Fono DJ table,
Model Yalp Fono YA3702

Tested under

UL/CSA 62368-1 Third Edition 2018: Audio/video, information, and communication technology equipment

File: E114987

MET Report: 115843

Approved: November 16, 2021

Applicant:

Lappset Yalp B.V.
Nieuwenkampsmaten 12, 7472 DE Goor
The Netherlands

Prepared By:

Eurofins Electrical and Electronic Testing North America, Inc.
914 West Patapsco Avenue
Baltimore, Maryland 21230-3432
(410) 949-1802

☒ NRTL Listing
☐ MET Recognition
☐ MET Classification

☒ MET-C Listing
☐ MET-C Recognition
☐ MET-C Classification

Table Of Contents

Change Record

Change Number	Description	Approval Date	Project Number	Amendment Engineer	Engineer Initials
-					

Description

Product(s) Covered:

Fono DJ table, Model Yalp Fono YA3702

- FONO is a creative hangout for outdoor use. It incorporates an interactive DJ-table which you can use to play and mix your own music and can connect with your mobile phone wireless.
  The table is made of concrete and includes a covered area with provision for connection to the mains (Power box – mains entrance) , a central power supply , the YIN computer (master controller) and control electronics.

- The separately certified SMPS, power box and YIN computer are also used in other certified YALP outdoor appliances and are separately tested for IP54. The outputs of the YIN-box which are connected with the control electronics underneath the control panel are all ES1/PS1 signal level.

- As internal components (SMPS, power box and YIN computer) have been separately tested for IP54 no further outdoor testing has been performed on the complete unit. Outdoor usage as such is covered by these internal components

Model Differences:

One model evaluated.

Electrical Rating:

100 – 240 Vac, 50/60 Hz, 150 Wmax.

Engineering Considerations (Not For Field Representative's Use):

- Fono DJ table, Model Yalp Fono YA3702 has been investigated in accordance with UL/CSA 62368-1 Third Edition 2018: Audio/video, information, and communication technology equipment.
- This certification is based on the Dekra Report No. 2257503.50A along with the modifications indicated on the Modifications pages of this report.

Description (Continued)

Note to Field Representative:

- Dekra Report No. 2257503.50A and the Modifications page for details.
- Clearance/Creepage information, Covered by separately approved components (see page 47 of CB report).
- Critical Components, see pages 61 through 70 of CB report.
- Figures/Illustrations, see pages 71 through 83 of CB report.

Note to Field Representative:

- None. The below is for possible future use.

MET Laboratories, Inc.
914 West Patapsco Avenue
Baltimore, Maryland 21230-3432

for reassessment processed under job **#115843** for verification of construction against the associated drawings also listed below. The transformers shall be subjected to an annual audit by MET for continued compliance. The annual re-verification is a client incurred expense to be assessed at the current hourly rate at the time of the test. The estimated time for re-verification is also listed below.

Figure/ Item #	Component	Controlled Document Number	Re-verification Maximum Estimated time (hours)

Operation/Service Instructions:

- Operations and Service instructions are provided with the equipment.
- See CB Report for any additional requirements for the installation and safety instruction.

Markings

Etching, molding, die-stamping, silk-screening, stamped-, or etched-metal labels secured by rivets or screws are considered permanent. Recognized/Certified Component, Marking and Labeling Systems, suitable for the surface to which it is applied is also considered permanent. Per the Canadian Electrical Code described in CSA C22. No. 0 General Requirements, Canadian product certification requires warning/cautionary markings in both English and French languages. It is the Applicant's responsibility to provide the listed Bilingual Markings shown below in accordance with the Canadian regulatory requirements. Each product is to be permanently marked with the following information:

a. The MET Mark (refer to MET Applicant Contract) with the applicant/listee, alternate listee as identified below, trade name or trade mark, product model number, and a date of manufacture or serial number. If the date of manufacture is in a code, it shall not repeat in less than 20 years and it shall not require reference to the manufacturer's records to determine when the product was manufactured.

b. Method of applying the MET Mark:
☒ Direct Imprinting
☐ Purchasing Labels from MET Laboratories, Inc.
Approved MET Mark:

E114987	**Complies with UL 62368-1 CSA C22.2 No. 62368-1**

c. Alternate listees and product names or model numbers: None
Note: an alternate listee is only allowed to change the Company name and Product name and model number.

	Company Name	Product Name
Listee	-	-
Alt. Listee 1	-	-

d. For additional markings, see page 4 of the Dekra Report No. 2257503.50A

Applicant's Responsibilities

Product Modification

For any changes related to product construction, manufacturing locations, if the product is intended to be marketed/sold under an alternate name or model number than that originally listed, or any issues which would require notification or change in the status of this file, please complete the form and return to Eurofins E&E NA following the instructions provided on the form.

For your convenience a Project Amendment Request (PAR) form is available for download at http://corp.metlabs.com/safetyreq/ Alternatively, please provide it to your local Eurofins office or Eurofins Partner Representative.

If you are terminating or temporarily suspending production of this product for an extended period, please send a letter on company letterhead to:

Eurofins E&E NA, Inc.
Attn: Follow Up Services Department
914 West Patapsco Avenue
Baltimore, Maryland 21230
USA
Fax: (410) 354-3313

Applicant's Responsibilities (Continued)

Manufacturing and Production-Line Tests and Documentation performed by Manufacturer.

All certified products are required to be subjected to production line testing as indicated below:

Dielectric Voltage-Withstand Test:

Each complete end product shall be capable of withstanding, without electrical breakdown, the application of a continuous sinusoidal or direct current voltage between uninsulated live parts and accessible dead metal parts that are likely to become energized in accordance with one of the following methods.

Circuit Rating	Component Tested	Circuit Tested	Method A		
			Voltage (VAC)	Voltage (VDC)	Time (sec)
Up to 240 V	Main Unit	Line to GND	1500	2121	1-4

Grounding Continuity Test:

Each complete product shall be tested to determine grounding continuity between the grounding pin or terminal of the attachment plug and the accessible dead metal parts that are likely to become energized. The grounding contact of each receptacle, and other means for grounding on the load side, shall be included in this test. Compliance is to be determined by any appropriate device, such as an ohmmeter, or a battery and buzzer combination, applied between the points under test.

Documentation:

The manufacturer is required to record the production line test results. The data recorded is to include the type of test, date of test, serial number of the product, indications of pass, fail, or retest, test equipment utilized, calibration date of test equipment utilized, and the initials or signature of the test technician. Test records shall be required to be maintained from factory follow-up audit to factory follow-up audit and must be available for the inspectors' review. Records may be in the form of travelers, logs, computer files, or other such suitable documentation method.

Modifications to Dekra Report No. 2257503.50A

The following changes affect the original Dekra Report No. 2257503.50A

Original Certification

November 16, 2021

- Markings:

  This report covers a NRTL/MET-C certification of the identified products. This NRTL MET-C certification is based on the CB certification report included within and as modified as shown below.

Critical Components (Continued)

- Critical Components, see pages 61 through 70 of CB report.

Original certification

Figure /item No.	Object/ Parts No.	Manufacturer /Trademark	Type/ Model	Technical Data	Standard (Edition / year)	Mark(s) of Conformity	Secured Method

Figures

Figures (Continued)

Original certification

Figures/Illustrations, see pages 71 through 83 of CB report.

Testing Considerations

According to the Dekra Report No. 2257503.50A, a sample of the Fono DJ table Model Yalp Fono YA3702 was subjected to a test program in accordance with UL/CSA 62368-1 Third Edition 2018: Audio/video, information, and communication technology equipment with satisfactory results.

Detailed test results are available upon request from Dekra.

Conclusion

The product(s) covered by this report have been tested, examined, and found to comply with the applicable requirements. This certification has been granted under a System 3 program as defined in ISO/IEC 17067.

Prepared By:

Micheal Collins
Project Engineer,
MET Safety Laboratory

Conversion Report

Dekra Report No. 2257503.50A,
CB Certificate # NL-77053

Attach the follow documents:
225750350A-IECTRF
225750350C_US-CAN
CB NL-77053

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.....:	2257503.50A
Date of issue .....:	October 25, 2021
Total number of pages.....:	83
Name of Testing Laboratory preparing the Report.....:	DEKRA Certification B.V.
Applicant's name .....:	Lappset Yalp B.V.
Address .....:	Nieuwenkampsmaten 12, 7472 DE Goor, The Netherlands
Test specification:	
Standard.....:	IEC 62368-1:2018
Test procedure.....:	CB Scheme
Non-standard test method.....:	N/A
TRF template used.....:	IECEE OD-2020-F1:2020, Ed.1.3
Test Report Form No. .....:	IEC62368_1E
Test Report Form(s) Originator....:	UL(US)
Master TRF .....:	Dated 2021-02-04

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..... :	Fono DJ table	
Trade Mark(s) .....:	Yalp	
Manufacturer..... :	Lappset Yalp. B.V.	
Model/Type reference..... :	Yalp Fono , YA3702	
Ratings..... :	100 – 240 Vac, 50/60 Hz, 150 Wmax.	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ **CB Testing Laboratory:**		
Testing location/ address..... :	DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem, The Netherlands	
Tested by (name, function, signature)..... :	M. Wilde	
Approved by (name, function, signature).. :	W. Huang	
☐ **Testing procedure: CTF Stage 1:**		
Testing location/ address..... :		
Tested by (name, function, signature)..... :		
Approved by (name, function, signature).. :		
☐ **Testing procedure: CTF Stage 2:**		
Testing location/ address..... :		
Tested by (name, function, signature).....		
Witnessed by (name, function, signature). :		
Approved by (name, function, signature).. :		
☐ **Testing procedure: CTF Stage 3:**		
☐ **Testing procedure: CTF Stage 4:**		
Testing location/ address..... :		
Tested by (name, function, signature)..... :		
Witnessed by (name, function, signature). :		
Approved by (name, function, signature).. :		
Supervised by (name, function, signature) :		

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

Photo documentation	12 pages
Schematic diagram	1 page
2257503.50B: National Differences to IEC62368-1:2018 (3rd Ed)	21 pages
2257503.50C: National Differences for USA and Canada	8 pages

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
Full 62368-1 compliance testing	DEKRA Certification B.V. Meander 1051 6825 MJ Arnhem The Netherlands

Summary of compliance with National Differences (List of countries addressed):

EU, US, CAN

☒ **The product fulfils the requirements of EN/IEC 62368-1:2020 + A11:2020, CSA/UL 62368-1:2019**

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

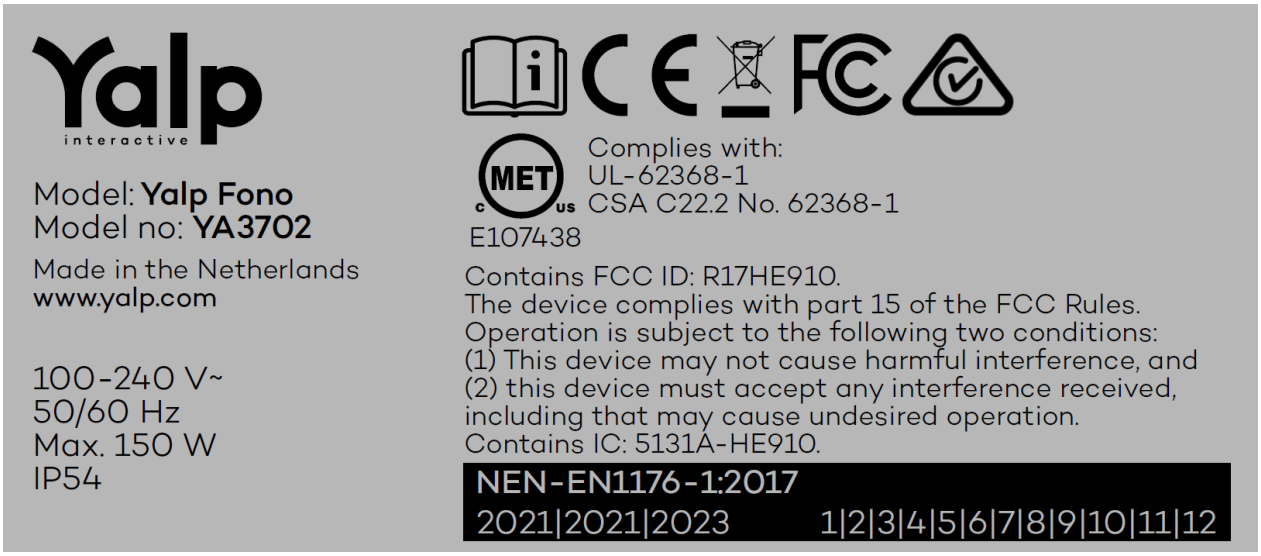
Procedure number, issue date and title:

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

☒ **Statement not required by the standard used for type testing**

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:	
Product group ..... :	☒ **end product** ☐ built-in component
Classification of use by ..... :	☒ **Ordinary person** ☒ **Children likely present** ☐ Instructed person ☐ Skilled person
Supply connection ..... :	☒ **AC mains** ☐ DC mains ☐ 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 ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☒ **permanent connection** ☐ mating connector ☐ other:
Considered current rating of protective device ..... :	☒ **16 A (EUR); 20 A (US/CAN)** Location: ☒ **building** ☐ equipment ☐ N/A
Equipment mobility ..... :	☐ movable ☐ hand-held ☐ transportable ☐ direct plug-in ☒ **stationary** ☐ for building-in ☐ wall/ceiling-mounted ☐ SRME/rack-mounted ☐ other:
Overvoltage category (OVC) ..... :	☐ OVC I ☒ **OVC II** ☐ OVC III ☐ OVC IV ☐ other:
Class of equipment ..... :	☒ **Class I** ☐ Class II ☐ Class III ☐ Not classified ☐
Special installation location ..... :	☐ N/A ☐ restricted access area ☒ **outdoor location** ☐
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2: Interior ☒ PD 3: Exterior
Manufacturer's specified T_{ma} ..... :	**+40 °C** ☐ Outdoor: minimum **-20 °C**
IP protection class ..... :	☐ IPX0 ☒ **IP54**
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 ☒ **16 m**
Mass of equipment (kg) ..... :	**1435 kg**

Possible test case verdicts:	
- test case does not apply to the test object ... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ... :	F (Fail)
Testing:	
Date of receipt of test item ..... :	2021-06-08
Date (s) of performance of tests..... :	2021-06-10 / 2021-08-06

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.

Name and address of factory (ies) ..... :	Lappset Yalp B.V. Nieuwenkampsmaten 12 7472 DE Goor The Netherlands

General product information and other remarks:

FONO is a creative hangout for outdoor use. It incorporates an interactive DJ-table which you can use to play and mix your own music and can connect with your mobile phone wireless.
The table is made of concrete and includes a covered area with provision for connection to the mains (Power box – mains entrance) , a central power supply , the YIN computer (master controller) and control electronics.

The separately certified SMPS, power box and YIN computer are also used in other certified YALP outdoor appliances and are separately tested for IP54. The outputs of the YIN-box which are connected with the control electronics underneath the control panel are all ES1/PS1 signal level.

Note:
As internal components (SMPS, power box and YIN computer) have been separately tested for IP54 no further outdoor testing has been performed on the complete unit. Outdoor usage as such is covered by these internal components

Conditions of acceptability:

- The installation and mounting on the floor shall be according to the local requirement as per the country it is installed and shall be evaluated in the end use application.
- The unit may only be installed and electrically connected by trained and educated personnel.
- The equipment must be connected to a reliable protective earth according to the national electrical installation instructions..
- Connection to the external secondary I/O (Ethernet for service purposes) shall be reinforced and isolated from mains
- The equipment shall be provided with a separate 30 mA ground fault circuit interrupter , an overcurrent protection fused on 10A or 16A and an all pole disconnecting device, or a combination, which is marked as such in the end use application.

Report revision history		
Date	**Report**	**Revision**
October 25, 2021	2257503.50A	Original certification acc. IEC 62368-1

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	**Possible Hazard**			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: Primary circuit	Ordinary person (No access to ES3 sources)	Enclosure with Basic insulation	Enclosure with Protective earth	
ES3: Primary circuit SMPS		Accepted based on approved SMPS Input terminal reinforced isolated from ordinary person. Housing of SMPS is earthed.		
ES1: All secondary circuits after approved SMPS	Ordinary person	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1st S	2nd S
PS3 Primary circuits (Powerbox)	Ordinary person	Temperatures are limited and do not attain ignition temperatures under normal operation.	Control of Fire Spread Fire enclosure V-0/ 5VB/ metal material (Distance ≥ 13 mm arcing PIS and ≥ 5 mm to a resistive PIS); Inside fire enclosure combustible materials V-2 classified Components mounted on V-0 PCB; Wirings VW-1	N/A
PS3 Primary circuits SMPS				
PS3 Power supply secondary circuit, output and cable				
YIN 2.52 board				
PS3 J1 (1 / 2) [Vin 12-18V]	Ordinary person	Temperatures are limited and do not attain ignition temperatures under normal operation.	Control of Fire Spread Fire enclosure V-0/ 5VB/ metal material (Distance ≥ 13 mm arcing PIS and ≥ 5 mm to a resistive PIS); Inside fire enclosure combustible materials V-2 classified Components mounted on V-0 PCB; Wirings VW-1	N/A
PS3 J2 (1,3-19 / 2,4-20) [Vin_SW] = *SMPS output*				
PS3 J4 (1 / 2) [OUT_SW]1				
PS3 J6 (1 / 2) [OUT_SW2]				

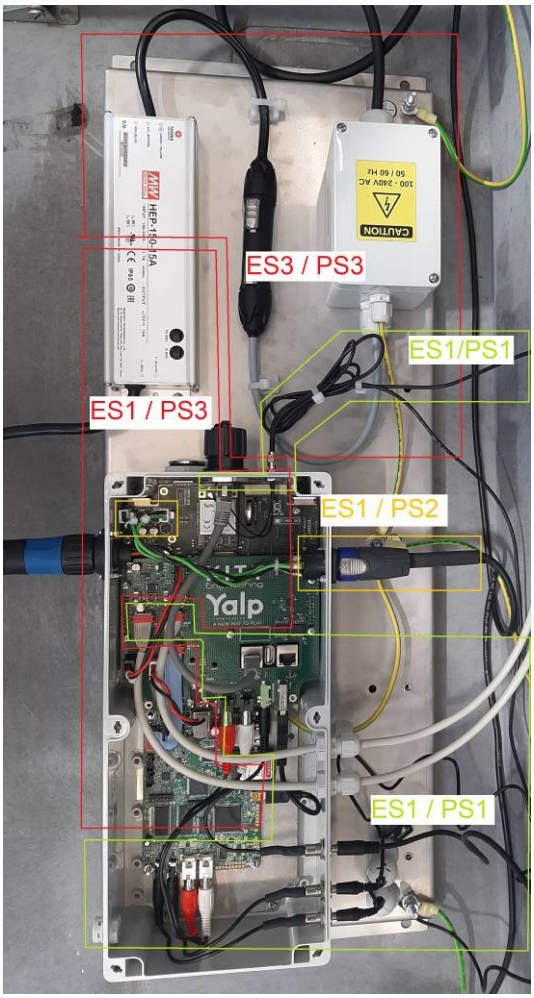
PS1 J9 (1 / 4)	Ordinary person		N/A	N/A
PS1 J14 (8,7 / 5,6) [5Vsys]			N/A	N/A
PS1 J10 – J12			N/A	N/A
PS1 J11 (1 / 4) USB			N/A	N/A
FONO DJ Rev100 board				
PS3 J5 [VIN_YIN] = *J2-YIN*	Ordinary person	Temperatures are limited and do not attain ignition temperatures under normal operation	Control of Fire Spread Fire enclosure V-0/ 5VB/ metal material (Distance ≥ 13 mm arcing PIS and ≥ 5 mm to a resistive PIS); Inside fire enclosure combustible materials V-2 classified Components mounted on V-0 PCB; Wirings VW-1	N/A
PS2 J8 (8,10 / 7,9) [VLED_EXT] = *J115-MSS*				
PS1 J2 (1 / 4) [V5USB_OUT]			N/A	N/A
PS1 J3 [V5IN_YIN] = *J14-YIN*				
PS1 J8 (1 / 7,9) [V5_EXT] = *J115-MSS*				
PS1 J10 (1 / 7,9) [V5_INT1]				
PS1 J10 (8,10 / 7,9) [VLED1]				
PS1 J12 (1 / 7,9) [V5_INT2]				
PS1 J12 (8,10 / 7,9) [VLED2]				

Music Station Soundboard YlpMss03				
PS3 Internal [+12V]	Ordinary person	Temperatures are limited and do not attain ignition temperatures under normal operation	Control of Fire Spread Fire enclosure V-0/ 5VB/ metal material (Distance ≥ 13 mm arcing PIS and ≥ 5 mm to a resistive PIS); Inside fire enclosure combustible materials V-2 classified Components mounted on V-0 PCB; Wirings VW-1	N/A
PS2 J115 (8,10 / 4,7,9) [+LED]				
PS1 J115 (1 / 4,7,9) [Vcc]			N/A	N/A
PS1 J113 (1 / 5) [Vusb] = *J2-FONO*				
PS1 Internal [+5V0]				
PS1 Internal [3V3]				
Control boards (YlpMstQ1, YlpMscQ1, YlpMsdQ1, YlpMsbQ1, FONO Bridge)				
PS1 All circuits		Temperatures are limited and do not attain ignition temperatures under normal operation	N/A	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
CS3 Coin cell battery	Ordinary user	Battery enclosure	Instructional safeguard	
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R

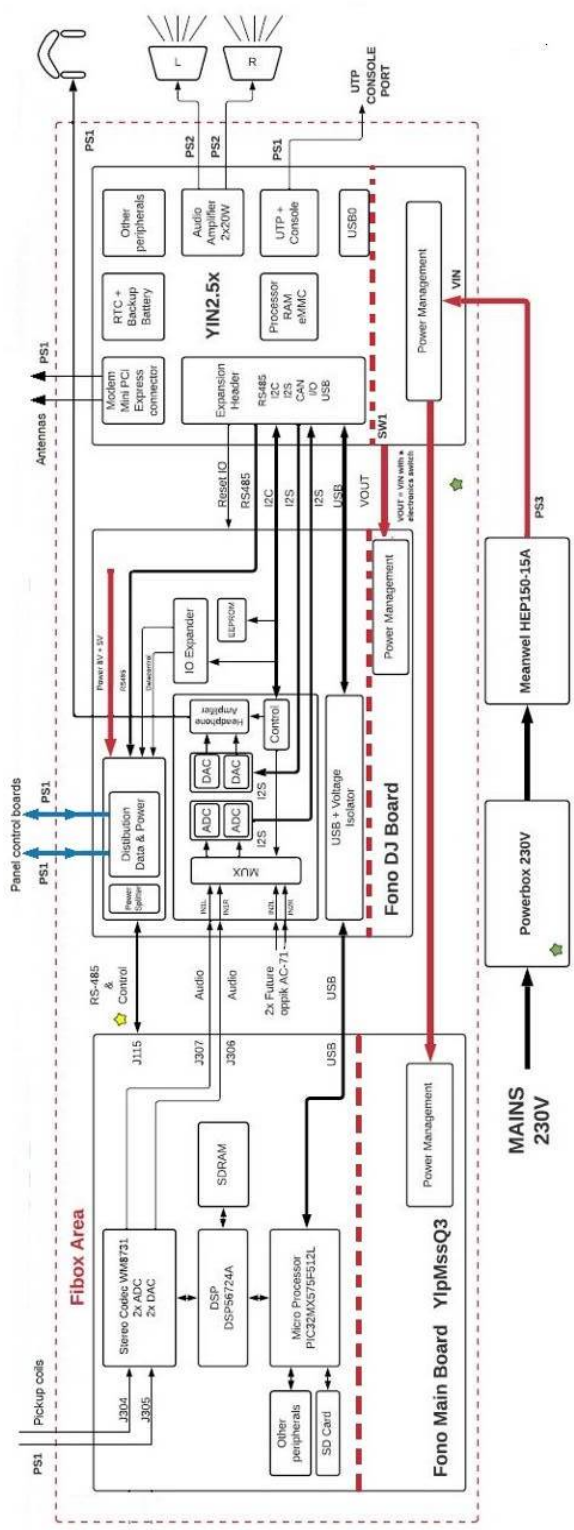
MS3 Mass	Ordinary user	N/A	N/A	Equipment safeguard + installation Secured to the floor)
MS1 Sharp edges and corners		N/A	N/A	N/A
MS1 Moving parts (Turntable				
MS2 Weight cover plate (one side hinged)	Instructed user	Instructional safeguard	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1 Control panel (metal)	Ordinary user	System enclosure	N/A	N/A
TS1 Controls (plastics)				
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1 LED's	Ordinary user	N/A	N/A	N/A
RS1 Audio jack (Headset)				
Supplementary Information: "B" – Basic Safeguard; "S" – Supplementary Safeguard; "R" – Reinforced Safeguard (…) : Pin numbers of connector. […] : Signal names as used in schematics. YIN2 Rev 2.52 (11-5-2021) ; FONO DJ Rev 1.00 (20-5-2021) ; YlpMssS3 (10-11-2013)				

ENERGY SOURCE DIAGRAM
Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems. Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings

☒ **ES** ☒ **PS** ☐ **MS** ☐ **TS** ☐ **RS**



See also Schematic diagram below for detailed overview.


L
R
UTP CONSOLE PORT
PS1
PS2
PS2
PS1
Other peripherals
Audio Amplifier 2x20W
UTP + Console
USB0
RTC + Backup Battery
YIN2.5x
Processor RAM eMMC
Power Management
VIN
Antennas
PS1
Modem Mini PCI Express connector
Expansion Header
RS485 I2C I2S CAN I/O USB
SW1
Reset IO
RS485
I2C
I2S
I2S
USB
VOUT
VOUT = VIN with a electronics switch
Power Management
IO Expander
LED/SDW
Headphone Amplifier
Control
DAC
DAC
ADC
ADC
I2S
I2S
MUX
USB + Voltage Isolator
Fono DJ Board
Meanwel HEP150-15A
PS3
Panel control boards
PS1
PS1
Distribution Data & Power
Panel Digitizer
Powerbox 230V
RS-485 & Control
Audio
Audio
2x Future oppik AC-71
USB
J115
J307
J306
USB
Power Management
MAINS 230V
Fibox Area
SDRAM
Stereo Codec WM8731 2x ADC 2x DAC
DSP DSP56724A
Micro Processor PIC32MX575F512L
Pickup coils
J304
J305
Other peripherals
SD Card
PS1
Fono Main Board YlpMssQ3

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components		P
4.1.3	Equipment design and construction		P
4.1.4	Specified ambient temperature for outdoor use (^{o}C):	-20 … +40 º	P
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.5)	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	(See Clause T.6)	P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests		P
4.4.3.9	Air comprising a safeguard	Part of the approved power supply, mains wiring, connectors and terminals. Also covered with external metal enclosure that is connected to protective earth	P
4.4.3.10	Accessibility, glass, safeguard effectiveness		P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks		N/A
4.5	**Explosion**		P
4.5.1	General	(See Annex M for batteries)	P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	**Fixing of conductors**	Mains connection is part of approved terminal. For all other secondary connections	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
		only approved crimped connectors used. See appended Table 4.1.2.	
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test..... :	(See Clause T.2)	P
4.7	**Equipment for direct insertion into mains socket–outlets**		N/A
4.7.2	Mains plug part complies with relevant standard .. :	Not direct plug-in	N/A
4.7.3	Torque (Nm) ..... :		N/A
4.8	**Equipment containing coin/button cell batteries**		N/A
4.8.1	General		N/A
4.8.2	Instructional safeguard..... :	Professional equipment	N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
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		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	**Likelihood of fire or shock due to entry of conductive object**		N/A
4.10	**Component requirements**		P
4.10.1	Disconnect Device	Refer to Conditions of acceptability	N/A
4.10.2	Switches and relays		N/A

5	**ELECTRICALLY-CAUSED INJURY**		P
5.2	**Classification and limits of electrical energy sources**		P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current limits..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits ..... :		N/A
5.2.2.4	Single pulse limits..... :		N/A
5.2.2.5	Limits for repetitive pulses..... :		N/A
5.2.2.6	Ringing signals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.7	Audio signals	(See Clause E.1) Class D audio signals which are not accessible with a maximum voltage of 15 V	P
5.3	**Protection against electrical energy sources**		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	Approved power supply, mains cable and terminals fully covered in a Class I construction.	P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	Only ES1 is accessible	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only the metal PE bonded construction can be accessed	P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V	No openings	—
5.3.2.2 a)	Air gap – electric strength test potential (V)..... :		N/A
5.3.2.2 b)	Air gap – distance (mm) ..... :		N/A
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire	Terminals for mains connection can not touch any secondary parts due to internal enclosure (Power box) and approved terminals	P
5.4	**Insulation materials and requirements**		P
5.4.1.2	Properties of insulating material	Part of approved components	P
5.4.1.3	Material is non-hygroscopic		P
5.4.1.4	Maximum operating temperature for insulating materials..... :	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degrees ..... :	PD3: exterior, PD2: Interior	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test	All insulating materials are part of approved components used within its specifications	N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage ..... :	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat test..... :		N/A
5.4.1.10.3	Ball pressure test..... :		N/A
5.4.2	Clearances		P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance		N/A
	Temporary overvoltage ..... :		—
5.4.2.3	Procedure 2 for determining clearance	Part of approved components, no test performed	P
5.4.2.3.2.2	a.c. mains transient voltage ..... :	2500 V	—
5.4.2.3.2.3	d.c. mains transient voltage ..... :		—
5.4.2.3.2.4	External circuit transient voltage..... :		—
5.4.2.3.2.5	Transient voltage determined by measurement ..... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test ..... :	Mains parts are all approved and accepted components. No test deemed necessary	N/A
5.4.2.5	Multiplication factors for clearances and test voltages ..... :	1x, maximum 2000 m	N/A
5.4.2.6	Clearance measurement ..... :	(See appended table 5.4.2)	P
5.4.3	Creepage distances	Terminal construction and mains interconnection accepted based on approved components. (See appended Table 4.1.2).	P
5.4.3.1	General		P
5.4.3.3	Material group..... :	IIIa / IIIb	—
5.4.3.4	Creepage distances measurement..... :	(See appended table 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements	Part of approved components in mains circuits, no additional tests performed	P
5.4.4.2	Minimum distance through insulation ..... :	All circuits with insulation material stressed with ES3 are part of approved components	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material ..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P, K_R, d, V_{PW} (V) ..... :		N/A
	Alternative by electric strength test, tested voltage (V), K_R ..... :		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance (MΩ) ..... :		N/A
	Electric strength test ..... :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	No hygroscopic materials used	N/A
	Relative humidity (%), temperature (°C), duration (h) ..... :		—
5.4.9	Electric strength test		P
5.4.9.1	Test procedure for type test of solid insulation..... :	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits	Internal ethernet connection only is internally isolated, no further I/O,. All accessible parts are metal and PE connected	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.2	Impulse test ..... :		N/A
5.4.10.2.3	Steady-state test..... :		N/A
5.4.10.3	Verification for insulation breakdown for impulse test ..... :		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V)..... :		—
	Nominal voltage U_{peak} (V) ..... :		—
	Max increase due to variation ΔU_{sp} ..... :		—
	Max increase due to ageing ΔU_{sa} ..... :		—
5.4.11.3	Test method and compliance ..... :		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid ..... :		N/A
5.4.12.3	Compatibility of an insulating liquid ..... :		N/A
5.4.12.4	Container for insulating liquid..... :		N/A
5.5	**Components as safeguards**		P
5.5.1	General		P
5.5.2	Capacitors and RC units	Part of the approved SMPS	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector..... :	Permanently connected	N/A
5.5.3	Transformers	(See Annex G.5.3) Part of the approved SMPS	P
5.5.4	Optocouplers	(See sub-clause 5.4 or Annex G.12) Part of the approved SMPS	P
5.5.5	Relays	No relays	N/A
5.5.6	Resistors	No such resistors	N/A
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable ..... :		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	RCD rated residual operating current (mA) ..... :		N/A
5.6	**Protective conductor**		P
5.6.2	Requirement for protective conductors		P
5.6	**Protective conductor**		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements	Refer to installation manual	P
5.6.2.2	Colour of insulation		P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm^2) ..... :	12AWG / 2.5 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	Requirements for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2)..... :	14 AWG / 1.5 mm^2	—
5.6.4.2	Protective current rating (A) ..... :	16 A (EU), 20 A (CA/US)	P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	4 mm^2 Approved terminal in Powerbox	P
	Terminal size for connecting protective bonding conductors (mm) ..... :	4 mm^2	P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective bonding system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method ..... :	(See appended table 5.6.6)	P
5.6.6.3	Resistance (Ω) or voltage drop ..... :	(See appended table 5.6.6)	P
5.6.7	Reliable connection of a protective earthing conductor		P
5.6.8	Functional earthing		N/A
	Conductor size (mm^2)..... :		N/A
	Class II with functional earthing marking ..... :		N/A
	Appliance inlet cl & cr (mm) ..... :		N/A
5.7	**Prospective touch voltage, touch current and protective conductor current**		P
5.7.2	Measuring devices and networks		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.2.1	Measurement of touch current		P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts..... :		N/A
5.7.5	Earthed accessible conductive parts ..... :	(See appended table 5.7.5)	P
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA)..... :		N/A
	Instructional Safeguard ..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA)..... :		N/A
	b) Equipment connected to unearthed external circuits, current (mA)..... :		N/A
5.8	**Backfeed safeguard in battery backed up supplies**		N/A
	Mains terminal ES ..... :		N/A
	Air gap (mm) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	**Classification of PS and PIS**		P
6.2.2	Power source circuit classifications ..... :	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS ..... :	(See appended table 6.2.3.1) Part of approved SMPS	P
6.2.3.2	Resistive PIS ..... :	(See appended table 6.2.3.2)	P
6.3	**Safeguards against fire under normal operating and abnormal operating conditions**		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials..... :	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure..... :		P
6.4	**Safeguards against fire under single fault conditions**		P
6.4.1	Safeguard method	Control of fire spread	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards		P
6.4.6	Control of fire spread in PS3 circuits		P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Power box, SMPS and YIN2-box have their own fire enclosure. External enclosure not considered as fire enclosure	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties	No openings in external enclosure. Openings in internal fire enclosures only for functional purposes.	N/A
	Openings dimensions (mm) ..... :		N/A
6.4.8.3.4	Bottom openings and properties	No openings in bottom	N/A
	Openings dimensions (mm) ..... :		N/A
	Flammability tests for the bottom of a fire enclosure	(See Clause S.3)	N/A
	Instructional Safeguard..... :		N/A
6.4.8.3.5	Side openings and properties	Functional openings of power box and YIN2 box filled with glands of V1 min.	N/A
	Openings dimensions (mm) ..... :		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :	Only cover in external enclosure. Can only be opened by service engineer.	N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating..... :		P
6.4.9	Flammability of insulating liquid..... :	Not used	N/A
6.5	**Internal and external wiring**		P
6.5.1	General requirements		P
6.5.2	Requirements for interconnection to building wiring ..... :		N/A
6.5.3	Internal wiring size (mm^2) for socket-outlets ..... :	No socket outlets	N/A
6.6	**Safeguards against fire due to the connection to additional equipment**		N/A

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 or personal protective equipment (PPE)**		N/A
	Personal safeguards and instructions..... :		—
7.5	**Use of instructional safeguards and instructions**		N/A
	Instructional safeguard (ISO 7010)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
7.6	**Batteries and their protection circuits**		N/A
8	**MECHANICALLY-CAUSED INJURY**		P
8.2	**Mechanical energy source classifications**		P
8.3	**Safeguards against mechanical energy sources**		P
8.4	**Safeguards against parts with sharp edges and corners**		N/A
8.4.1	Safeguards	No sharp edges and corners	N/A
	Instructional Safeguard..... :		N/A
8.4.2	Sharp edges or corners		N/A
8.5	**Safeguards against moving parts**		P
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	Refer to Installation manual for opening/closing of cover by service engineer. Weight of complete cover: 35 kg, however one side is provided with a hinge which result in MS2 hazard during opening/closing the cover.	P
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard ..... :	Provided on the inner side of the FONO. (for instructed person)	P
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts	Not a working cell	N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m) ..... :		N/A
	Space between end point and nearest fixed mechanical part (mm)..... :		N/A
8.5.4.2.4	Endurance requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly ..... :		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts ..... :		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N) ..... :		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test..... :		N/A
8.5.5.3	Glass particles dimensions (mm) ..... :		N/A
8.6	**Stability of equipment**		P
8.6.1	General	MS3: Floor standing	P
	Instructional safeguard ..... :	See installation instructions	P
8.6.2	Static stability	Mounted and secured to the floor	P
8.6.2.2	Static stability test..... :		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm) ..... :		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test..... :		N/A
8.7	**Equipment mounted to wall, ceiling or other structure**		N/A
8.7.1	Mount means type..... :	Floor standing	N/A
8.7.2	Test methods		N/A
	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
8.8	**Handles strength**		N/A
8.8.1	General	No handles	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.8.2	Handle strength test		N/A
	Number of handles ..... :		—
	Force applied (N) ..... :		—
8.9	**Wheels or casters attachment requirements**		N/A
8.9.2	Pull test	No wheels	N/A
8.10	**Carts, stands and similar carriers**		N/A
8.10.1	General	No carts, stands and similar carriers	N/A
8.10.2	Marking and instructions ..... :		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N)..... :		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N) ..... :		—
8.10.6	Thermoplastic temperature stability		N/A
8.11	**Mounting means for slide-rail mounted equipment (SRME)**		N/A
8.11.1	General	Not SMRE	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard..... :		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied..... :		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	**Telescoping or rod antennas**		N/A
	Button/ball diameter (mm)..... :		—

9	**THERMAL BURN INJURY**		P
9.2	**Thermal energy source classifications**		P
9.3	**Touch temperature limits**		P
9.3.1	Touch temperatures of accessible parts ..... :	(See appended table 9.3)	P
9.3.2	Test method and compliance		P
9.4	**Safeguards against thermal energy sources**		P
9.5	**Requirements for safeguards**		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.5.1	Equipment safeguard	Enclosure	P
9.5.2	Instructional safeguard ..... :		N/A
9.6	**Requirements for wireless power transmitters**		N/A
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance ..... :		N/A
10	**RADIATION**		P
10.2	**Radiation energy source classification**		P
10.2.1	General classification		P
	Lasers ..... :		—
	Lamps and lamp systems ..... :		—
	Image projectors..... :		—
	X-Ray ..... :		—
	Personal music player..... :		—
10.3	**Safeguards against laser radiation**		N/A
	The standard(s) equipment containing laser(s) comply..... :		N/A
10.4	**Safeguards against optical radiation from lamps and lamp systems (including LED types)**		P
10.4.1	General requirements	Indication leds used only	P
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location ..... :		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure ..... :	No exposure of UV	N/A
10.4.3	Instructional safeguard..... :		N/A
10.5	**Safeguards against X-radiation**		N/A
10.5.1	Requirements	No exposure of X-ray	N/A
	Instructional safeguard for skilled persons..... :		—
10.5.3	Maximum radiation (pA/kg) ..... :		—
10.6	**Safeguards against acoustic energy sources**		N/A
10.6.1	General	Not a PMP (Personal Music Player)	N/A
10.6.2	Classification		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Acoustic output $L_{Aeq,T}$, dB(A) ..... :		N/A
	Unweighted RMS output voltage (mV)..... :		N/A
	Digital output signal (dBFS) ..... :		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30) ..... :		N/A
	Warning for MEL ≥ 100 dB(A) ..... :		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards..... :		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)..... :		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) ..... :		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) ..... :		N/A

B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.1	**General**		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	**Normal operating conditions**		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers..... :	(See Annex E)	P
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	**Simulated abnormal operating conditions**		P
B.3.1	General		P
B.3.2	Covering of ventilation openings	No ventilation openings	N/A
	Instructional safeguard ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector	Auto-ranging	N/A
B.3.5	Maximum load at output terminals		N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions		P
B.3.8	Safeguards functional during and after abnormal operating conditions ..... :	(See appended table B.3)	P
B.4	**Simulated single fault conditions**		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		N/A
B.4.4	Functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors		N/A
B.4.6	Short circuit or disconnection of passive components		P
B.4.7	Continuous operation of components		P
B.4.8	Compliance during and after single fault conditions ..... :	(See appended table B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	(See Annex M)	P
C	**UV RADIATION**		P
C.1	**Protection of materials in equipment from UV radiation**		P
C.1.2	Requirements	Outdoor usage: The unit consists of a concrete structure and a metal top cover plate. Not sensible for UV radiation	P
C.1.3	Test method		N/A
C.2	**UV light conditioning test**		N/A
C.2.1	Test apparatus ..... :		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
D	**TEST GENERATORS**		N/A
D.1	**Impulse test generators**		N/A
D.2	**Antenna interface test generator**		N/A
D.3	**Electronic pulse generator**		N/A
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		P
E.1	**Electrical energy source classification for audio signals**		P
	Maximum non-clipped output power (W)..... :	Max output of headphone amplifier IC: 15mW @ R_L: 32 Ω, 30 mW @ R_L: 16 Ω , which corresponds with 0,69 V	—
	Rated load impedance (Ω) ..... :	8 Ω No user accessible terminals	—
	Open-circuit output voltage (V) ..... :	Max 2x 15 V	—
	Instructional safeguard ..... :	See Clause F.5	—
E.2	**Audio amplifier normal operating conditions**		P
	Audio signal source type..... :	Analog	—
	Audio output power (W)..... :	12 Wmax (calculated) Reduced by application)	—
	Audio output voltage (V) ..... :	10.6 Vrms (calculated)	—
	Rated load impedance (Ω) ..... :	8 Ω	—
	Requirements for temperature measurement	(See Table B.1.5)	P
E.3	Audio amplifier abnormal operating conditions	(See Table B.3, B.4)	P
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	**General**		P
	Language ..... :	English	—
F.2	**Letter symbols and graphical symbols**		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	**Equipment markings**		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification ..... :	Yalp	P
F.3.2.2	Model identification ..... :	Yalp Fono YA3702	P
F.3.3	Equipment rating markings		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage ..... :	AC	P
F.3.3.4	Rated voltage..... :	100 – 240 V	P
F.3.3.5	Rated frequency..... :	50/60 Hz	P
F.3.3.6	Rated current or rated power ..... :	150 Wmax	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device	Auto ranging	N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings:		N/A
F.3.5.2	Switch position identification marking..... :	Disconnecting device to be provided in the end use. See Conditions of Acceptability	N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :	No user replaceable fuses	N/A
	Instructional safeguards for neutral fuse ..... :		N/A
F.3.5.4	Replacement battery identification marking..... :	No user replaceable batteries	N/A
F.3.5.5	Neutral conductor terminal		P
F.3.5.6	Terminal marking location	Only to be accessed and installed by qualified personnel. Marked with L, N and PE	P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal..... :	In Power box marked with earth symbol IEC60417-5017	P
F.3.6.1.2	Protective bonding conductor terminals ..... :	Only internal and not user accessible as part of factory wiring	P
F.3.6.2	Equipment class marking..... :		N/A
F.3.6.3	Functional earthing terminal marking ..... :		N/A
F.3.7	Equipment IP rating marking..... :	IP54	P
F.3.8	External power supply output marking ..... :		N/A
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P
F.4	**Instructions**		P
	a) Information prior to installation and initial use	Refer to Installation manual	P

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place	Refer to Installation manual	P
	f) Instructions for audio equipment terminals	Internal audio terminals ES1 level only	N/A
	g) Protective earthing used as a safeguard	Refer to Installation manual	P
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		P
	k) Replaceable components or modules providing safeguard function	No such components used	N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment	Only requirements for installation not for normal use. There is no need to mark the equipment with the mentioned element markings	P
F.5	Instructional safeguards		P
G	**COMPONENTS**		P
G.1	**Switches**		N/A
G.1.1	General	No such switch used	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	**Relays**		N/A
G.2.1	Requirements	No such relays used	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	**Protective devices**		P
G.3.1	Thermal cut-offs	No thermal cut-offs used	N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	No thermal cut-outs used	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links	No thermal links used	N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		P
G.3.4	Overcurrent protection devices	Approved fuses used	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided	No such devices used	N/A
G.3.5.2	Single faults conditions ..... :	(See appended table B.4)	N/A
G.4	**Connectors**		P
G.4.1	Spacings	Approved mains terminals and connectors with adequate spacing	P
G.4.2	Mains connector configuration ..... :	Permanently connected	N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No plug used	N/A
G.5	**Wound components**		P
G.5.1	Wire insulation in wound components	Part of approved SMPS	P
G.5.1.2	Protection against mechanical stress		N/A
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)..... :		—
	Test temperature (°C)..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method ..... :	Part of approved SMPS	P
	Position ..... :		N/A
	Method of protection..... :		N/A
G.5.3.2	Insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Protection from displacement of windings ..... :		—
G.5.3.3	Transformer overload tests		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding temperatures		N/A
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter ..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors	No motors used	N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage ..... :		—
G.6	**Wire Insulation**		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.6.1	General		P
G.6.2	Enamelled winding wire insulation		N/A
G.7	**Mains supply cords**		N/A
G.7.1	General requirements	Permanently connected	N/A
	Type..... :		—
G.7.2	Cross sectional area (mm^2 or AWG)..... :		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)..... :		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)..... :		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, *D* (mm) ..... :		—
	Radius of curvature after test (mm)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	**Varistors**		N/A
G.8.1	General requirements	No varistors used	N/A
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	**Integrated circuit (IC) current limiters**		N/A
G.9.1	Requirements	No IC current limiters used	N/A
	IC limiter output current (max. 5A) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Manufacturers' defined drift ..... :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	**Resistors**		N/A
G.10.1	General	No such resistors used	N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	**Capacitors and RC units**		N/A
G.11.1	General requirements	No such capacitors and RC units used	N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	**Optocouplers**		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics	Part of approved SMPS	P
	Type test voltage $V_{ini,a}$..... :		—
	Routine test voltage, $V_{ini,b}$..... :		—
G.13	**Printed boards**		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards	No coated printed boards used	N/A
G.13.4	Insulation between conductors on the same inner surface		P
G.13.5	Insulation between conductors on different surfaces		P
	Distance through insulation ..... :	0.4	P
	Number of insulation layers (pcs) ..... :	1	—
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	Test method and compliance		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements ..... :	No coating used	N/A
G.15	**Pressurized liquid filled components**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.1	Requirements	No such components used	N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
G.16.1	Condition for fault tested is not required	No ICX used	N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test .... :		—
	Mains voltage that impulses to be superimposed on ..... :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test..... :		—
G.16.3	Capacitor discharge test..... :		N/A
H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		N/A
H.1	**General**		N/A
H.2	**Method A**		N/A
H.3	**Method B**		N/A
H.3.1	Ringing signal	No ringing signals	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		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		N/A
J.1	**General**		N/A
	Winding wire insulation..... :		—
	Solid round winding wire, diameter (mm) ..... :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm^2)..... :		N/A
J.2/J.3	Tests and Manufacturing		—
K	**SAFETY INTERLOCKS**		N/A
K.1	**General requirements**		N/A
	Instructional safeguard ..... :	No safety interlocks used	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
K.5.1	Under single fault condition		N/A
K.6	**Mechanically operated safety interlocks**		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance..... :		N/A
K.7	**Interlock circuit isolation**		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2 ..... :		N/A
K.7.2	Overload test, Current (A)..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	**DISCONNECT DEVICES**		P
L.1	**General requirements**		P
L.2	**Permanently connected equipment**	To be provided in the end use as per installation manual (all pole disconnection)	P
L.3	**Parts that remain energized**	No such parts	N/A
L.4	**Single-phase equipment**		P

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Clause	Requirement + Test	Result - Remark	Verdict
L.5	**Three-phase equipment**		N/A
L.6	**Switches as disconnect devices**		N/A
L.7	**Plugs as disconnect devices**		N/A
L.8	**Multiple power sources**		N/A
	Instructional safeguard ..... :		N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		P
M.1	**General requirements**		P
M.2	**Safety of batteries and their cells**		P
M.2.1	Batteries and their cells comply with relevant IEC standards ..... :	Approved CR2032 battery, IEC60086, UL1642. (Refer to appended Table 4.1.2)	P
M.3	**Protection circuits for batteries provided within the equipment**		P
M.3.1	Requirements	Excessive discharge and unintentional charging in NC and SFC prevented by design of equipment. Battery not user accessible.	P
M.3.2	Test method		P
	Overcharging of a rechargeable battery	Non-rechargeable battery	N/A
	Excessive discharging	See test results table Annex M	P
	Unintentional charging of a non-rechargeable battery		P
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance	(See appended table M.3)	P
M.4	**Additional safeguards for equipment containing a portable secondary lithium battery**		N/A
M.4.1	General	Primary cell is used	N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance ..... :		N/A
M.4.3	Fire enclosure ..... :		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): .... :		N/A
M.4.4.4	Check of the charge/discharge function		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	**Risk of burn due to short-circuit during carrying**		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	**Safeguards against short-circuits**		P
M.6.1	External and internal faults		P
M.6.2	Compliance		P
M.7	**Risk of explosion from lead acid and NiCd batteries**		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate ..... :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m^3/h) ..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate..... :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.4	Marking ..... :		N/A
M.8	**Protection against internal ignition from external spark sources of batteries with aqueous electrolyte**		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_Z (m^3/s)..... :		—
M.8.2.3	Correction factors ..... :		—
M.8.2.4	Calculation of distance d (mm) ..... :		—
M.9	**Preventing electrolyte spillage**		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard ..... :		N/A
N	**ELECTROCHEMICAL POTENTIALS**		P
	Material(s) used ..... :	Terminals are approved components. The bonding between the terminals is: Copper to stainless steel (0V), stainless steel to steel (0V)	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Value of *X* (mm) ..... :		—
P	**SAFEGUARDS AGAINST CONDUCTIVE OBJECTS**		P
P.1	**General**		P
P.2	**Safeguards against entry or consequences of entry of a foreign object**		N/A
P.2.1	General	No openings in external enclosure	N/A
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	**Safeguards against spillage of internal liquids**		N/A
P.3.1	General	No internal liquids used	N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	**Metallized coatings and adhesives securing parts**		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T_C (°C) ..... :		—
	Duration (weeks) ..... :		—
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		N/A
Q.1	**Limited power sources**		N/A
Q.1.1	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output		N/A
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance..... :		N/A
	Current rating of overcurrent protective device (A) ..... :		N/A
Q.2	**Test for external circuits – paired conductor cable**		N/A
	Maximum output current (A) ..... :		N/A
	Current limiting method ..... :		—
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	**General**		N/A
R.2	**Test setup**		N/A
	Overcurrent protective device for test ..... :		—
R.3	**Test method**		N/A
	Cord/cable used for test..... :		—
R.4	**Compliance**		N/A
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
S.1	**Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W**		N/A
	Samples, material..... :	Metal cover plate, concrete enclosure and approved UL94V-0 internal IP rated enclosures	—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	**Flammability test for fire enclosure and fire barrier integrity**		N/A
	Samples, material..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
S.3	**Flammability test for the bottom of a fire enclosure**		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples ..... :		—
	Wall thickness (mm) ..... :		—
S.4	**Flammability classification of materials**	UL94V-0 (part of approved internal enclosure material)	N/A
S.5	**Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W**		N/A
	Samples, material..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (°C)..... :		—
T	**MECHANICAL STRENGTH TESTS**		P
T.1	**General**		P
T.2	**Steady force test, 10 N ..... :**	(See appended table T.2) No affected components, SMD components and approved SMPS	P
T.3	**Steady force test, 30 N ..... :**	No accessible safeguard	N/A
T.4	**Steady force test, 100 N ..... :**	Fixed permanently connected equipment	N/A
T.5	**Steady force test, 250 N ..... :**	(See appended table T.5)	P
T.6	**Enclosure impact test**	(See appended table T.6)	P
	Fall test		P
	Swing test		N/A
T.7	**Drop test ..... :**		N/A
T.8	**Stress relief test ..... :**	No such safeguard or materials	N/A
T.9	**Glass Impact Test ..... :**	No glass	N/A
T.10	**Glass fragmentation test**		N/A
	Number of particles counted..... :		N/A
T.11	**Test for telescoping or rod antennas**		N/A
	Torque value (Nm) ..... :		N/A
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION**		N/A
U.1	**General**		N/A
	Instructional safeguard **:**	Not a CRT	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
U.2	**Test method and compliance for non-intrinsically protected CRTs**		N/A
U.3	**Protective screen**		N/A
V	**DETERMINATION OF ACCESSIBLE PARTS**		P
V.1	**Accessible parts of equipment**		P
V.1.1	General	No openings in external enclosure	P
V.1.2	Surfaces and openings tested with jointed test probes		N/A
V.1.3	Openings tested with straight unjointed test probes		N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
V.2	**Accessible part criterion**		P
X	**ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)**		N/A
	Clearance..... :		N/A
Y	**CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES**		P
Y.1	**General**	Enclosure consists of concrete structure (Thickness min. 4 cm) and metal coverplate (Thickness min. 3 mm)	P
Y.2	**Resistance to UV radiation**		P
Y.3	**Resistance to corrosion**	Stainless steel used.	P
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by..... :	RVS 304	P
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure..... :		N/A
Y.3.5	Compliance		N/A
Y.4	**Gaskets**	No gaskets used	N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods..... :		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.4.6	Securing means		N/A
Y.5	**Protection of equipment within an outdoor enclosure**		P
Y.5.1	General	Internal enclosures for Power box (IP54), SMPS (IP65) and YIN2-box (IP54) all separately approved. Refer to Test report 223031500 (Available on request)	P
Y.5.2	Protection from moisture		P
	Relevant tests of IEC 60529 or Y.5.3..... :	Equipment provided with drainholes	P
Y.5.3	Water spray test	Waterspray test performed on individual components	P
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		P
Y.5.5.1	General		P
Y.5.5.2	IP5X equipment	Power box and YIN2-box: IP54 Refer to Test report 223031500 (Available on request)	P
Y.5.5.3	IP6X equipment	Certified SMPS: IP65 Refer to Test report E183223-4789182890	P
Y.6	**Mechanical strength of enclosures**		P
Y.6.1	General		P
Y.6.2	Impact test ..... :		N/A

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

5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type[1)]	Additional Info [2)]	
100 - 240	Primary circuit	NO, FC	240	-	SS	50 – 60 Hz	ES3
100 - 240	Secondary circuits (All circuits derived from output of certified SMPS)	NO, FC	≤ 15 V	-	SS	dc	ES1
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							

5.4.1.8	TABLE: Working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
Primary circuit between Line and Neutral	240	340	<30 kHz	
Primary circuit between Line and PE	240	340	<30 kHz	
Primary to secondary	-	-	-	Approved SMPS
Supplementary information:				

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics			N/A
Method..... :	ISO 306 / B50			—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)	
Supplementary information:				

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

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

Supplementary information:
Approved components used

5.4.2, 5.4.3	**TABLE: Minimum Clearances/Creepage distance**							P
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq [1] (Hz)	Required cl (mm)	cl (mm)	E.S. [2] (V)	Required cr (mm)	cr (mm)
Power supply (approved see note 4)	340	240	50/60	3	-		4.8	-
Mains terminals to PE (approved see note 4)	340	240	50/60	1,5	-		2.4	-
Mains interconnection plugs (approved see note 4)	340	240	50/60	3	-		4.8	-
Mains terminals L to N in the power supply (approved see note 4)	340	240	50/60	1.5	-		2.4	-

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 Note 4: Acceptance based on approval of the Meanwell power supply and the DIN rail mains terminals. No evaluation or test performed. See critical component list for details.

5.4.4.2	**TABLE: Minimum distance through insulation**			P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)

Supplementary information:
Approved SMPS used

5.4.4.9	**TABLE: Solid insulation at frequencies >30 kHz**					N/A
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)

Supplementary information:

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

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
BI: Between L/N and PE		dc	2500	No
RI: Between primary and secondary circuit *				See note
Supplementary information:				
*: Approved SMPS used, no test performed.				

5.5.2.2	TABLE: Stored discharge on capacitors				N/A
Location	Supply voltage (V)	Operating and fault condition [1)]	Switch position	Measured voltage (Vpk)	ES Class
Supplementary information:					
X-capacitors installed for testing: [ ] bleeding resistor rating: [ ] ICX: 1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit Note: Permanently connected. (However U = 0 < 2 sec: PS1)					

5.6.6	TABLE: Resistance of protective conductors and terminations				P
Location		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (mΩ)
PE terminal to SMPS enclosure		40	2	0.32	8
PE terminal to enclosure (cover)		40	2	0.44	11
PE terminal to enclosure (cover speaker)		40	2	0.68	17
PE terminal to YIN2 (FE)		40	2	0.6	15
Supplementary information:					
40 A for 2 minutes to comply with CAN/US requirements					

5.7.4	TABLE: Unearthed accessible parts					N/A
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V_{rms} or V_{pk})	Current (A_{rms} or A_{pk})	Freq. (Hz)	
Supplementary information:						

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Clause	Requirement + Test	Result - Remark	Verdict

Abbreviation: SC= short circuit; OC= open circuit No unearthed conductive parts.				
5.7.5	**TABLE: Earthed accessible conductive part**			P
Supply voltage (V).....:	240 V			—
Phase(s) .....:	[X] Single Phase; [ ] Three Phase: [ ] Delta [ ] Wye			
Power Distribution System .....:	[X] TN [X]TT [ ] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
Supplementary Information:				
The unit is equipped with only one reinforced isolated power supply which is accepted based on its approval. No other mains connected parts that could introduce a touch current of significance, therefore no test are performed. (Leakage current <0.75 mA at 277 Vac 60Hz)				

5.8	**TABLE: Backfeed safeguard in battery backed up supplies**					N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class
Supplementary information:						
Abbreviation: SC= short circuit, OC= open circuit						

6.2.2	**TABLE: Power source circuit classifications**					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power[1)] (W)	Time (S)	PS class
PS3 Primary circuits (Powerbox)	NO, OL	240 Vac	16	3840	5	PS3
PS3 Primary circuits SMPS	NO, OL	240 Vac	16	3840	5	PS3
PS3 Power supply secondary circuit, output and cable	NO, OL	15 Vdc	15	225	5	PS3
YIN 2.52 board						
J1 (1 / 2) [Vin 12-18V] = *SMPS output*	-	*15 Vdc*	*15*	*225*	*5*	*PS3*
J2 (1,3-19 / 2,4-20) [Vin_SW]	OL	15 Vdc	15	225	5	PS3

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Clause	Requirement + Test	Result - Remark	Verdict

J4 (1 / 2) [OUT_SW]1	OL	14,4 Vdc	10,02	144	5	PS3
J6 (1 / 2) [OUT_SW2]	OL	14,4 Vdc	10,02	144	5	PS3
J9 (1 / 4)	OL	13,9 Vdc	0,99	13,8	3	PS1
J10, J12 [POE]	OL	13,9 Vdc	0,95	13,3	3	PS1
J14 (8,7 / 5,6) [5Vsys]	OL	4,1 Vdc	0,95	3,9	3	PS1
J11 (1 / 4) USB	OL	3,8 Vdc	1,6	6,1	3	PS1
FONO DJ Rev100 board						
J2 (1 / 4) [V5USB_OUT]	OL	4,6 Vdc	0,31	1,39	3	PS1
J3 [V5IN_YIN] *= J14-YIN*	-	*4,1 Vdc*	*0,95*	*3,9*	*3*	*PS1*
J5 [VIN_YIN] *= J2-YIN*	-	*15 Vdc*	*15*	*225*	*5*	*PS3*
J8 (1 / 7,9) [V5_EXT] = *J115-MSS*	-	*3 Vdc*	*0,046*	*0,14*	*3*	*PS1*
J8 (8,10 / 7,9) [VLED_EXT] = *J115-MSS*	-	*12,7 Vdc*	*2,6*	*32,8*	*5*	*PS2*
J10 (1 / 7,9) [V5_INT1]	OL	3,4 Vdc	1,4	4,8	3	PS1
J10 (8,10 / 7,9) [VLED1]	OL	7 Vdvc	1,17	8,2	3	PS1
J12 (1 / 7,9) [V5_INT2]	OL	3,4 Vdc	1,4	4,8	3	PS1
J12 (8,10 / 7,9) [VLED2]	OL	7 Vdvc	1,17	8,2	3	PS1
Music Station Soundboard						
J115 (8,10 / 4,7,9) [+LED]	OL	12,7 Vdc	2,6	32,8	5	PS2
J115 (1 / 4,7,9) [Vcc]	OL	3 Vdc	0,046	0,14	3	PS1
J113 (1 / 5) [Vusb] *= J2-FONO*	-	*4,6 Vdc*	*0,31*	*1,39*	*3*	*PS1*
Internal [+12V] *= J4 - YIN*	-	*14,4 Vdc*	*10,02*	*144*	*5*	*PS3*
Internal [+5V0]	OL	3,8	1,4	5,3	3	PS1

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Clause	Requirement + Test	Result - Remark	Verdict

Internal [3V3]	OL	2,5	1,3	3,2	3	PS1
YlpMstQ1, YlpMscQ1, YlpMsdQ1, YlpMsbQ1, FONO Bridge						
J1 (1 / 4,7,9) [Vcc] *= FONO DJ Rev100 board J10 (1 / 4,7,9) [V5_INT1]*	-	*3,4 Vdc*	*1,4*	*4,8*	*3*	*PS1*
J1 (8,10 / 4,7,9) [+LED] *= FONO DJ Rev100 board J10 (8,10 / 4,7,9) [VLED1]*	-	*7 Vdvc*	*1,17*	*8,2*	*3*	*PS1*
J12 (1 / 7,9) [Vcc] *= FONO DJ Rev100 board J12 (1 / 4,7,9) [V5_INT2]*	-	*3,4 Vdc*	*1,4*	*4,8*	*3*	*PS1*
J1 (8,10 / 4,7,9) [+LED] *= FONO DJ Rev100 board J12 (8,10 / 4,7,9) [VLED2]*	-	*7 Vdvc*	*1,17*	*8,2*	*3*	*PS1*

Supplementary information:

Abbreviation: SC= short circuit; OC= open circuit; OL= Overload

1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.

Note: All values are measured with additional loads connected to the respective circuits.
Power values are exclusive internal circuit power consumption.

(…) : Pin numbers of connector.
[…] : Signal names as used in schematics.
YIN2 Rev 2.52 (11-5-2021) ; FONO DJ Rev 1.00 (20-5-2021) ; YlpMssS3 (10-11-2013)

6.2.3.1	**TABLE: Determination of Arcing PIS**			P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
Primary circuit (power box)	340	-	-	Yes
Primary circuit *				Yes

Supplementary information:

Note: Mains parts are all covered with a fire enclosure and accepted based on approved SMPS and connector.

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.3.2	TABLE: Determination of resistive PIS		P
Location	Operating and fault condition	Dissipate power (W)	Resistive PIS? Yes / No
Primary circuit			Yes
Secondary circuit 15 V circuits	Only in single fault conditions (Overcurrent protection by PTC's in several circuits)	225	Yes
Audio circuits and speakers (PS2)	Only in single fault conditions (Overcurrent protection by PTC F12 and overcurrent / short protection of digital amplifier U1)	37,5	Yes
Supplementary information:			
Abbreviation: SC= short circuit; OC= open circuit			

8.5.5	TABLE: High pressure lamp				N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No	
Supplementary information:					
Not a high pressure lamp					

9.6	TABLE: Temperature measurements for wireless power transmitters								N/A
Supply voltage (V)..... :									—
Max. transmit power of transmitter (W) ..... :									—
	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm		
Foreign objects	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	
Supplementary information:									

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	230	230	100	-	—
Ambient temperature during test T_{amb} (°C) .... :	24.1	22.9	22.8	40	—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
	Test A	Test B	Test C	Max	
Mains wiring Powerbox	24.6	24.1	24.6	41.8	60
SMPS Housing top	32.2	33.2	33.7	50.9	60
YIN2-box Sec wiring	34.3	36.0	36.3	53.5	60
YIN2 - U1	44.9	46.4	46.5	63.7	125 [1]
YIN2 - U2	41.7	43.6	43.7	60.9	125 [1]
YIN2 - T4	38.1	39.8	39.9	57.1	125 [1]
YIN2 - U9	40.4	42.0	42.0	59.2	125 [1]
YIN2 - U10	42.3	44.1	44.2	61.4	125 [1]
FONO-DJ - U7	46.8	59.2	54.8	76.3	125 [1]
FONO-DJ - U8	67.1	79.0	75.5	96.1	125 [1]
FONO-DJ - U9	49.8	61.7	58.7	78.8	125 [1]
FONO-DJ - U10	66.3	77.5	76.7	94.6	125 [1]
FONO MAIN - U1	47.7	48.3	48.7	65.9	125 [1]
FONO MAIN - U2	44.2	44.9	45.1	62.3	125 [1]
FONO MAIN - U101	50.5	51.0	51.4	68.6	125 [1]
Amb.int YIN2-box	35.7	37.1	37.4	54.6	60
Amb.int Left top	27.1	25.5	26.0	43.2	60
Amb.int Right top	25.3	26.3	26.9	44.1	60
Bottom plate	27.0	26.9	27.4	44.6	60
Amb.int Mid	25.5	24.7	25.1	42.3	60
Control panel mid	27.4	25.4	25.9	43.3	48

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

Supplementary information:
Test A; 230 V, 50 Hz, StandBy

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Clause	Requirement + Test	Result - Remark	Verdict

Test B: 230 V, 50 Hz, Active (Setting Left and Right: Mobile, Volume max, Crush max, turn table rotating)
Test C: 100 V, 50 Hz, Active (Setting Left and Right: Mobile, Volume max, Crush max, turn table rotating)

[1] : Max temp PCB.

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P (VA)	Fuse No	Condition/status	
90	50	0.14	-	11.7	12.8	0.91	Standby	
100	50	0.13	1,5	11.9	13.4	0.89		
110	50	0.13	-	12.2	13.9	0.86		
120	50	0.12	-	12.6	14.6	0.84		
207	50	0.12	-	12.6	24.9	0.48		
230	50	0.12	-	12.8	27.9	0.44		
240	50	0.13	0,625	11.9	29.3	0.42		
253	50	0.13	-	12.7	32.8	0.36		
264	50	0.12	-	12.2	35.5	0.35		
90	50	0.24	-	20.9	22.2	0.96	Active (Setting Left and Right: Mobile, Volume max, Crush max, turn table rotating)	
100	50	0.23	1,5	21.7	22.6	0.95		
110	50	0.21	-	21.2	22.6	0.94		
120	50	0.20	-	22.4	24.3	0.92		
207	50	0.16	-	22.7	31.6	0.75		
230	50	0.16	-	21.1	36.1	0.59		
240	50	0.16	0,625	22,0	39.3	0.55		
253	50	0.16	-	21.1	42.2	0.50		
264	50	0.17	-	20.9	44.5	0.47		

Supplementary information:

Note: Power consumption (and consequently temperature behaviour) is dynamic.
Active setting is considered as max. power consumption.

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Clause	Requirement + Test	Result - Remark	Verdict

B.3, B.4	TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T_{amb} (°C)..... :			23.5			—
Power source for EUT: Manufacturer, model/type, outputrating .. :			Meanwell HEP-150-15A			—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
SMPS output	OL	90 - 240	5	-	-	Uo = 15,1 Vdc; U_{OL} = 15 Vdc; I_{OL} = 15 A. No hazard
SMPS output	SC	90 - 240	5	-	-	Uo = 15,1 Vdc; Usc = 0 V; Isc = 0,02 A; hiccup. No hazard, auto reset
YIN2-2.52						
J2 (1,3-19 / 2,4-20) [Vin_SW]	SC	90 - 240	5	-	-	Uo = 15,1 Vdc; Usc = 0 V; Isc = 0,02 A; Hiccup. No hazard, auto reset
J2 (1,3-19 / 2,4-20) [Vin_SW]	OL	90 - 240	5	-	-	Uo = 15,1 V; U_{OL} = 15 Vdc; I_{OL} = 15 A; No hazard
J4 (1 / 2) [OUT_SW1]	SC	90 - 240	30	-	-	Uo = 15,1 Vdc; Usc = 0 V; Isc = 0,02 A No hazard, auto reset
J6 (1 / 2) [OUT_SW2]	SC	90 - 240	30	-	-	Uo = 15,1 Vdc; Usc = 0 V; Isc = 0,02 A No hazard, auto reset
J4 (1 / 2) [OUT_SW1] J6 (1 / 2) [OUT_SW2]	OL	90 - 240	30	-	-	Uo = 15,1 Vdc; U_{OL} = 15 Vdc; I_{OL} = 10 A; No hazard
J9 (1 / 4)	SC	90 - 240	5	-	-	Uo = 15,1 Vdc; Isc = 1A; Fuse F5 blown. No hazard.
J14 (8,7 / 5,6) [5Vsys]	SC	90 - 240	5			Uo = 4,1 Vdc; I_{SC} = 1 A; Fuse F7 blown. No hazard
J11 (1 / 4) USB	SC	90 - 240	30	-	-	Uo = 4,9 Vdc; Usc = 0 V; Isc = 0,1 A No Hazard, auto reset
J11 (1 / 4) USB	OL	90 - 240	30	-	-	Uo = 4,9 Vdc; U_{OL} = 3,8 Vdc; I_{OL} = 1,6 A; No hazard
J10 (7 / 8 , 9 /10) POE	SC	90 - 240	30	-	-	Uo = 15,1 Vdc; I_{SC} = 1 A, Fuse F8 resp F9 blown. No Hazard
J12 (7 / 8 , 9 /10) POE	SC	90 - 240	30	-	-	Uo = 15,1 Vdc; I_{SC} = 0,95 A, Fuse F10 resp F11

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

						blown. No Hazard
FONO DJ Rev100 board						
J2 (1 / 4) [V5USB_OUT]	SC	90 - 240	30	-	-	Uo = 5 Vdc; Usc = 0 V; Isc = 300 mA No hazard, auto reset
J2 (1 / 4) [V5USB_OUT]	OL	90 - 240	30	-	-	Uo = 5 Vdc; U_{OL} = 15 Vdc; I_{OL} = 10 A; No hazard
J10 (1 / 7,9) [V5_INT1] J12 (1 / 7,9) [V5_INT2]	SC	90 - 240	30			Uo = 5 Vdc; Usc = 0 V; Isc = 0,22 A No hazard, auto reset
J10 (1 / 7,9) [V5_INT1] J12 (1 / 7,9) [V5_INT2]	OL	90 - 240	30			Uo = 5 Vdc; U_{OL} = 3,4 Vdc; I_{OL} = 1,4 A; No hazard
J10 (8,10 / 7,9) [VLED1] J12 (8,10 / 7,9) [VLED2]	SC	90 - 240	30			Uo = 7,88 Vdc; Usc = 0 V; Isc = 1,26 A No hazard, auto reset
J10 (8,10 / 7,9) [VLED1] J12 (8,10 / 7,9) [VLED2]	OL	90 - 240	30			Uo = 7,88 Vdc; U_{OL} = 7,02 Vdc; I_{OL} = 1,18 A; No hazard
J3, J5 (Audio output)	OL / SC	90 - 240	30	-	-	No hazard. (Amplifier equipped with overcurrent / overload / short protection
Music Station Soundboard						
J115 (8,10 / 7,9) [+LED]	SC	90 - 240	30	-	-	Uo = 7,88 Vdc Usc = 0 V, Isc = 1,26 A
J115 (1 / 4,7,9) [Vcc]	SC	90 - 240	30			Uo = 4,86 Vdc Usc = 0 V, Isc = 0,9 A No hazard, manual reset needed.
Internal [+12V]	SC	90 - 240	30			Uo = 15 Vdc Usc = 0 V, Isc = 0,12 mA No hazard, autoreset.
Internal [+5V0]	SC	90 - 240	30	-	-	Uo = 4,99 Vdc Usc = 0 V, Isc = 0,6 A No hazard, manual reset needed.
Internal [3V3]	SC	90 - 240	30			Uo = 3,3 Vdc Usc = 0 V, Isc = 1,8 A No hazard, manual reset needed.

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Clause	Requirement + Test	Result - Remark	Verdict

Headset output J4	OL	90 - 240	10			Max output (sine 1kHz): 2 mVrms (Input J9/J11: 1.58V Max output (Pink Noise): 1,9 mV (Input J9.J11: 0.316 mV)

Supplementary information:

Abbreviation: SC= short circuit; OC= open circuit; OL= Overload

(…) : Pin numbers of connector.
[…] : Signal names as used in schematics.
YIN2 Rev 2.52 (11-5-2021) ; FONO DJ Rev 1.00 (20-5-2021) ; YlpMssS3 (10-11-2013)

Note: No fault conditions performed on Control boards (which are mounted underneath the top cover, as these are powered by ES1/PS1 only.

M.3 **TABLE: Protection circuits for batteries provided within the equipment** P

Is it possible to install the battery in a reverse polarity position?.....: Not user replaceable —

Equipment Specification	Charging	
	Voltage (V)	Current (A)
	-	-

Manufacturer/type	Battery specification					
	Non-rechargeable batteries		Rechargeable batteries			
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)
			Voltage (V)	Current (A)		
Duracell CR/DL2032	3 mA	0 mA	-	-	-	-
			-	-	-	-

Note: The tests of M.3.2 are applicable only when above appropriate data is not available.

Specified battery temperature (°C) .....: P

Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation

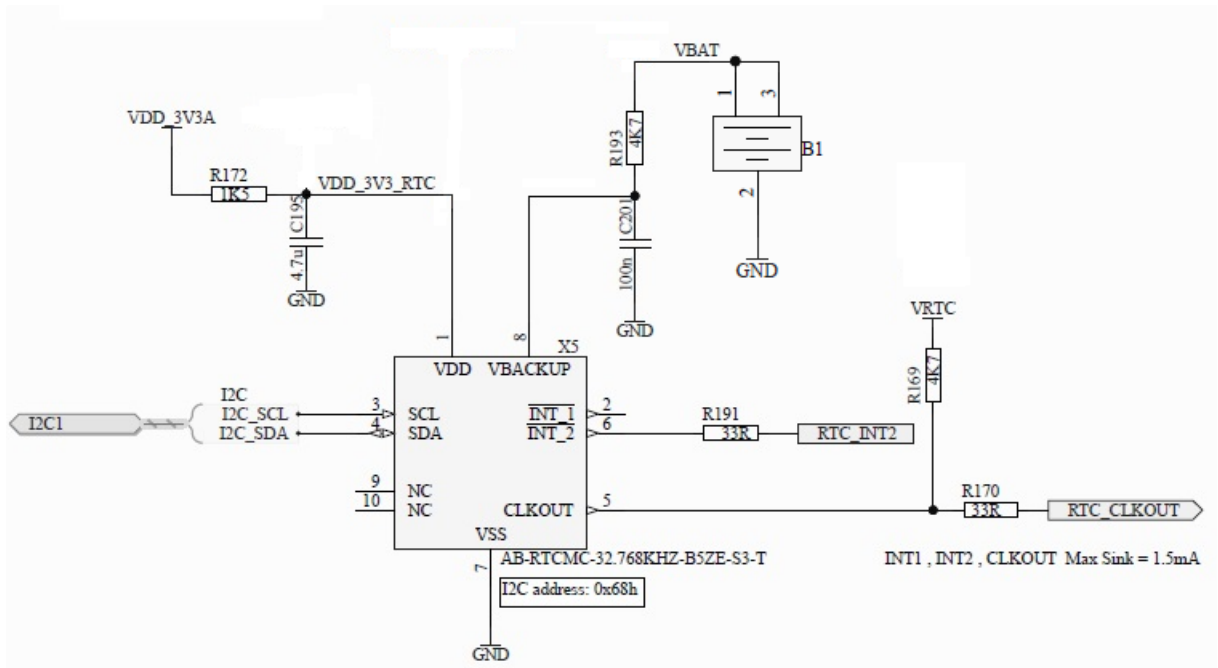
Supplementary information:

Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.

Protection circuit on YIN2.52 board.

IC X5 has internal protection.

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



YIN252 Approved DL/CR2032 cell with adequate protection used.

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery		N/A
Maximum specified charging voltage (V) ..... :			—
Maximum specified charging current (A) ..... :			—
Highest specified charging temperature (°C) ..... :			
Lowest specified charging temperature (°C) ..... :			

Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	

Supplementary information:

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

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

Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**							N/A
Output Circuit	Condition	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)		
				Meas.	Limit	Meas.	Limit	
Supplementary Information:								

T.2, T.3, T.4, T.5	**TABLE: Steady force test**						P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Enclosure	Concrete	40	--	250	5	No change, damage or hazard occurred	
Top cover	Metal	5	--	250	5		
Supplementary information:							

T.6, T.9	**TABLE: Impact test**				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Cover	Plastic parts	>3 mm	1300	No deformation, no hazard	
Supplementary information:					
Metal top cover with 5 mm thickness: No test performed.					

T.7	**TABLE: Drop test**				N/A
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Supplementary information:					
Unit is fixed to the floor and not movable					

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

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

Supplementary information:					

	TABLE: Alternative method for determining minimum clearances distances		N/A
Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)
Supplementary information:			

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

4.1.2	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
- Description:	Powerbox_YPB_112_38				
Mains power terminal and terminal box.	Bopla	M226-V0 Material: SABIC INNOVATIVE Plastics BV Polycarbonate 945U	Flammability: UL94 V0 Tmax: 120ºC Dimensions 120x80x85mm Material Thickness 2.5mm Protection Class IP66	UL746 Impact Test according to IEC 62262:2002-02 VDE 470 Teil 1 – DIN EN 60529:2014-09 Flammability IEC 60695-11-10, IEC 60695-11-20	UR: E45329, Certificate nr. 670 *
Cable gland Power Input Mains	Wiska	ESKV 25 10066413	Flammability: UL94-V2 Tmax: 100ºC Cable diameter min = 9mm Cable diameter max =17mm Protection Class IP68	ANSI/UL 514B CSA-C22.2 No. 18.3 EN62444:2013 (VDE 0619): 2014-05 IEC 60529:2013	UL: E179850 DNV.GL: TAE0000200 VDE: 40006479 *
Cable gland for PE wiring.	Wiska	ESKV 12 10066410	Flammability: UL94-V2 Tmax: 100ºC Cable diameter min = 3mm Cable diameter max = 7mm Protection Class IP68	UL514B EN62444:2013 DIN EN 62444 (VDE 0619): 2014-05 IEC 60529:2013	UL: E179850 DNV.GL: TAE0000200 VDE: 40006479 *
Cable gland for mains wiring to supply.	Wiska	ESKV 16 10066121	Flammability: UL94-V2 Tmax: 100ºC Wire outer diameter: 4.5 .. 10mm Protection Class IP68	ANSI/UL 514B CSA-C22.2 No. 18.3 EN62444:2013 (VDE 0619): 2014-05 IEC 60529:2013	UL: E179850 DNV.GL: TAE0000200 VDE: 40006479 *

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

Mains din-rail screw terminals L + N.	Phoenix Contact	UT 2.5 3044076	Flammability: UL94 V0 Tmax: 110ºC Core diameter 0.14 .. 4mm^2 26 .. 12 AWG Umax: 600V Imax: 20A	ANSI/UL 486A/B CSA-C22.2 No. 158 IEC60947-7-1	UR: E60425 CSA: 13631 CB: DE1-60117 VDE: 40013658 DNV GL: TAE00001S9 *
PE din-rail screw terminal.	Phoenix Contact	UK 5-TWIN-PE 1923076	Flammability: UL94 V2 Tmax: 125ºC Core diameter 0.2 .. 4mm^2 24 .. 12 AWG	ANSI/UL 486A/B CSA-C22.2 No. 158 IEC60947-7-1 IEC60947-7-2 CAN/CSA-C22.2 60947-7-1	UR:.E60425 CB :NL-39915_A1 DNV GL: TAE00001CT *
Mains wiring to power supply.	Helukabel	MEGAFLEX 3G1.5 13415	Flammability: IEC 60332-1-2, FT1. Maximum Wiring outer size: 8.5mm Tmax: +80ºC Nominal voltage: 300V	UL758: UL Style 20939 DIN EN 60332-1-2 DIN EN 60332-3-24	UR: E170315, CSA *
Protective earth wiring.	Helukabel	P/N 60713 GnYe	Flammability: UL VW-1 CSA FT1 Tmax: 105ºC Core diameter: 12AWG Nominal Voltage: 600V	UL758: UL-Style 1015 UL type AWM+MTW 105°C 600 V CSA type AWM+TEW 105°C 600 V	UR: E170315, CSA *
- Description: Power_Supply_YPS_112_23					

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

Power supply.	MeanWell	HEP-150-15A	Input: 100-240 V, 1.7 A, 50/60 Hz Output: 15 Vdc, 10 A IP65, Tamb 50 °C, Mains wiring: SJTW 3 core, 18AWG, 105 °C (60 °C water), 300 V, VW-1 (UR) Secondary wiring: SJTW, 2 core, 14 AWG, 105 °C, 300 V, FT2, (UR)	ANSI/UL 60950-1 ANSI/UL 60950-21 CAN/CSA-C22.2 No. 60950-1 IEC60950-1 IEC62368-1:2014 EN60529	UL: E183223 CB: DK-44823-UL CB: DK-90989-M1-UL TÜVR
Mains cable interconnection male & female with IP rated housing.	Neutrik	NAC3FX-W-TOP NAC3MX-W-TOP	Flammability: UL 94 V-0 Maximum Wiring outer size: 6 - 12mm Temperature: -30ºC .. +80ºC Imax: 16A rms (USA:20A) Rated voltage: AC 250V Protection Class: IP65, UL50E Enclosure type 4	ANSI/UL 498 UL60320-1 EN 60320-1:2015 + AC:2016 (VDE 0625-1): 2016-04 CSA-C22.2 No. 42	UL: E343813 VDE: 40038368 *
Secondary 15 V Female connector.	Amphenol	C01610D00600010	Maximum temperature:125°C Rated current: 14A (13A / 55°C) Rated voltage: 250V Protection Class: IP65 /67	2011/65/EU UL1977 CSA-C22.2 No.182.3	cURus: E63093,*
- Description: Memo_Fibox_YYM_112_07					

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

Internal plastic enclosure for YIN2 controller box.	Fibox	7022851 /PCT163610	Flammability: UL 746C 5" Thickness: 3.5mm Temperature range : -40ºC .. 80ºC Overall size 360x160x101mm Polycarbonaat IP66 / IP67 IK07 /IK08	UL508 Ingress protection EN 60529 EN 62262 CSA 22.2 No. 14-10 Glow wire test EC 695-2-1 (960)	UL: E75645 SGS Fimko: NCS/FI 29436 *
Breathers for Fibox.	Schneider Electric	NSYCAG12LP H1	Flammability: UL 94 V2 Operating Temperature: -40 ..150ºC Material: PA6-V2 Protection Class: IP68	UL94 EN60529	#
Secondary 15 V connector chassis.	Amphenol	C01610C00600 012	Maximum temperature: 125°C Rated current: 14A (13A / 55°C) Rated voltage: 250V Protection Class: IP65 /67	2011/65/EU UL1977 CSA-C22.2 No.182.37	cURus: E63093,*
15 V Input supply wiring red and black	Helukabel	P/N 62401 Red P/N 62404 Black	Flammability: UL VW-1 CSA FT1 Tmax: 80ºC Core diameter: 16AWG Nominal Voltage: 300V	UL758: UL-Style 1007 CSA TR 64 P	UL: E170315 *
Secondary supply connector at PCB with PCB chassis part.	Molex	171692 series 1716920102	Flammability: UL94 V-0 Tmax: 120ºC Imax: 23A per contact	UL 1977 UL94	UL: E29179 CSA: LR19980 *

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

Shrink tubing for securing wiring at connector Memo_Fibox_ YYM_112_07	3M	GTI-A 3000 9/3mm zwart	Material: polyolefine Tmax: 135ºC Crimp ratio: 3:1 Dielectric: 18 kV/mm Size 9 to 3mm	ETIM Class 5.0 EC000217	#
Wiring speaker green and black	Helukabel	AWG 16 Style 1007/1569 Black Part No: 62401 Green Part No: 62400 AWG16 Style 1015 Black Part No: 60501 Green Part No: 60500	Flammability: UL94 V1 CSA: FT1 Maximum temperature: 80°C Core diameter: 16AWG Maximum voltage: 300 Vac	IEC TS 60695-11-21Part 11-21 IEC 61034-2 UL2885 UL758 ANSI/UL 758 CSA-C22.2 No.127	cURus: E219616, *
Alternative Wiring speaker green and black	MEDI Kabel GMBH	Style 1007/1569 AWG 16 Black	Flammability: IEC TS60695-11-21 Part 11-21 AWM VW-1 FT1 TR64 90°C Maximum temperature: 80°C Core diameter: AWG 16 Maximum Voltage: 300V	IEC TS 60695-11-21 Part 11-21 IEC 61034-2 UL2885 UL758 ANSI/UL 758 CSA-C22.2 No.127	cURus: E223795, *
Speaker connector chassis	Neutrik	NL4MPXX	Maximum temperature: 80°C Maximum current: 30A RMS Continuous 40A Audio duty 50% Rated voltage: 250V (insulation)	IEC 68-2-20 UL1977 CSA-C22.2 No. 182.3	cURUS: E135070, *

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

Wiring flatcable (J10 – J12) Fono Cable Between Fibox & Interface 10x 28AWG	Helukabel	Tubrflex-y 45131	Temperature range: -20 .. 80°C Voltage Rating : Max 300V	DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2	#
Wiring flatcable J8 FONO_DJ_ Rev100	TYCO ELECTRONICS CORP	2-1437356-9	Temperature rating: 105°C Voltage Rating : Max 300V RMS	UL STYLE 2651	cURus: E41651
- Description: YIN2 Rev252					
PCB material YIN2 (YIN2_rev252).	ITEQ CORP	IT-180ATC	Flammability: UL 94 V-0 Tmax: 130ºC Multilayer: 6 Layer RB02 Thickness: 1.6mm	UL94 IEC 60695-11-10 UL746E IEC60112	UL: E178114 *
PCB SMD fuse F1	Bourns	SF-1206HH20M-2	Operating temperature: -55ºC .. 150ºC Umax: 24V Rated current: 20A	ANSI/UL 248-1 ANSI/UL 248-14 CSA-C22.2 No. 248-1-00 CSA-C22.2 No. 248-14-00	UL: E198545 *
PCB SMD fuse F2, F12	Bourns	SF-0603S250-2	Operating temperature: -55ºC .. 150ºC Rated voltage: 35V AC / 32V DC Rated current: 2.5A	ANSI/UL 248-1 ANSI/UL 248-14 CSA-C22.2 No. 248-1-00 CSA-C22.2 No. 248-14-00	UL: E198545 *
PCB SMD fuse F3, F4	Bourns	SF-1206HH10M-2	Operating temperature: -55ºC .. 150ºC Umax: 24V Rated current: 10A	ANSI/UL 248-1 ANSI/UL 248-14 CSA-C22.2 No. 248-1-00 CSA-C22.2 No. 248-14-00	UL: E198545 *
PCB SMD fuse F5, F7, F8, F9, F10, F11	Bourns	SF-0603S040-2	Tmax: 105ºC Rated voltage: 35V AC / 50V DC Rated current: 0.4A	ANSI/UL 248-1 ANSI/UL 248-14 CSA-C22.2 No. 248-1-00 CSA-C22.2 No. 248-14-00	UL: E198545 *

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

PCB SMD fuse F6, F13.	Bourns	SF-0603S100-2	Tmax: 105ºC Rated voltage: 35V AC / 32V DC Rated current: 1.0A	ANSI/UL 248-1 ANSI/UL 248-14 CSA-C22.2 No. 248-1-00 CSA-C22.2 No. 248-14-00	UL: E198545 *
Internal memory battery.	Duracell	DL2032	3 V Max abnormal charge current: 10mA Temperature Range: -20ºC .. 54ºC	UL 1642 ANSI C18.3M part 1 and part 2 ANSI C18.4 IEC 60086-1 IEC 60086-2 IEC 60086-4 IEC 60086-5 IEC 62474|	UL:MH12538 *
Internal memory battery holder.	Renata	VBH2032-1	Flammability: UL 94 V-0 Tmax: 70 ºC	UL 94 UL 1977 CSA-C22.2 No. 182.3	SGS:GZ0708 125224 UL: E218732 *
Chassis connector for RJ45 connection.	Conec	17-10020	Flammability: UL 94 V-0 Tmax: 85ºC Imax: 1.2A Umax: 100V DC Protection Class IP67	UL 1977 UL94 IEC 60603-7 ANSI/UL 1863 CAN/CSA-C22.2 No. 182.4	UL: E202784 *
- Description: FONO_DJ_Rev100					
PCB material FONO_DJ	Eurocircuits	NP155F-D-5	Flammability: UL94-V0 Maximum temperature 130°C Multilayer: 4 Layer Thickness: 1.55mm	ANSI/UL 796 UL94	Urus: E142920, *
PCB SMD fuse F1, F2, F3, F5, F6, F7, F8	Bourns	SF-0603F100-2	Tmax: 105ºC Rated voltage: 50V AC / 32V DC Rated current: 1.0A	ANSI/UL 248-1 ANSI/UL 248-14 CSA-C22.2 No. 248-1-00 CSA-C22.2 No. 248-14-00	UL: E198545 *

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

PCB SMD fuse F4	Bourns	SF-0603S100-2	Tmax: 105ºC Rated voltage: 50V AC / 32V DC Rated current: 4.0A	ANSI/UL 248-1 ANSI/UL 248-14 CSA-C22.2 No. 248-1-00 CSA-C22.2 No. 248-14-00	UL: E198545 *
J8 connector	Wurth	690367291076	Flammability UL94V0 Operating temperature: -40 ..105 ºC Working Voltage: 250V (AC) Rated Current: 1.5A	UL1977	cULus : E323964
- Description: EPO4IT YlpMssQ3 Mainboard					
PCB material YlpMssQ3 FL QPI P/N: FL106203_0	Trade: FineLine QPI Helmond	EW-13-118 / YlpMssQ3	Flammability: UL94-V0 Maximum temperature 135 ºC Multilayer: 4 Layer Thickness: 1.17mm	ANSI/UL 796 UL94	UL: E344347
J2 connector RAST-5 2P	Lumberg	3641 02	Flammability: UL 94 V-0 Tmax: 120ºC Imax: 10A Rated Voltage: 250V AC	IEC 60695-2-11 IEC 60335-1	cULus: E194320
J115 connector	Wurth Elektronic	690367281076	Flammability UL94V0 Operating temperature: -40 ..105 ºC Working Voltage: 250V (AC) Rated Current: 1.5A	UL1977	cULus: E323964
F1	Littelfuse	2920L185DR	Tmax: 85ºC Hold current 0.85A Rated voltage: 33V DC Ihold = 1.85A Itrip = 3.7A	UL1434 ANSI UL60730-1 ANSI UL60730-2-9	cURus: E183209

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

- Description: EPO4IT Interface boards					
PCB material YlpMsbQ1 YlpMscQ1 YlpMstQ1 YlpMsdQ1	Trade: FineLine QPI Helmond	FL QPI P/N: FL084251_1	Flammability: UL94-V0 Maximum Temperature: 135°C Multilayer: 2 Layer Thickness: 1.6mm tel +/- 0.16mm	ANSI/UL796 UL94	UL: E251497
LED's RED	Kingbright	APT2012EC	Dc Forward Current = 30mA Operating temp = -40..85 °C Wave length = 627nM @t 20mA Luminous Intensity min 8 mcd typical 15 mcd	CIE127-2007	#
Led green	Wurth Elektronic	151033GS03000	Dc Forward Current = 30mA Operating temp = -40..85 °C Wave length = 525nM @t 20mA Luminous Intensity min 6500 mcd typical 15000 mcd		#
Led red	Multicomp pro	OVL-3328	Dc Forward Current = 30mA Operating temp = -25..85 °C Wave length = 625nM @t 20mA Luminous Intensity min 2000 mcd typical 5500 mcd		#
- Description: Enclosure					
Concrete 123-110	YALP	123-110_x	Concrete: C60/75 class, XA3, XC4, XF2	DIN EN 15258:2009-05	Leistungserklarung DIN: 201501 D-01 #

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

Cover	YALP	Drawing 123-201	SS316 Thickness: 4 mm	62368-1	#
Plastics (white)	YALP	123-220 123-222, 223 & 224, 123-221 123-225	PETP (white) Arnite POM (black) UL94-HB		#
Gasket	YALP	EPDM shore 40-60	2 A2 B2 C P 2 C 08 B3 C2 RE 42 B2 C P	ASTM D 1056-85 AFNOR NF-R 99-211-80 SAE J 18-79	#
Speaker	Monacor	ESP-230/WS	8 Ω, 50 W IP65	EN60065:2014 (IP65) EN60529:1991 (IP65) EN61000-6-1:2007 EN61000-6-3:2007	CE
Supplementary information:					
1) An asterisk indicates mark assuring agreed level of surveillance See OD-CB2039. 1) A "#" (hash) indicates the component is tested as part of the appliance					

List of test equipment used:

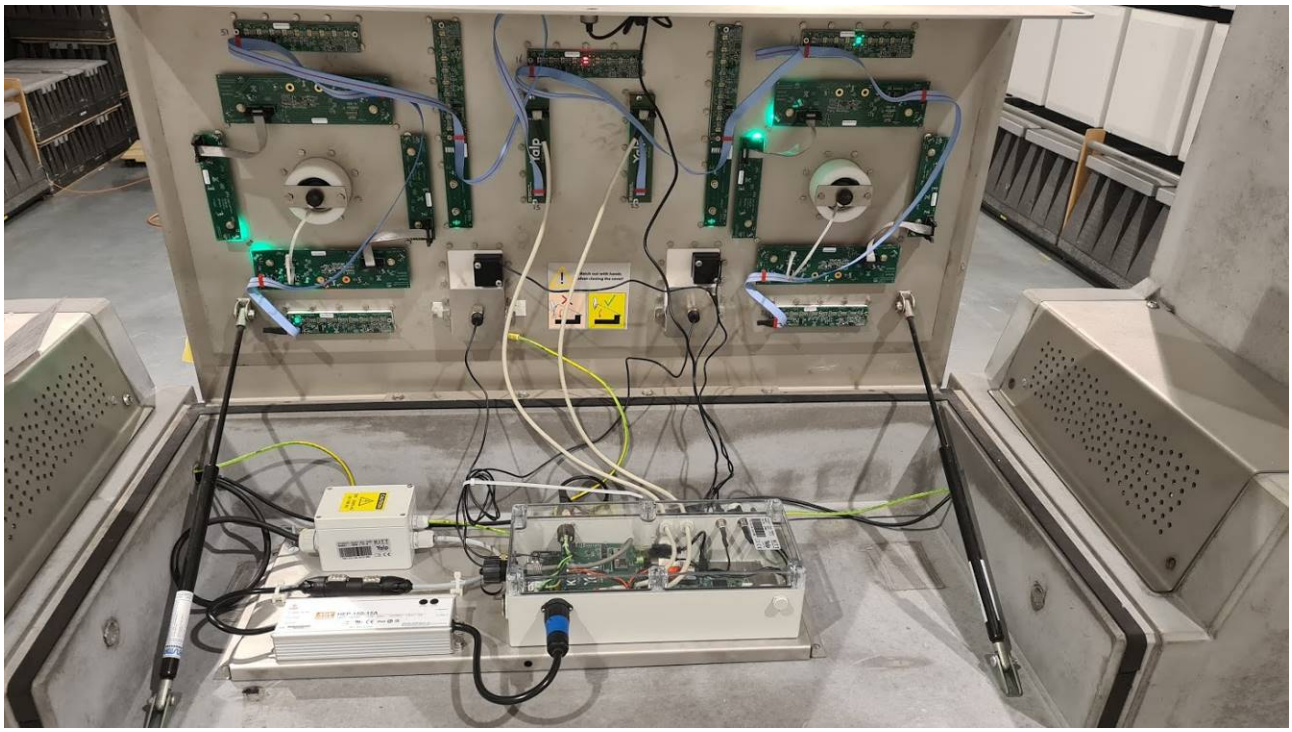
Test Instrument List 13-08-2021

Applicant **Lappset Yalp B.V.** Job No. **225750300** Project Engineer **Christiaan Meijerman**

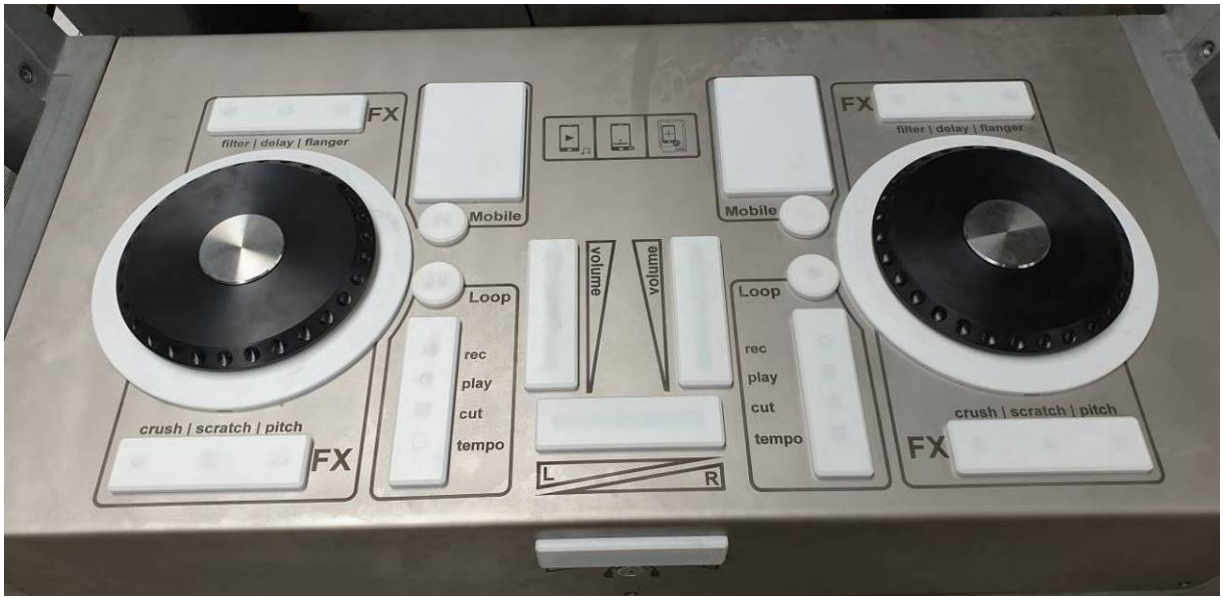
Model/Cat No. **FONO including - Yin-2 Box** Job Company **DC Netherlands**

Test						Equipment			Calibration		
Date	Id	Tested By	Description			Ors No.	Type	Description	Due Date		Calibration State
13-8-2021	0	71/9560				108273	2534-10	POWER METER	2022	26	OK
Date	Unit	Measured	Reference	Deviation	Ors No.	Description		Calibration State			Remark
13-8-2021 13:48:06	V	10	10	0	118677	MULTIMETER		OK			
13-8-2021	0	71/9560				127420	VTG300	VIDEO/AUDIO TEST GEN	2016	31	Equipment is out of use
13-8-2021	0	71/9560				129423	U1620A	SCOPEMETER	2021	42	OK
16-7-2021	0	71/9560				66152	C 14575	WEERSTAND REGEL	2021	40	OK
16-7-2021	0	71/9560				66177		WEERSTAND REGEL	2021	40	OK
16-7-2021	0	71/9560				47978	13, OHM	WEERSTAND REGEL	2022	36	OK
16-7-2021	0	71/9560				66178		WEERSTAND REGEL	2022	36	OK
16-7-2021	0	71/9560				127058	WT230	POWER METER	2021	49	OK
16-7-2021	0	71/9560				118677	METRAHIT 29S	MULTIMETER	2022	14	OK
16-7-2021	0	71/9560				60127	B79028	WEERSTAND REGEL	2023	37	OK
16-7-2021	0	71/9560				66153	9,4 OHM / 10,5A	WEERSTAND REGEL	2023	10	OK
9-7-2021	0	71/9560				127366	H.S. TOREN	TEST SYSTEM TS-082	2021	32	Equipment should be calibrated this week
8-7-2021	0	71/9560				118591	BASIS MEETTOREN	TEST SYSTEM TS-029	2022	23	OK
8-7-2021	0	71/9560				60127	B79028	WEERSTAND REGEL	2023	37	OK
8-7-2021	0	71/9560				66153	9,4 OHM / 10,5A	WEERSTAND REGEL	2023	10	OK
8-7-2021	0	71/9560				118677	METRAHIT 29S	MULTIMETER	2022	14	OK
8-7-2021	0	71/9560				127353	HA2201G	HOOGSPANNINGSTESTER	2016	32	Equipment is out of use
8-7-2021	0	71/9560				127110	3160	AARDCIRCUITTESTER	2010	10	Equipment is out of use

Pic. 1
FONO playground



Pic. 2
FONO – Cover opened

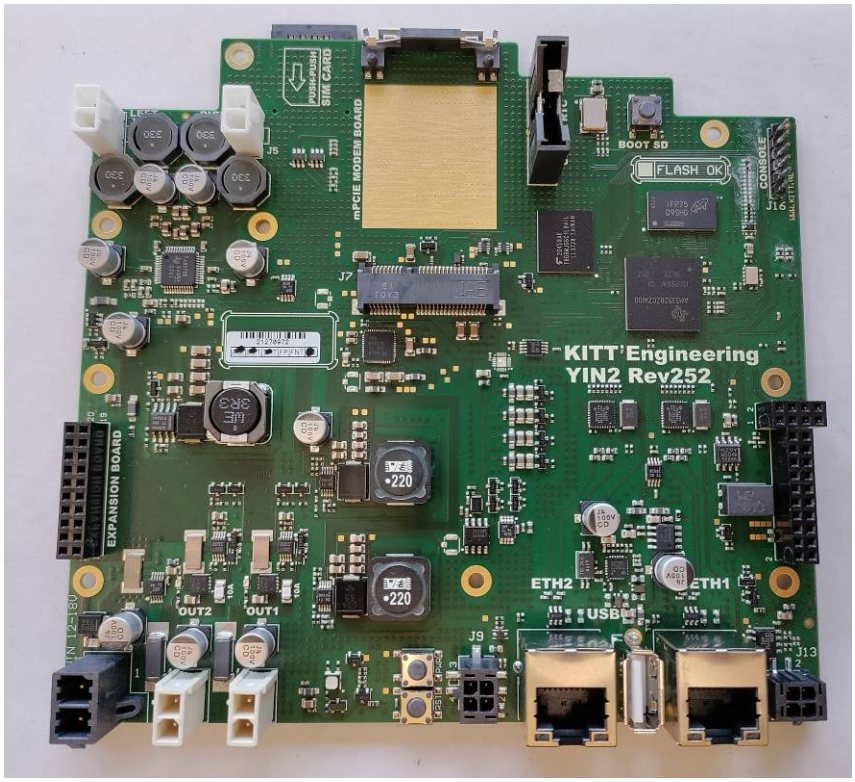


Pic. 3
FONO – Control panel (top)

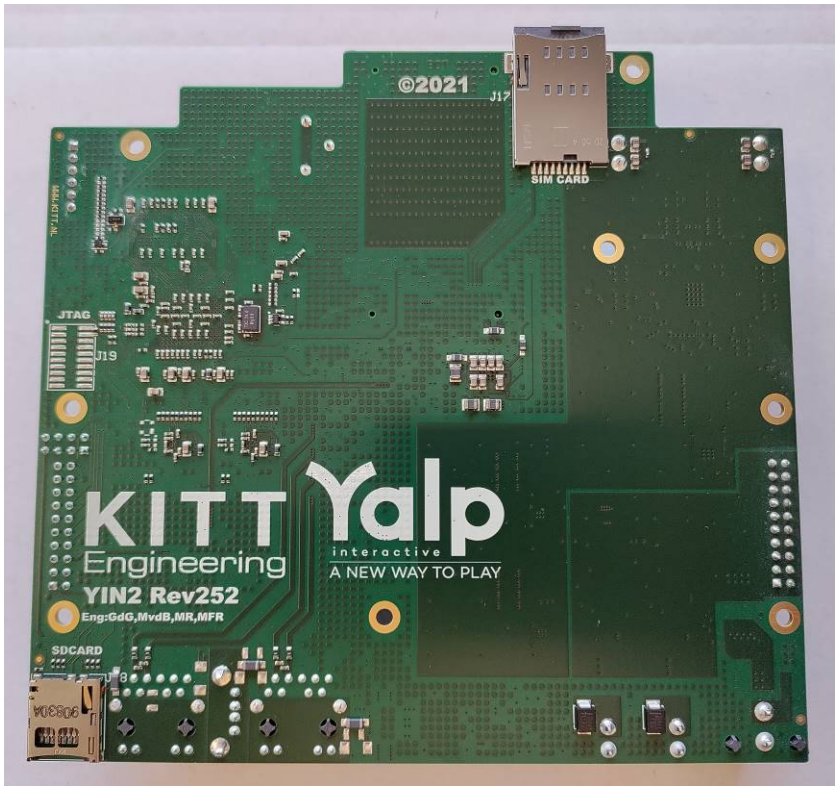
Pic. 4
FONO – Controls (underneath panel)
Note: Warning label for MS2 hazard while closing panel (Instructed person only)

Pic. 5
FONO – Speaker compartment outside

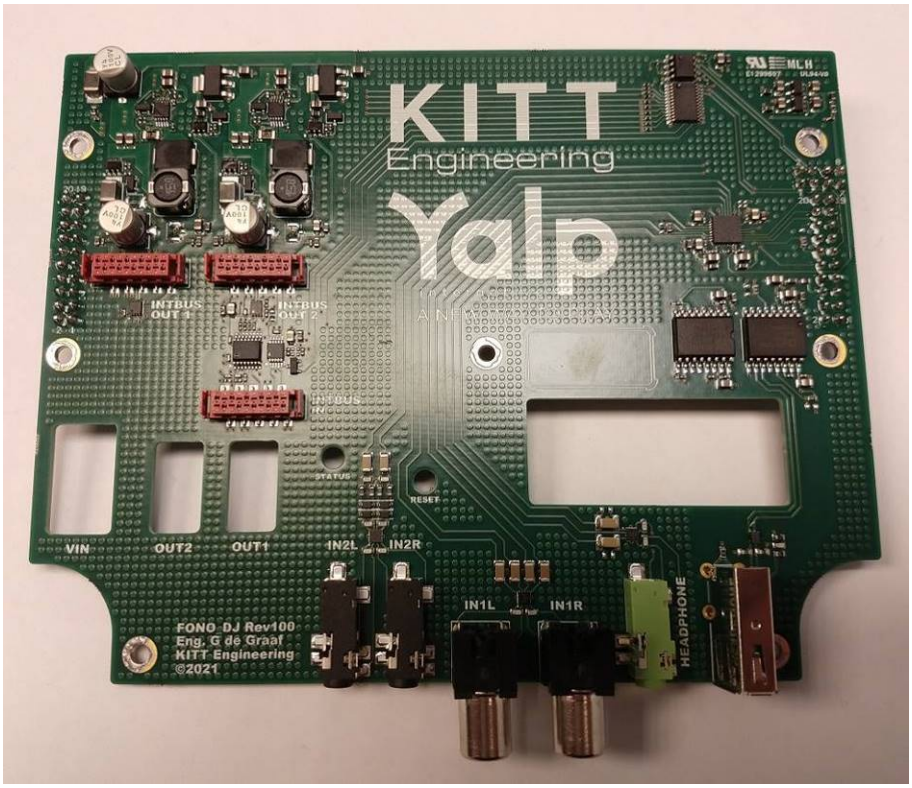
Pic. 6
FONO – Speaker compartment inside



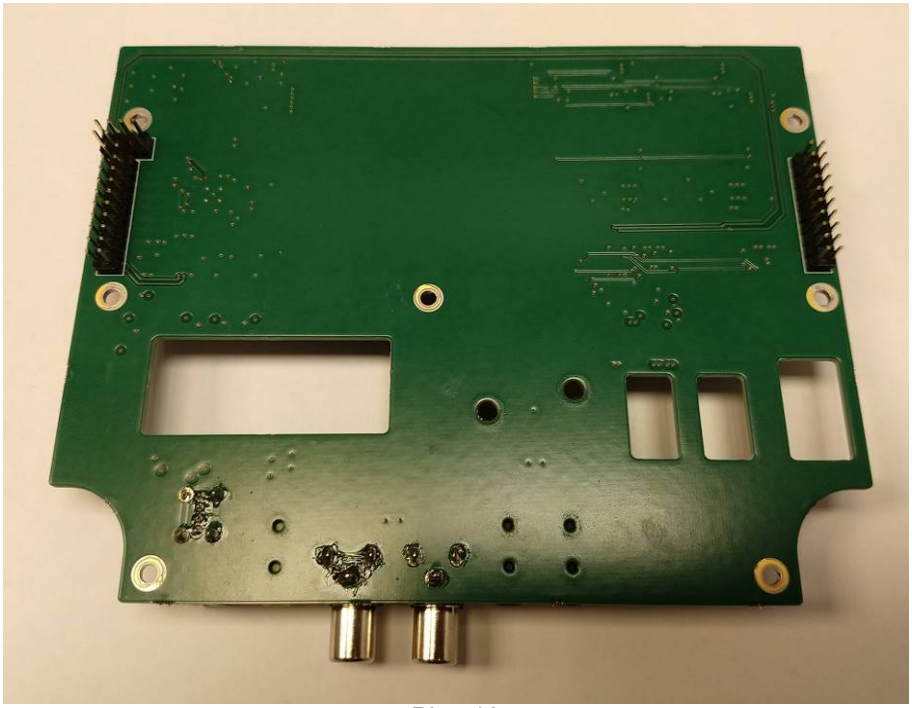
Pic. 7
PCB YIN2.52 (Component side)



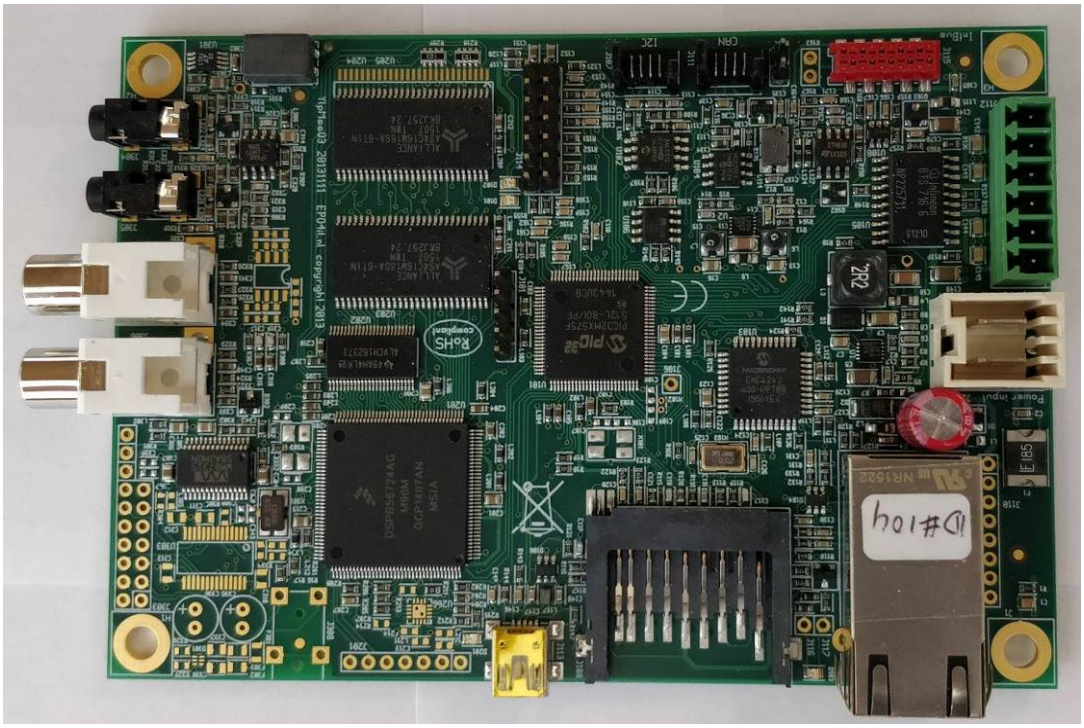
Pic. 8
PCB YIN2.52 (Solder side)



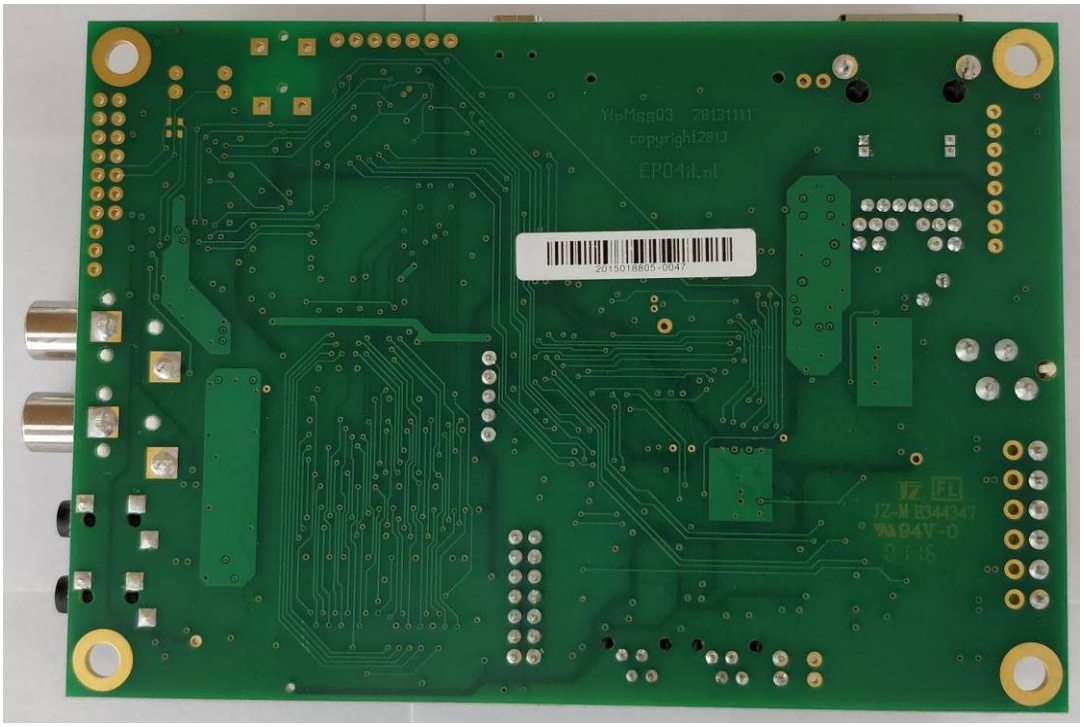
Pic. 9
PCB FONO DJ Rev 100 (Component side)



Pic. 10
PCB FONO DJ Rev 100 (Solder side)

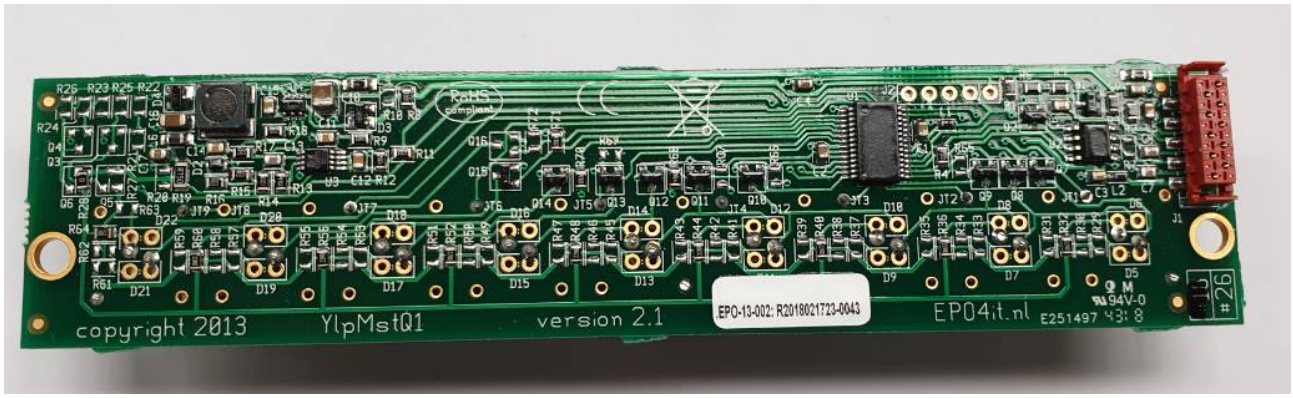


Pic. 11
PCB FONO Main board YlpMss03 (Rev 20131111) (Component side)

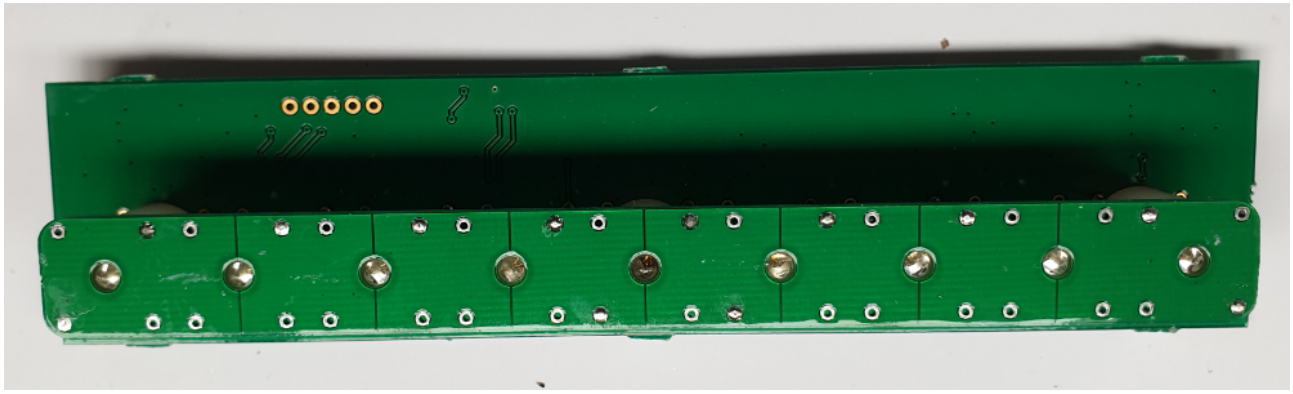


Pic. 12
PCB FONO Main board YlpMss03 (Rev 20131111) (Solder side)

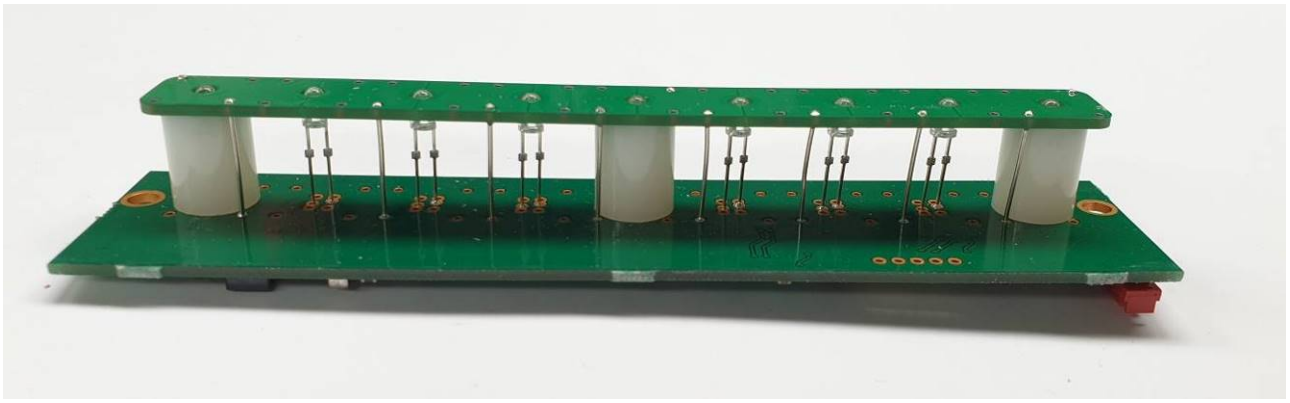
Pic. 13
PCB FONO Controls: PCB FONO Bridge Rev100 (Component side)



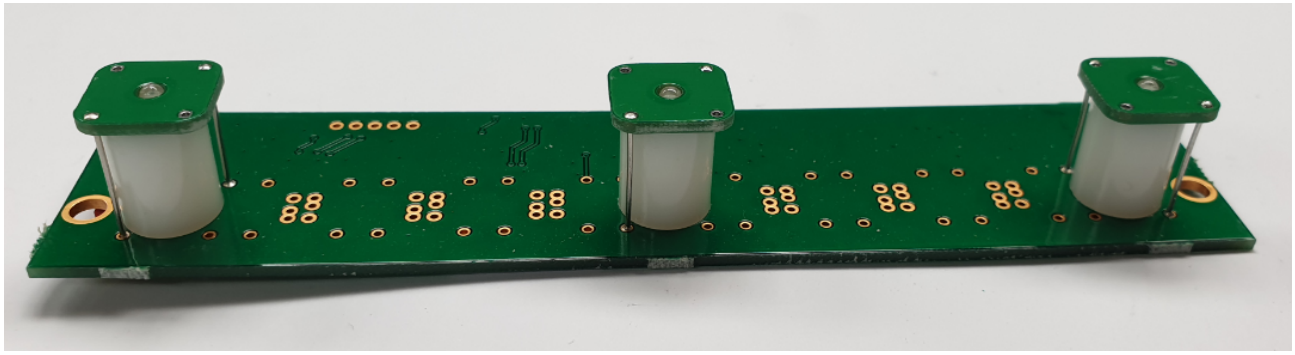
Pic. 14
PCB FONO Controls: PCB FONO YlpMstQ1 Rev. 2.1 (Component side)



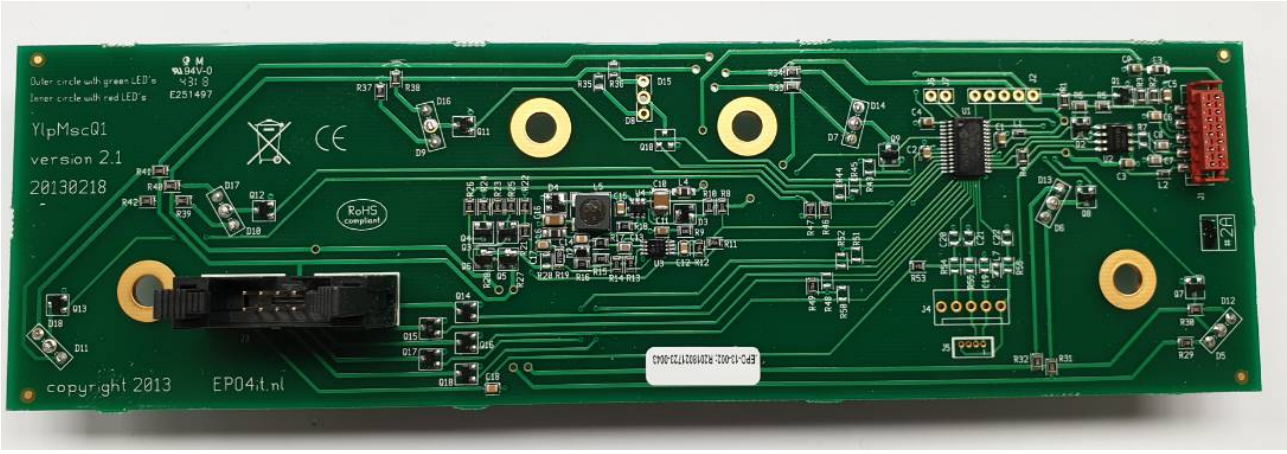
Pic. 15
PCB FONO Controls: PCB FONO YlpMstQ1 Rev. 2.1 (Solder side with LED's)



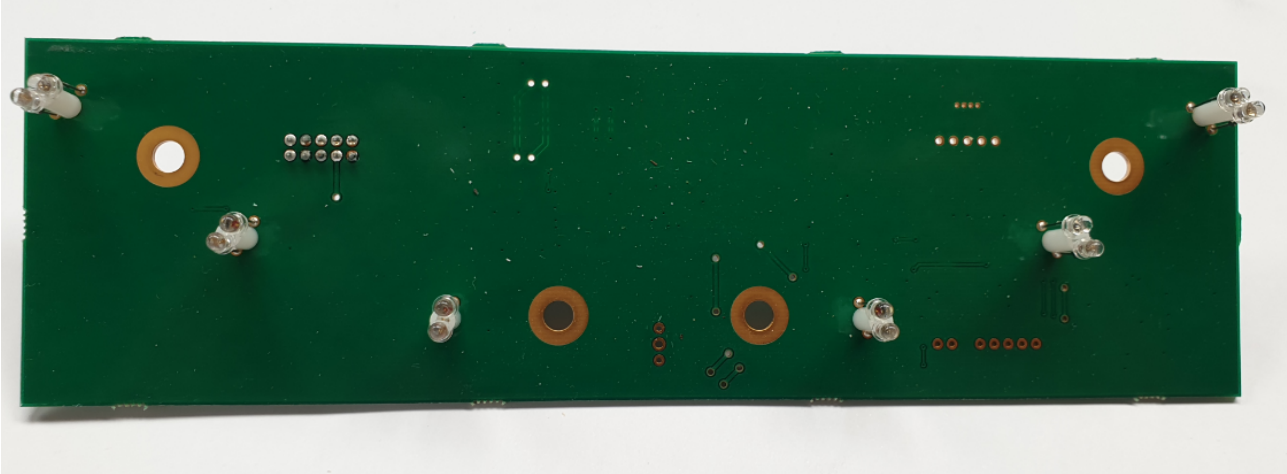
Pic. 16
PCB FONO Controls: PCB FONO YlpMstQ1 Rev. 2.1 (Side view)



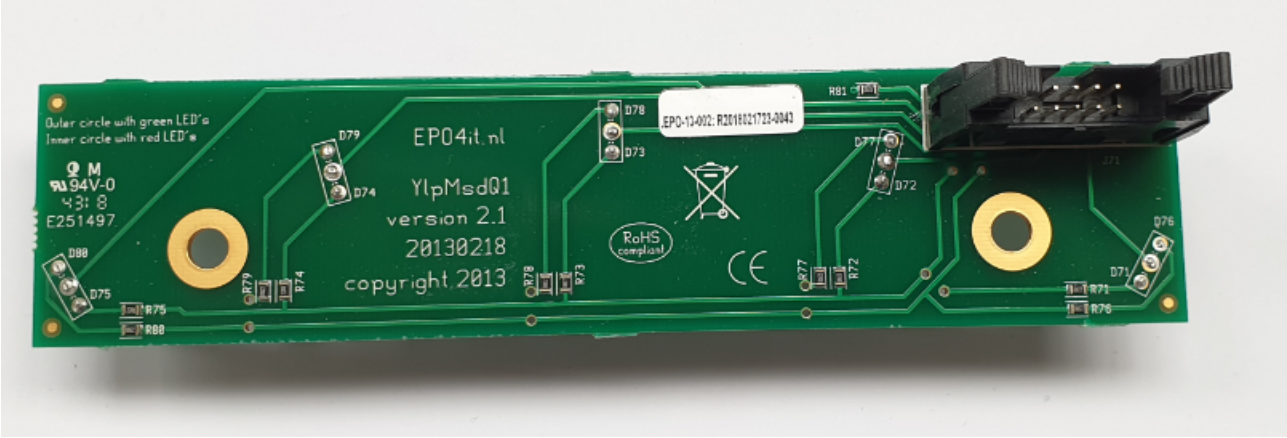
Pic. 17
PCB FONO Controls: PCB FONO YlpMstQ1 Rev. 2.1 (Side view - different configuration)



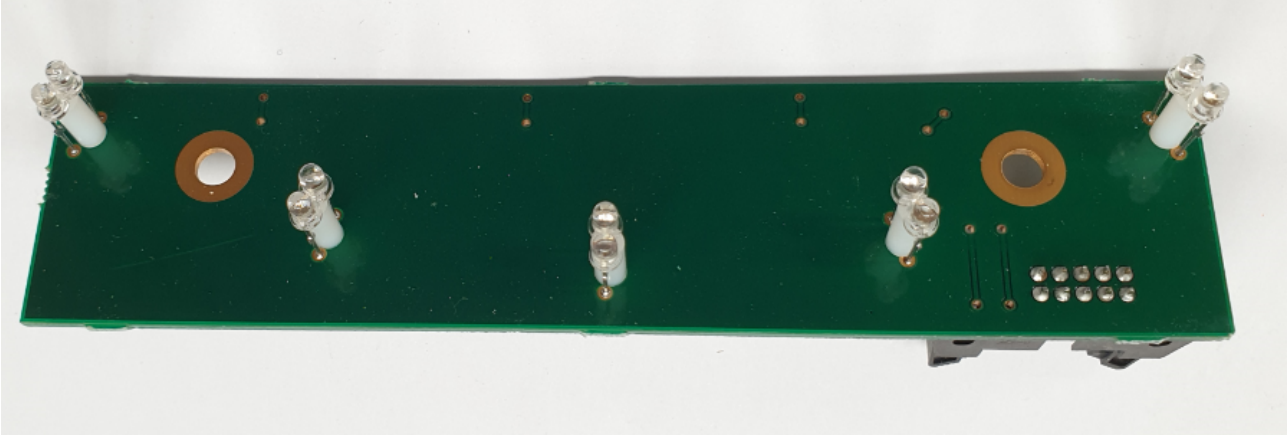
Pic. 18
PCB FONO Controls: PCB FONO YlpMscQ1 Rev. 2.1 (Component side view)



Pic. 19
PCB FONO Controls: PCB FONO YlpMscQ1 Rev. 2.1 (Solder side view)

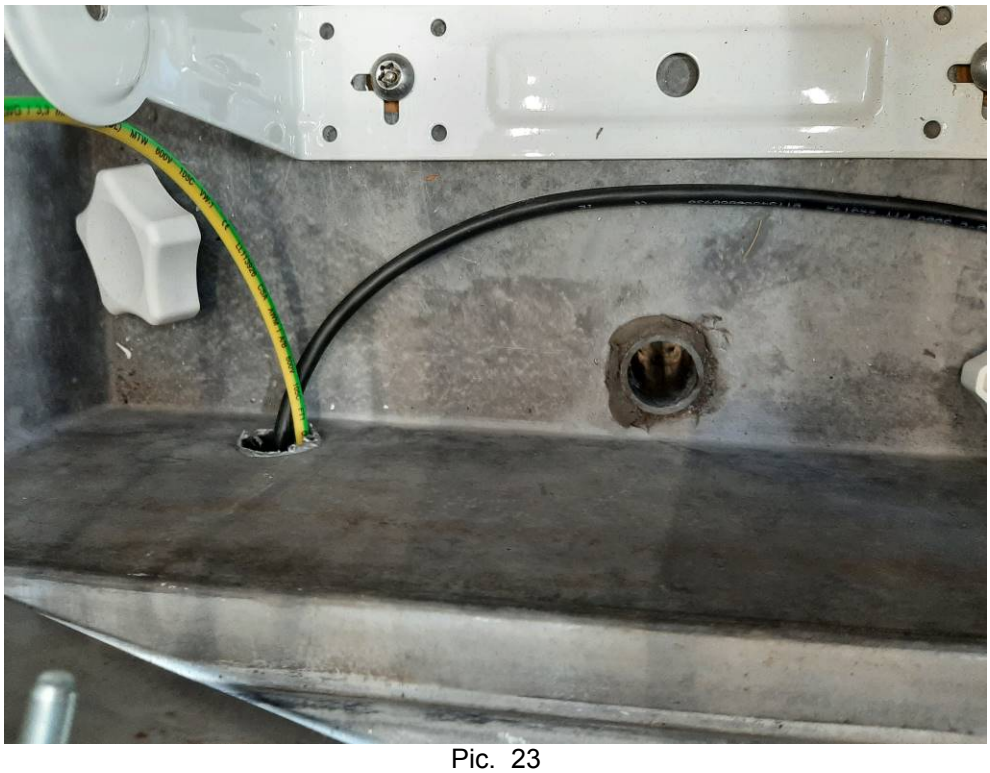


Pic. 20
PCB FONO Controls: PCB FONO YlpMsdQ1 Rev. 2.1 (Component side view)

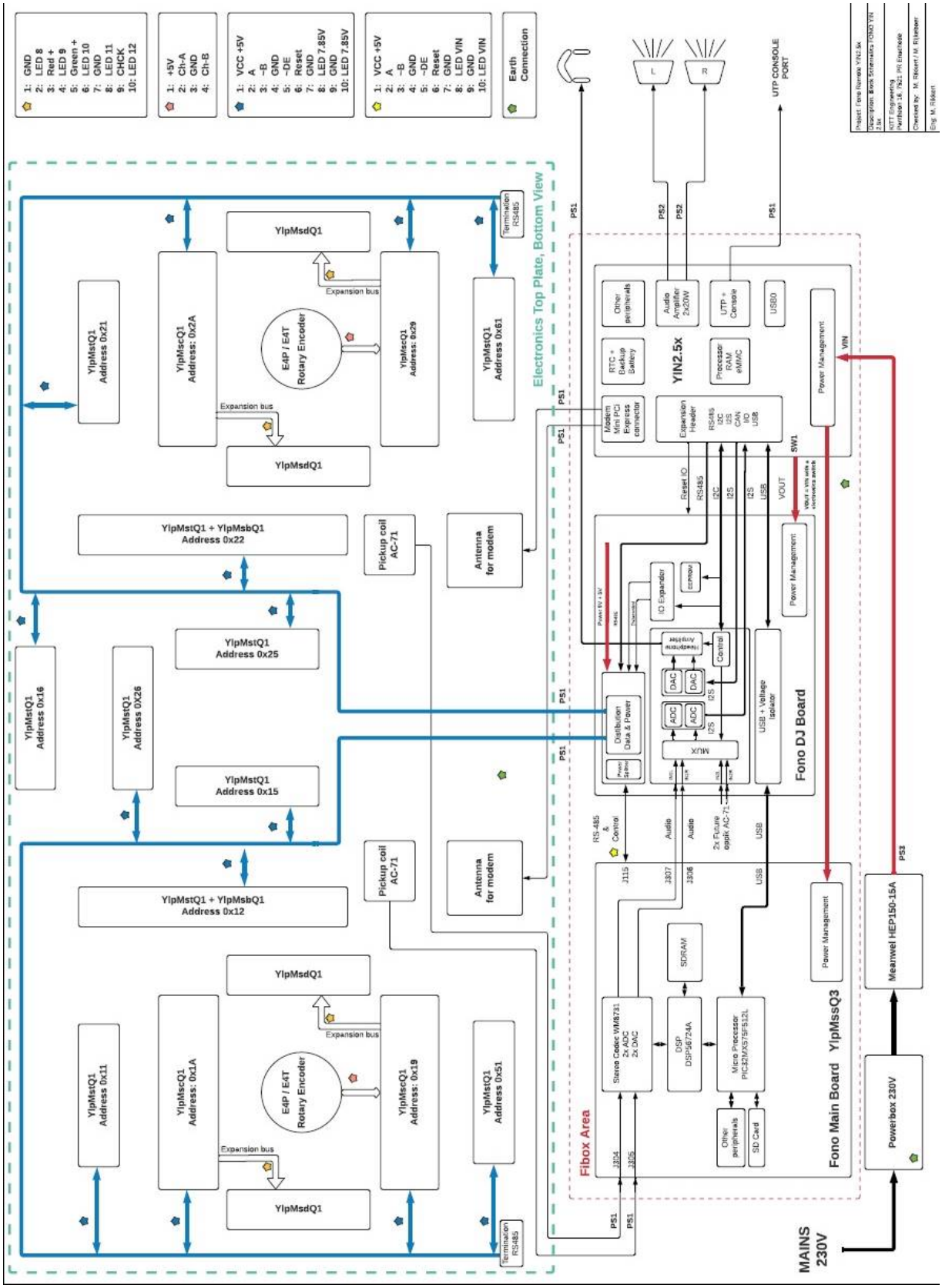


Pic. 21
PCB FONO Controls: PCB FONO YlpMsdQ1 Rev. 2.1 (Component side view)

Pic. 22
FONO – Drain hole main compartment (Under metal mounting plate)



Pic. 23
FONO – Drain hole speaker compartment



Pic. 24
FONO – Schematic diagram

Report No.: **2257503.50C**

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT **IEC 62368-1** **U.S.A. AND CANADA NATIONAL DIFFERENCES** (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to .....:	CSA/UL 62368-1:2019		
TRF template used: ..... :	IECEE OD-2020-F3, Ed. 1.1		
Attachment Form No. .....: **Attachment Originator**.....: **Master Attachment** .....:	US_CA_ND_IEC62368_1E UL(US) Dated 2021-02-04		
IEC 62368-1 - US and Canadian National Differences **Special National Conditions based on Regulations and Other National Differences**			
1 (1DV.1) (1.3)	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part 1, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.		P
1 (1DV.2.1)	This standard includes additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities. See Annex DVB.	Not such equipment	N/A
1 (1DV.2.2)	This standard includes additional requirements for equipment intended for mounting under cabinets. See Annex DVC.	Not such equipment	N/A
1 (1DV.2.3)	IEC 62368-3 clause 5 for DC power transfer at ES1 or ES2 voltage levels is considered informative. IEC 62368-3 clause 6 for remote power feeding telecommunication (RFT) circuits is considered normative (see ITU K.50). Alternatively, equipment with RFT circuits are given in either UL 2391 or CSA/UL 60950-21. RFT-C circuits are not permitted unless the RFT-C circuit complies with RFT-V limits (≤ 200V per conductor to earth).	Not such equipment	N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1 (1DV.3)	For protection against direct lightning strikes, reference is made to NFPA 780 and CAN/CSA-B72 for additional requirements.		N/A
1 (DV.5)	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
4.1 (4.1.17)	For lengths exceeding 3.05 m, external interconnecting cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.	Permanently connected with fixed wiring	N/A
	For lengths 3.05 m or less, external interconnecting cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.	Permanently connected with fixed wiring	N/A
4.6 (4.6.2)	Wire-wrap terminals have special construction and performance requirements.		N/A
4.8 (4.8.3, 4.8.4.5, 4.8.5)	Coin / button cell batteries have modified special construction and performance requirements.	Not user accessible	N/A
5.4.2.3.2 (5.4.2.3.2.1)	Surge Arrestors and Transient Voltage Surge Suppressors installed external to the equipment are required to comply with the appropriate NEC and CEC requirements.		N/A
5.5.9	Receptacles, rated 125-V, single phase, 15- or 20-A accessible to either ordinary, instructed, or skilled persons are required to be provided with GFCI Protection for Personnel if the equipment containing the receptacles is installed outdoors. The protection devices are required to comply with UL 943, and CAN/CSA C22.2 No.144.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.7, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment.	See Annex DVH for permanently connected equipment	N/A
5.7.8 (5.7.8.1)	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	Not such equipment	N/A
6.5.1	PS3 wiring outside a fire enclosure is required to comply with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex F (F.3.3.9)	Output terminals provided for supply of other equipment, except mains supply, are required to be marked with a maximum rating or reference to equipment permitted to be connected.	No such outputs	N/A
Annex F (F.3.7)	Outdoor Enclosures are required to be classified and marked in accordance with UL 50 or 50E, or CAN/CSA C22.2 No. 94.1 or 94.2.	Waived – No classification required. To be decided by AHJ	N/A
Annex G (G.7)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Refer to installation manual	N/A
	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
	Power supply cords for outdoor equipment are required to be suitable outdoor use type as required by Section 400.4 of the NEC and Rule 4-012 of the CEC, i.e., marked “W.”		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No ringing signals	N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex Q (Q.3)	Equipment with paired conductor and/or coax communications cables/wiring connected to building wiring are required to have special voltage, current, power and marking requirements.	Not such equipment	N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (1)	Equipment that is designed such that it may be powered from a separate electrical service, is required to meet applicable requirements for service equipment for control and protection of services and their installation and complies with Article 230 of the National Electrical Code (NEC), NFPA 70 and Section 6 of the Canadian Electrical Code, Part I, CSA C22.1.	Not such equipment	N/A
	Equipment intended for use in spaces used for environmental air (plenums) are subjected to special flammability requirements for heat and visible smoke release.	Not such equipment	N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m^3 (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not such equipment	N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. and Canadian Regulations.	Not such equipment	N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.	Not such equipment	N/A
	Storage batteries and battery management equipment, other than associated with lead-acid batteries, and including battery backup systems that are not an integral part of stationary AV and ICT equipment, such as provided in separate cabinets, are required to be certified (listed) to the appropriate standard(s) for such storage batteries and equipment.		N/A
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		N/A
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m^2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a minimum flammability classification of V-1.		N/A
Annex DVA (10.3)	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No lasers used	N/A
Annex DVA (10.5)	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No ionizing radiation sources	N/A
Annex DVA (F.3.3.4)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or that are lower than the “Normal Operating Condition” in Table 2 of CAN/CSA C22.2 No. 235.”	Single phase mains	N/A
Annex DVA (F.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.	Not such equipment	N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	Not used	N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No outlets	N/A
	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CEC 10-400 and 10-612.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.4.3)	Interconnection of units by conductors supplied by a limited power source, or a Class 2 circuit defined in the NEC/CEC may have field wiring connections other than specified in DVH.3, such as wire-wrap and crimp-on types, if the limited power source and Class 2 circuits are separated from all other circuits by barriers, routing or fixing.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	Not such equipment	N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).	Not such equipment	N/A
Annex DVA (G.7)	Flexible cords used outdoors are required to have the suffix “W” marked on the flexible cord.		N/A
Annex DVA (M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A
Annex DVA (Q)	If applicable per NEC 725.121(C), some limited power sources supplied from AV/ICT equipment are required to have a label indicating the maximum voltage and maximum current, or maximum voltage and nominal current output for each connection point. Where multiple connection points have the same rating, a single label is permitted to be used.		N/A
	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1are required to be marked with the voltage rating and “Class 2” or equivalent. The marking is located adjacent to the terminals and visible during wiring.		N/A
	Applicable parts of Chapter 8 of the NEC, and Rules 54 and 60 of the CEC, may be applicable to ITE installed outdoors with connections to communication systems.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.	Not such equipment	N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.	Not such equipment	N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These equipment and components include: appliance couplers, attachment plugs, battery backup systems, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, modular data centers, power supply cords, some power distribution equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.		P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		P
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CEC.	Approved terminals used	P
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified.	Approved terminals used	P
	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm^2).	Max 4 mm^2	N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		P

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	Noy connected to a centralized d.c. power system	N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.	Not connected to telecommunication networks	N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	Not connected to telecommunication networks	N/A

Ref. Certif. No.
NL-77053

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product	Fono DJ table
Name and address of the applicant	Lappset Yalp B.V. Nieuwenkampsmaten 12, 7472 DE Goor The Netherlands
Name and address of the manufacturer	Lappset Yalp. B.V. Nieuwenkampsmaten 12, 7472 DE Goor The Netherlands
Name and address of the factory Note: *When more than one factory, please report on page 2*	☐ Additional information on page 2 Lappset Yalp. B.V. Nieuwenkampsmaten 12, 7472 DE Goor The Netherlands
Ratings and principal characteristics	100 – 240 Vac, 50/60 Hz, 150 Wmax.
Trademark (if any)	Yalp
Customer's Testing Facility (CTF) Stage used	
Model / Type Ref.	Yalp Fono , YA3702
Additional information (if necessary may also be reported on page 2)	☐ Additional information on page 2
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2018 National differences: EU Group Differences, CA, US
As shown in the Test Report Ref. No. which forms part of this Certificate	2257503.50 (consisting of sub reports with suffixes A, B and C)

This CB Test Certificate is issued by the National Certification Body

DEKRA Certification B.V.
Meander 1051, NL-6825 MJ Arnhem, Netherlands

DEKRA

Date: 2021-10-28

Signature: H.R.M. Barends