)	P_{out} (W)	Condition/status	
13.2	DC	3.34 → 2.16	6	44.1 → 28.5	N/A	2.62 → 1.28	1.72 → 0.41	1/8 audio output. Resistive loads were connected to front USB input terminal (1.0 A) and Power control (Pin A5 of ISO connector, Blue/White) (350 mA). Audio output was decreased due to an internal function of audio IC.	
12.0	DC	3.21 → 2.39	6	38.5 → 28.7	N/A	2.40 → 1.49	1.44 → 0.56		
10.8	DC	3.06 → 2.74	6	33.0 → 29.6	N/A	2.16 → 1.80	1.17 → 0.81		
13.2	DC	2.15	6	28.4	N/A	1.26	0.40	Reduced audio output (for continuous operation). Resistive loads were connected to USB input terminal (1.0 A) and Power control (Pin A5 of ISO connector, Blue/White) (350 mA).	
12.0	DC	2.39	6	28.7	N/A	1.45	0.53		
10.8	DC	2.72	6	29.4	N/A	1.77	0.78		
Supplementary information: Equipment may be have rated current or rated power or both. Both should be measured									

B.2.7	TABLE: Battery charging and discharging under normal operating conditions						N/A
	EUT .....:			N/A			—
	Battery manufacturer .....:			N/A			—
	Battery model designation.....:			N/A			—
	Battery type.....:			N/A			—
	Specified battery temperature (°C).....:			N/A			—
	Non-rechargeable batteries		Rechargeable batteries				
	Discharging current (mA)		Discharging current (mA)		Charging current (mA)		
	Measured	Manufactur's specification.	Measured	Manufactur's specification.	Measured	Manufactur's specification.	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Supplementary information: N/A							

M.3	TABLE: Protection circuits for batteries provided within the equipment							N/A
	Is it possible to install the battery in a reverse polarity position? ..... :					N/A		—
	Battery manufacturer .....:		N/A					—
	Battery model designation .....:		N/A					—
	Battery type .....:		N/A					—
	Rated charging current (A) .....:		N/A					—
	Rated discharging current (A).....:		N/A					—
	Specified battery temperature (°C)..:		N/A					—
Component No.	Fault condition	Charge / Discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
M.3.3	Compliance criteria			Remarks:				Verdict

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

- Chemical leakage caused by cracking, rupturing or bursting of the battery jacket, if such leakage could adversely affect a safeguard	N/A	N/A
- Spillage of liquid from any pressure relief device in the battery, unless such spillage is contained by the equipment without risk of damage to a safeguard or harm to an ordinary person or an instructed person	N/A	N/A
– Explosion of the battery, if such explosion could result in injury to an ordinary person or an instructed person	N/A	N/A
– Emission of flame or Expulsion of molten metal to the outside of the equipment enclosure.	N/A	N/A
Throughout the tests, the battery temperature shall not exceed the allowable temperature of the battery as specified by the battery manufacturer	N/A	N/A
Throughout the tests, the maximum current drawn from the battery shall be within the range of the specification of the battery.	N/A	N/A

M.4.2	**TABLE: Additional safeguards for equipment containing a portable secondary lithium battery (Charging safeguards)**					**N/A**
Maximum specified charging voltage (V) ..... :			N/A			—
Maximum specified charging current (A) ..... :			N/A			—
Highest specified charging temperature (°C) ..... :			N/A			—
Lowest specified charging temperature (°C) ..... :			N/A			—
Component No.	Condition	Measurement			Observation	
		Charging voltage (V)	Charging current (A)	Temp. (°C)		
N/A	N/A	N/A	N/A	N/A	N/A	

M.4.2.2	Compliance criteria	Remarks:	Verdict
- Any explosion (other than venting) of the battery		N/A	N/A
- Any emission of flame or expulsion of molten metal		N/A	N/A
- Charging voltage exceed max specified charging voltage		N/A	N/A
- Measured temperature of the battery exceeds highest specified battery charging temperature, battery charging stopped		N/A	N/A
- Measured battery temperature is lower than the lowest specified battery charging temperature		N/A	N/A

Supplementary information: N/A

Abbreviation: SC = short circuit; OC = open circuit; MSCV = maximum specified charging voltage; MSCC = maximum specified charging current; HSCT = highest specified charging temperature; LSCT = lowest specified charging temperature

Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**						**N/A**
Note: Measured UOC (V) with all load circuits disconnected:							
Output Circuit	Components	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary Information:

SC = Short circuit, OC = Open circuit

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

Remarks

1) The following Instructional safeguard(s) are given in the INSTRUCTION MANUAL.

Clauses 4.1.4 and 4.1.6 -

⚠ Caution

- For safety's sake, leave wiring and mounting to professionals. Consult the car audio dealer.
- Install this unit in the console of your vehicle. Do not touch the metal parts of this unit during and shortly after use of the unit. Metal parts such as the heat sink and enclosure become hot.
- Do not connect the ⊖ wires of speakers to the car chassis or Ground wire (black), or connect them in parallel.
- Connect speakers with a maximum power of more than 50 W. If the maximum power of the speakers is lower than 50 W, change the **[AMP GAIN]** setting to avoid damaging the speakers. (Page 12)
- Mount the unit at an angle of less than 30°.
- If your vehicle wiring harness does not have the ignition terminal, connect Ignition wire (red) to the terminal on the vehicle's fuse box which provides 12 V DC power supply and is turned on and off by the ignition key.
- Keep all cables away from heat dissipate metal parts.
- After the unit is installed, check whether the brake lamps, blinkers, wipers, etc. on the car are working properly.
- If the fuse blows, first make sure the wires are not touching car's chassis, then replace the old fuse with one that has the same rating.

Clause F.4 -

BEFORE USE

IMPORTANT

- To ensure proper use, please read through this manual before using this product. It is especially important that you read and observe Warnings and Cautions in this manual.
- Please keep the manual in a safe and accessible place for future reference.

⚠ WARNING

- Do not operate any function that takes your attention away from safe driving.

⚠ Caution

Volume setting:

- Adjust the volume so that you can hear sounds outside the car to prevent accidents.
- Lower the volume before playing digital sources to avoid damaging the speakers by the sudden increase of the output level.

General:

- Avoid using the external device if it might hinder safe driving.
- Make sure all important data has been backed up. We shall bear no responsibility for any loss of recorded data.
- Never put or leave any metallic objects (such as coins or metal tools) inside the unit to prevent a short circuit.

How to read this manual

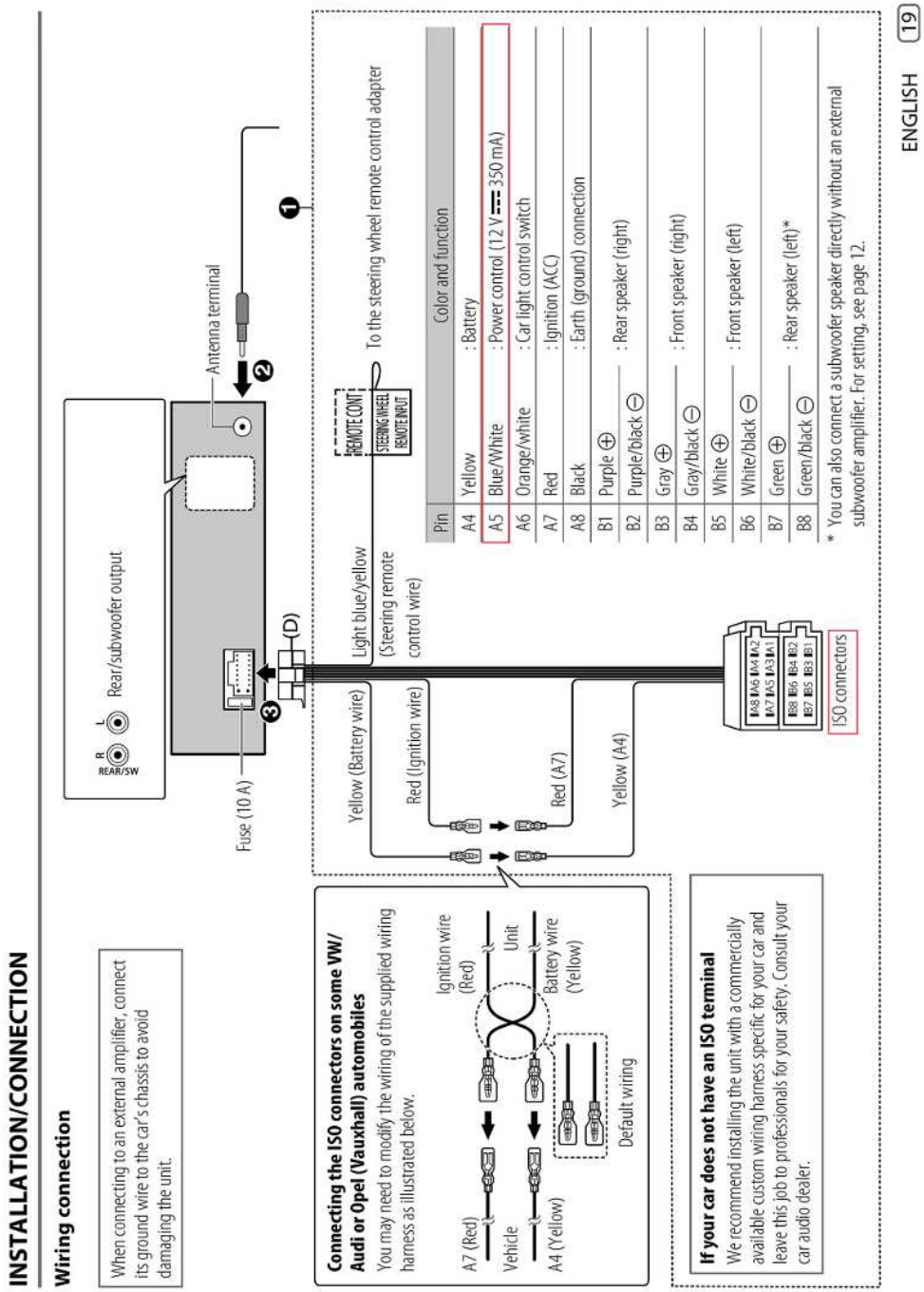
- Operations are explained mainly using buttons on the faceplate of KD-X262 and KD-X161.
- English indications are used for the purpose of explanation. You can select the display language from the menu. (Page 6)
- [XX] indicates the selected items.
- (Page XX) indicates references are available on the stated page.

CONTENTS

BEFORE USE 2
BASICS 3
GETTING STARTED 5
1 Cancel the demonstration
2 Set the clock and date
3 Set the basic settings
RADIO 6
AUX 8
USB/iPod/ANDROID 8
AUDIO SETTINGS 10
DISPLAY SETTINGS 13
REFERENCES 14
Maintenance
More information
TROUBLESHOOTING 16
INSTALLATION/ CONNECTION 17
SPECIFICATIONS 20

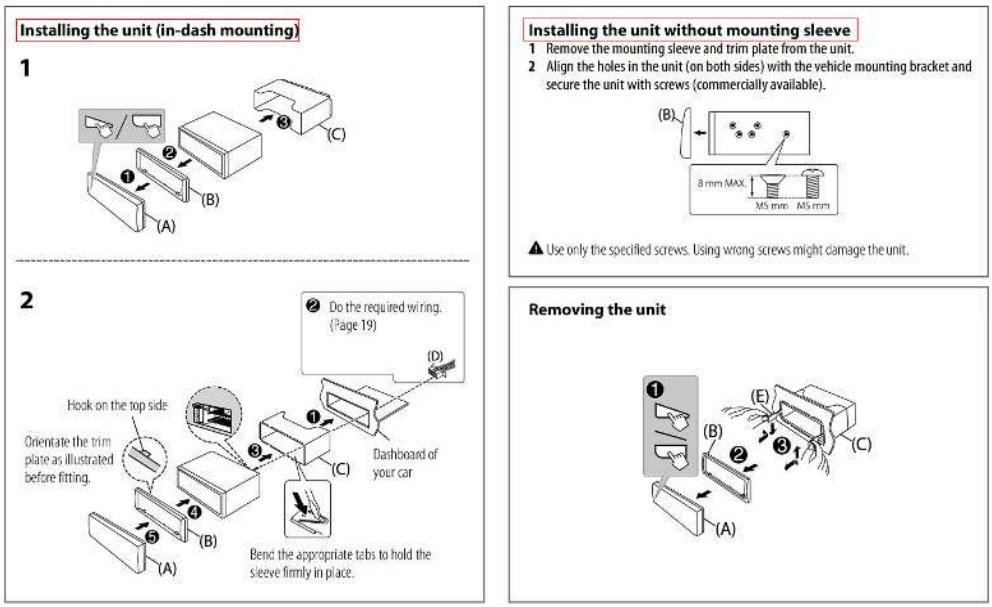
IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Clause F.4. a) -



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

Clause F.4. c) - **INSTALLATION/CONNECTION**



2) The following Instructional safeguard(s) are given in the service instructions.

Clause F.3.5.3 - e.g.

PRECAUTIONS ON PARTS LIST

- The parts identified by the ⚠ symbol are critical for safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied.
- P.W. BOARD Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.
- There are cases where the actual implemented parts in the sets and the service parts are different. When ordering parts, make sure to refer to the Parts List.

MODEL	MARK	MODEL	MARK	MODEL	MARK	MODEL	MARK
DNX9180DABS	E1	DNX9180DABS	X1	DNX9180S	M1	DNX9180SM	M2
DNX995S	K0						

Safe	Symbol No.	Parts No.	Parts Name	Description	QTY	Local
EXPLODED VIEW (UNIT) <M1MM>						
⚠	F1	FZB10AU-150	BLADE FUSE	15A	1	

Clause F.4. i) - e.g.

(3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.

IEC62368_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

Copyright © 2017 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	CENELEC COMMON MODIFICATIONS (EN)		—
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.		—
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		—
	Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list:		—

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

	For special national conditions, see Annex ZB.		—
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.		—
4.Z1	**Add** the following new subclause after 4.9: 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):		N/A

IEC62368_1B – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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;		N/A
	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;		N/A
	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.		N/A
	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.		N/A
5.4.2.3.2.4	Determining external circuit transient voltages **Add** the following to the end of this subclause: The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.	No external circuit	N/A
10.2.1	Radiation energy source classifications General classification Add the following to c) and d) in table 39: For additional requirements, see 10.5.1.	No x-radiation	N/A
10.5.1	Safeguards against x-radiation Requirements **Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions:* *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.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *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.* *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.* *For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.	No x-radiation	N/A

IEC62368_1B – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.1	Safeguards against acoustic energy sources General **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.	Not portable equipment intended for use by an ordinary person	N/A
10.Z1	**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		N/A
G.7.1	Mains supply cords General **Add** the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A
Bibliography	**Add** the following standards: **Add** the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		—

IEC62368_1B – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		**N/A**
4.1.15	Markings and instructions **Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **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. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N/A
4.7.3	Equipment for direct insertion into mains socket-outlets Compliance criteria **United Kingdom** To the end of the subclause the following is added: 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		N/A
5.2.2.2	Steady-state voltage and current limits **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

IEC62368_1B – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	Separation between external circuits and earth General **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 • 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 • 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: • 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
5.5.2.1	Capacitors and RC units General requirements **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).		N/A
5.5.6	Resistors **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

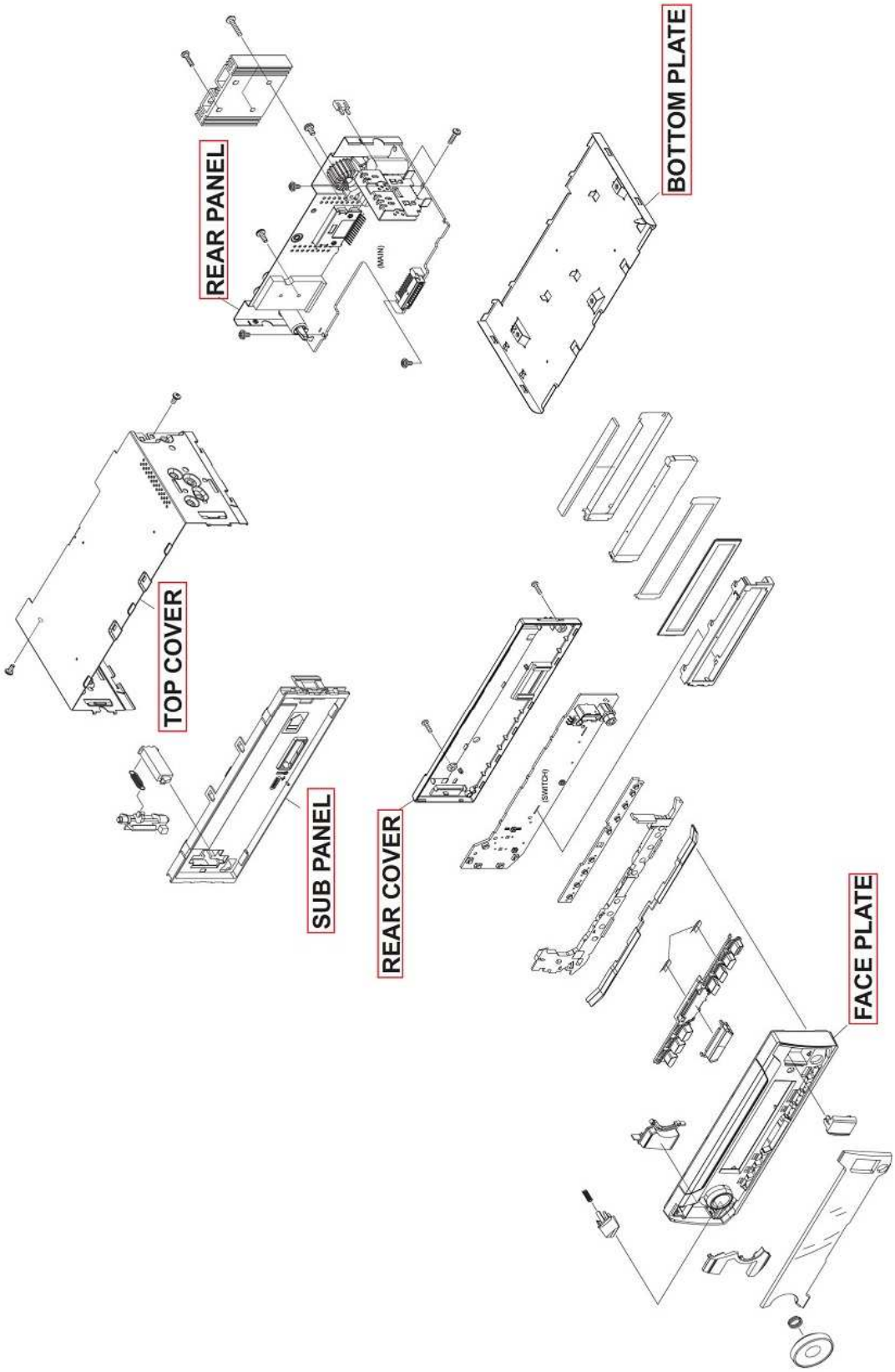
IEC62368_1B – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.1	Protective conductor General **Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	No socket-outlets	N/A
5.6.4.2.1	Determination of the protective current rating Mains supply as the source **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.		N/A
5.6.5.1	Terminals for protective conductors Requirements 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	Protective conductor current **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

IEC62368_1B – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	Touch current from coaxial cables **Norway and Sweden** To the end of the subclause the following is added: 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. 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. 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: “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)” 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. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet 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.” Translation to Swedish: ”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.”		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits **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

IEC62368_1B – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
B.3.1 and B.4	Simulated abnormal operating conditions and Simulated single fault conditions **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	Not direct plug-in equipment	N/A
G.4.2	Mains connectors **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 *Justification:* Heavy Current Regulations, Section 6c		N/A
G.4.2	Mains connectors **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.	Not direct plug-in equipment	N/A

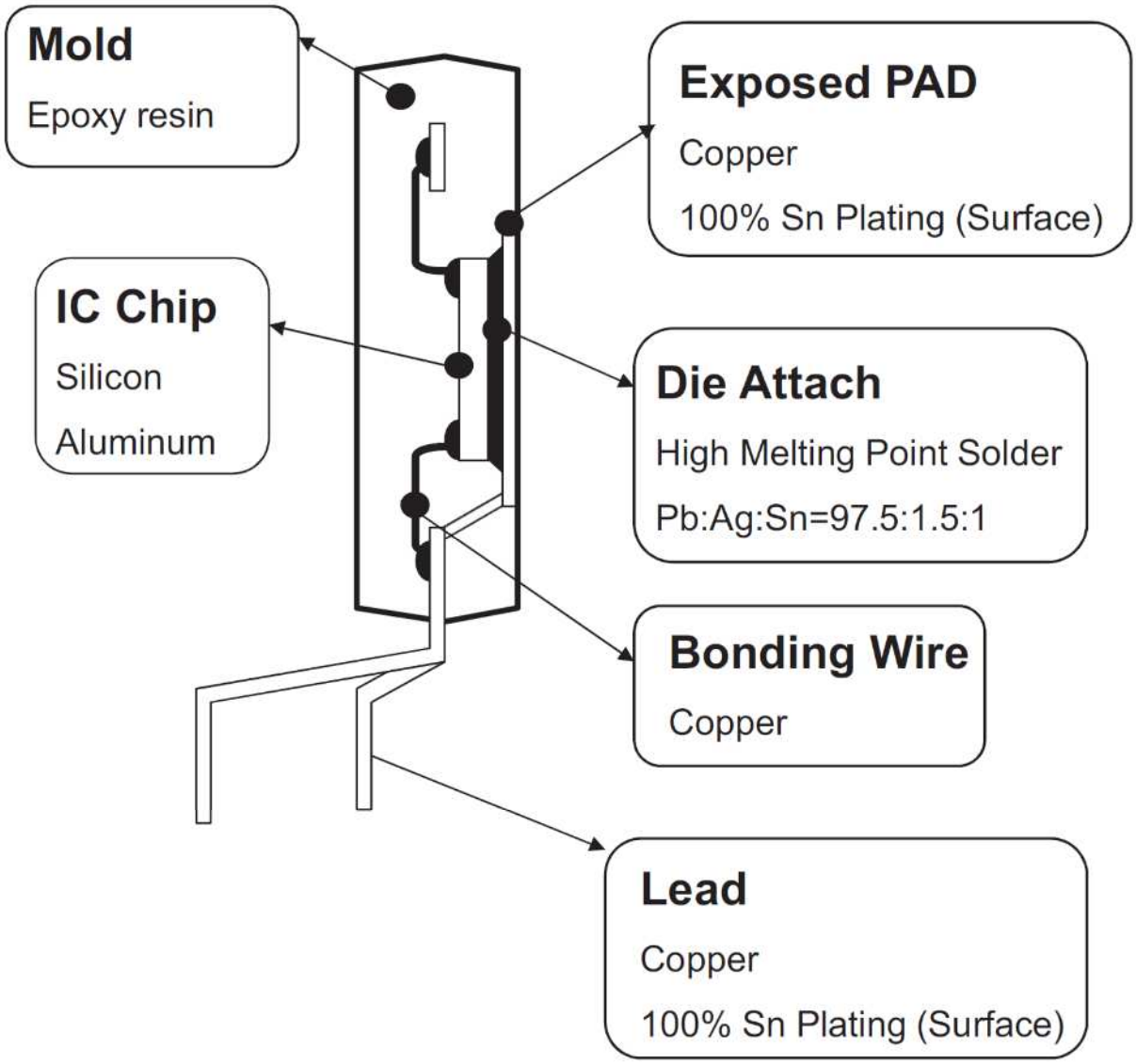
IEC62368_1B – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	Mains supply cords General **United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 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	Mains supply cords General **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	Mains supply cords Cross sectional area **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
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		**N/A**
10.5.2	Safeguards against x-radiation Compliance criteria **Germany** The following requirement applies: 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. *Justification:* German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de		N/A

Exploded view

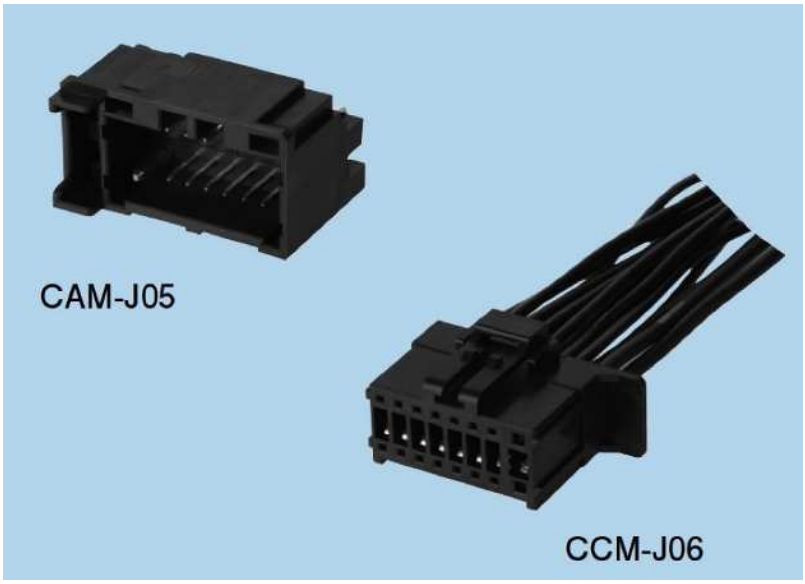


KD-X262
EXPLODED VIEW (UNIT)

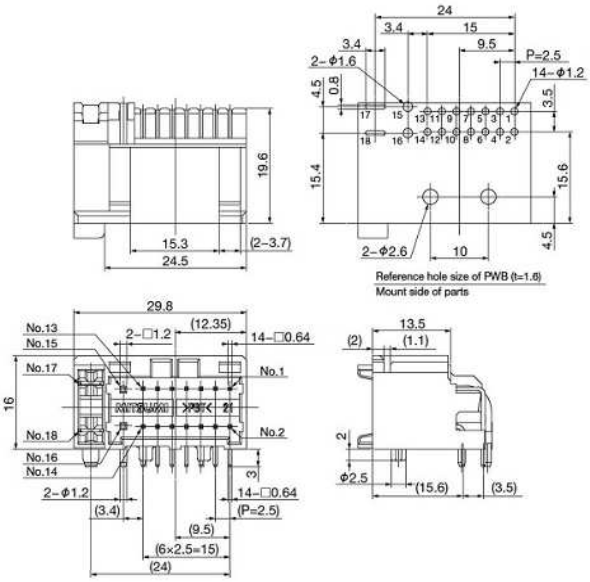
Power IC, ST Microelectronics, Type JCV8034



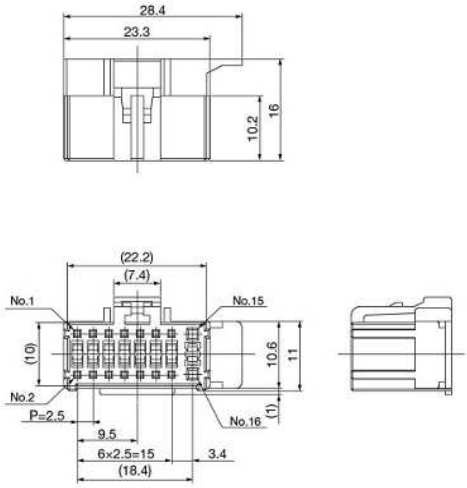
Connector, CN990 (Plug), Mitsumi Electric Co., Ltd., Type CAM-J05
(Connector (Socket), Mitsumi Electric Co., Ltd., Type CCM-J06 is reference only)



CAM-J05 (Plug)



CCM-J06 (Socket)



Unit : mm