

TEST REPORT IEC/EN 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements	
Report Number	CTI190708X01-LV01
Tested by (name + signature)	Glen Huang 
Approved by (name + signature) :	Kent Tseng 
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Applicant's name	MSTronic Co., Ltd.
Address	2F., No. 12, Gong Shang Rd., Wugu District, New Taipei City 248, Taiwan
Testing Laboratory Name	Centre Testing International (Taiwan) Co., Ltd-Safety testing center
Address	2F.-11, No.9, Sec. 2, Nankan Rd., Luzhu Dist., Taoyuan City 338, Taiwan
Test specification:	
Standard	IEC 62368-1:2014(Second Edition) EN 62368-1:2014 / A11:2017 AS/NZS 62368.1:2018
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC62368_1B
Test Report Form(s) Originator	UL(US)
Master TRF	2014-03
Test Item description	Gigabit PoE Injector
Trade Mark	 and/or MSTronic Co., Ltd.
Manufacturer	Same as applicant
Model/Type reference	See General product information for details.
Ratings	See General product information for details.

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

- Pages 1 to 54 for IEC 62368-1 TRF
- Appendix 1 European Group Differences and National Differences (pages:55 to 75)
- Appendix 2 Photographs (pages: 76 to 83)

Summary of testing:
Tests performed (name of test and test clause):

All applicable tests as described in Test Case and Measurement Sections were performed.

Clause(s)	Test(s)
4.4.4.2, Annex T.5	Steady force tests
4.4.4.4, Annex T.6	Impact Test
4.4.4.7, Annex T.8	Thermoplastic material tests (Stress Relief Test)
5.2.2.2, 5.2.2.4	Steady-state voltage test
5.4.1.4, 9	Maximum Operating Temperature for materials, Components and system
5.4.1.8	Determination Of Working Voltage
5.4.2.3	Minimum Clearances distances using required withstand voltage
5.4.8	Humidity Test
5.4.9	Electric strength test
6.2.2.2, 6.2.2.3, 6.6, Annex Q	Power measurement for worst-case load fault (LPS)
6.4.3, 6.4.3.3	Single Fault Conditions
Annex B.2.5	Input test : Single phase
Annex F.3.10	Test for the Permanence of markings

- Except Clause 5.2.2.2, 5.4.1.4, 9, 6.2.2.2, Annex Q, Annex B.2.5 relevant tests conducted on models MIT-69N-1218BNNN, MIT-69N-1248BDNMH, MIT-69G-1248ANRN and MIT-69G-4848BNNN, other tests are based on Model MIT-69G-4848BNNN.
- The tests carried out and fulfilled the requirements of the standard ISO/IEC/EN 17025.

Testing location:

Centre Testing International (Taiwan) Co., Ltd-
Safety testing center.

2F.-11, No.9, Sec. 2, Nankan Rd., Luzhu Dist.,
Taoyuan City 338,Taiwan.

Summary of compliance with National Differences:

List of countries addressed - European Countries and Australia / New Zealand

☒ The product fulfils the requirements of EN 62368-1:2014/A11:2017 and AS/NZS 62368.1:2018

Copy of marking plate:

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



Note: This making plate is a representative of other models, except for the I/P and O/P rated and model designation.

[illegible]

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..... :	2019-07-08						
Date (s) of performance of tests..... :	2019-07-08 to 2019-08-20						
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 IEC 62368-2:							
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)..... :	Same as applicant						
GENERAL PRODUCT INFORMATION:							
Product Description :							
- The equipment is an Gigabit PoE Injector for use with information technology equipment. - The product was submitted and tested for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of 50°C. - All PoE ports of all models are complied with the requirements of the limited power source (L.P.S.). - The investigation of the product did not cover the functional characteristics of the equipment, only							
Model Differences :							
The Model difference between, see below table.							
Model No. *	data rate	Input	PoE Output	Power	Standard	Remark	
MIT-69N-1218BNNN	10/100	9~36VDC	18VDC/4578	18W	passive	B mode (4578) No detection, No reverse	Normal plastic case normal operation temp.
MIT-69N-1224BNNN	10/100	9~36VDC	24VDC/4578	20W	passive	B mode (4578) No detection, No reverse	Normal plastic case normal operation temp.
MIT-69N-1248BNNN	10/100	9~36VDC	48VDC/4578	24W	passive	B mode (4578) No detection, No reverse	Normal plastic case normal operation temp.
MIT-69N-1248BDNN	10/100	9~36VDC	48VDC/4578	16.8W	802.3af	B mode (4578) Detection, No reverse	Normal plastic case normal operation temp.
MIT-69N-1248BDNNH	10/100	9~36VDC	48VDC/4578	16.8W	802.3af	B mode (4578) Detection,	Normal plastic case High operation temp.

						No reverse	
MIT-69N-1248BDNM	10/100	9~36VDC	48VDC/4578	16.8W	802.3af	B mode (4578) Detection, No reverse	Metal case normal operation temp.
MIT-69N-1248BDNMH	10/100	9~36VDC	48VDC/4578	16.8W	802.3af	B mode (4578) Detection, No reverse	Metal case High operation temp.
MIT-69G-1224BNNN	gigabit	9~36VDC	24VDC/4578	20W	passive	B mode (4578) No detection, No reverse	Normal plastic case normal operation temp.
MIT-69G-1248BNNN	gigabit	9~36VDC	48VDC/4578	24W	passive	B mode (4578) No detection, No reverse	Normal plastic case normal operation temp.
MIT-69G-1248BDNN	gigabit	9~36VDC	48VDC/4578	16.8W	802.3af	B mode (4578) Detection, No reverse	Normal plastic case normal operation temp.
MIT-69G-1248BDNMH	gigabit	9~36VDC	48VDC/4578	16.8W	802.3af	B mode (4578) Detection, No reverse	Metal case High operation temp.
MIT-69G-1248ANNN	gigabit	9~36VDC	48VDC/1236 1/2 (-), 3/6 (+)	24W	passive	A mode (1236) No detection, No reverse	Normal plastic case normal operation temp.
MIT-69G-1248ANRN	gigabit	9~36VDC	48VDC/1236 1/2 (+), 3/6 (-)	24W	passive	A mode (1236) No detection, Reverse	Normal plastic case normal operation temp.
MIT-69G-1248ADNN	gigabit	9~36VDC	48VDC/1236 1/2 (-), 3/6 (+)	16.8W	802.3af	A mode (1236) Detection, No reverse	Normal plastic case normal operation temp.
MIT-69G-1248ADRN	gigabit	9~36VDC	48VDC/1236 1/2 (+), 3/6 (-)	16.8W	802.3af	A mode (1236) Detection, Reverse	Normal plastic case normal operation temp.
MIT-69G-4818BNNN	gigabit	36~72VDC	18VDC/4578	18W	passive	B mode (4578) No detection, No reverse	Normal plastic case normal operation temp.
MIT-69G-4824BNNN	gigabit	36~72VDC	24VDC/4578	20W	passive	B mode (4578) No detection, No reverse	Normal plastic case normal operation temp.
MIT-69G-4848BNNN	gigabit	36~72VDC	48VDC/4578	24W	passive	B mode (4578) No detection, No reverse	Normal plastic case normal operation temp.
Additional application considerations – (Considerations used to test a component or sub-assembly) –							
N/A							

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)
 (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)

Electrically-caused injury (Clause 5):

(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)

Example: +5 V dc input

ES1

Source of electrical energy	Corresponding classification (ES)
Input circuit	ES2
Accessible output terminal	ES1

Electrically-caused fire (Clause 6):

(Note: List sub-assembly or circuit designation and corresponding energy source classification)

Example: Battery pack (maximum 85 watts):

PS2

Source of power or PIS	Corresponding classification (PS)
Input circuit	PS2
Output circuit	PS2

Injury caused by hazardous substances (Clause 7)

(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)

Example: Liquid in filled component

Glycol

Source of hazardous substances	Corresponding chemical
Not hazardous substances	N/A

Mechanically-caused injury (Clause 8)

(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)

Example: Wall mount unit

MS2

Source of kinetic/mechanical energy	Corresponding classification (MS)
Accessible part	MS1
Equipment mass	MS1

Thermal burn injury (Clause 9)

(Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.)

Example: Hand-held scanner – thermoplastic enclosure

TS1

Source of thermal energy	Corresponding classification (TS)
Accessible surfaces	TS1

Radiation (Clause 10)

(Note: List the types of radiation present in the product and the corresponding energy source classification.)

Example: DVD – Class 1 Laser Product

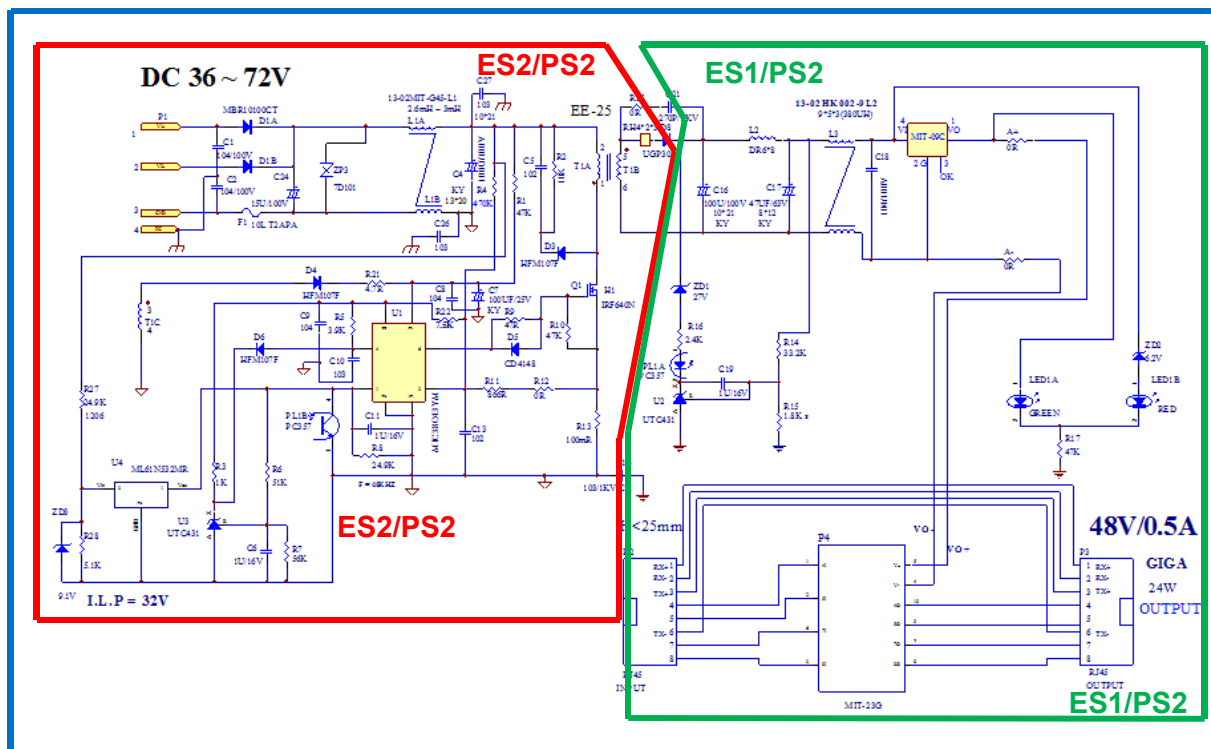
RS1

Type of radiation	Corresponding classification (RS)
N/A	N/A

ENERGY SOURCE DIAGRAM

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

■ ES ■ PS ■ MS ■ TS



Enclosure outside MS1/TS1

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary person	ES2, Input circuit 72 Vdc max	--	--	Enclosure
Ordinary person	ES1, output circuit	--	--	--
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All combustible materials within equipment fire enclosure	PS2: All circuits inside the equipment enclosure	No excessive temperature	Suitable Material	--
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3: High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary person	MS1: Sharp edges and corners	N/A	N/A	N/A
Ordinary person	MS1: Equipment mass	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person	TS1: Accessible surfaces	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person	RS1	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

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Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.2	Use of components	See table 4.1.2	P
4.1.3	Equipment design and construction	No accessible part which could cause injury	P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness	See below	P
4.4.4.2	Steady force tests.....:	(See Annex T)	P
4.4.4.3	Drop tests		N/A
4.4.4.4	Impact tests	(See Annex T)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:	No internal enclosure.	N/A
4.4.4.6	Glass Impact tests.....:	No glass used	N/A
4.4.4.7	Thermoplastic material tests	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness	After test, all safeguard remains effective, No damaged	P
4.5	Explosion	No explosion	N/A
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard	All conductive parts are fixed on PCB by at least two soldering points; The primary and secondary lead wire were soldered to PCB and fixed by glue.	P
4.6.2	10 N force test applied to	Applied 10 N force, no loosen	P
4.7	Equipment for direct insertion into mains socket - outlets	No such construction provided	N/A
4.7.2	Mains plug part complies with the relevant standard.....:		N/A
4.7.3	Torque (Nm)		N/A
4.8	Products containing coin/button cell batteries	No such batteries	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children		—

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Clause	Requirement + Test	Result - Remark	Verdict
	removing the battery.....:		
4.8.4	Battery Compartment Mechanical Tests.....:	No such batteries	N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....:	(See Annex P)	N/A
5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....:	ES1 or ES2 for DC terminal Input, ES1 for DC PoE output port.	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current.....:	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.....:	No such repetitive pulses with the EUT	N/A
5.2.2.6	Ringing signals.....:	No Ringing signals	N/A
5.2.2.7	Audio signals.....:	No Audio signals	N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 could be accessible to ordinary person	P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V.....:	The probe could not insert into the equipment as there is no ventilation on the product.	P
	b) Electric strength test potential (V).....:		N/A
	c) Air gap (mm).....:		N/A
5.3.2.4	Terminals for connecting stripped wire	No such terminals intended to be used by ordinary person.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T except natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Humidity conditioning.....:	See sub-clause 5.4.8	P
5.4.1.4	Maximum operating temperature for insulating materials.....:	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5	Pollution degree	Pollution degree 2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2	N/A
5.4.1.5.3	Thermal cycling	Pollution degree 2	N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses	See sub-clause 5.4.9.1	P
5.4.1.8	Determination of working voltage	See appended table 5.4.1.8	P
5.4.1.9	Insulating surfaces	No such insulating surface	N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	No such Thermoplastic parts	N/A
5.4.1.10.2	Vicat softening temperature.....		N/A
5.4.1.10.3	Ball pressure		N/A
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	See appended table 5.4.2.2	P
5.4.2.3	Determining clearance using required withstand voltage		N/A
	a) a.c. mains transient voltage.....		—
	b) d.c. mains transient voltage	No such transient	—
	c) external circuit transient voltage.....	No such transient	—
	d) transient voltage determined by measurement:		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages		N/A
5.4.3	Creepage distances	See appended table 5.4.3	P
5.4.3.1	General		P
5.4.3.3	Material Group	IIIb	—
5.4.4	Solid insulation		N/A
5.4.4.2	Minimum distance through insulation		N/A
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz :		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ) :		—
5.4.6	Insulation of internal wire as part of supplementary safeguard :		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%) :	93%	—
	Temperature (°C) :	25°C	—
	Duration (h) :	48h	—
5.4.9	Electric strength test..... :	See appended table 5.4.9	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		P
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test..... :		N/A
5.4.10.2.3	Steady-state test :		N/A
5.4.11	Insulation between external circuits and earthed circuitry :		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V) :		—
	Nominal voltage U_{peak} (V) :		—
	Max increase due to variation U_{sp} :		—
	Max increase due to ageing ΔU_{sa} :		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$:		—
5.5	Components as safeguards		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.1	General		P
5.5.2	Capacitors and RC units	No X-Capacitors	N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers		P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		P
5.5.7.1	Use of an SPD connected to reliable earthing		P
5.5.7.2	Use of an SPD between mains and protective earth		P
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable		N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	No Protective conductor	N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).....		—
	Protective current rating (A)		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm).		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω)		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks	Figure 5 of IEC 60990 was used in determining of the limit of ES1	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.2.1	Measurement of touch current		N/A
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection)		—
	Multiple connections to mains (one connection at a time/simultaneous connections)		—
5.7.4	Earthed conductive accessible parts.....		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)		—
	Measured current (mA)		—
	Instructional Safeguard		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA)		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA).....		N/A
6	ELECTRICALLY-CAUSED FIRE		—
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault..... :	(See appended table 6.2.2)	P
6.2.2.4	PS1		N/A
6.2.2.5	PS2	(See appended table 6.2.2)	P
6.2.2.6	PS3	Input part is considered as PS3	P
6.2.3	Classification of potential ignition sources		N/A
6.2.3.1	Arcing PIS	No arcing PIS exists	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.3.2	Resistive PIS		N/A
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure	V-1 enclosure used	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Approved fire enclosure used	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	See above.	N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	See above.	P
6.4.3.1	General	See above.	P
6.4.3.2	Supplementary Safeguards	By equipped plastic fire enclosure.	P
	Special conditions if conductors on printed boards are opened or peeled	No such case happened.	N/A
6.4.3.3	Single Fault Conditions.....	(See appended table B.3 & B.4)	P
	Special conditions for temperature limited by fuse		P
6.4.4	Control of fire spread in PS1 circuits	PS2 and PS3 circuits inside.	P
6.4.5	Control of fire spread in PS2 circuits	Compliance detailed as follows: - <u>Printed board</u> : rated min. V-1 - <u>Wire insulation and tubing</u> : complying with Clause 6. - <u>All other components</u> : at least V-2 except for mounted on min. V-1 material or small parts of combustible material.	P
6.4.5.2	Supplementary safeguards	(See appended table 4.1.2)	P
6.4.6	Control of fire spread in PS3 circuit	In additional of the compliance of clause 6.4.5, a fire enclosure of clause 6.4.8 provided with the equipment.	N/A
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General.....		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	The fire enclosure is the overall enclosure	P
6.4.8.1	Fire enclosure and fire barrier material properties	V-1	P
6.4.8.2.1	Requirements for a fire barrier		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2.2	Requirements for a fire enclosure	V-1	P
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	No opening on the enclosure	N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	No opening on the enclosure	N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	No opening on the enclosure	N/A
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)	No opening on the enclosure	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....	V-1 plastic enclosure used and no distance between PIS and enclosure	N/A
6.5	Internal and external wiring		P
6.5.1	Requirements		P
6.5.2	Cross-sectional area (mm ²)	22AWG wire used for all internal lead wire	—
6.5.3	Requirements for interconnection to building wiring	No such wiring	N/A
6.6	Safeguards against fire due to connection to additional equipment	The external dc source is assumed to be PS1	N/A
	External port limited to PS2 or complies with Clause Q.1		N/A
7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		
7.2	Reduction of exposure to hazardous substances	No Similar hazardous substances	N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries	No batteries	N/A
8	MECHANICALLY-CAUSED INJURY		
8.1	General	See the following details.	P
8.2	Mechanical energy source classifications	Sharp edges and corners,	P

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Clause	Requirement + Test	Result - Remark	Verdict
		classified as MS1 Equipment maximum mass 0.215 kg < 7 kg, classified as MS1	
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	Accessible edges and corners of the equipment are rounded and are classified as MS1.	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	No moving parts within the equipment.	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard.....:		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard.....:		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....:		N/A
8.6	Stability	Classification MS1 according to table 35, line 1 and 5 no stability requirements. Equipment maximum mass 0.215 kg < 7 kg, classified as MS1	N/A
8.6.1	Product classification		N/A
	Instructional Safeguard.....:		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force)..... :		N/A
	Position of feet or movable parts..... :		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) :		N/A
8.7.2	Direction and applied force..... :		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force :		N/A
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force :		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard..... :		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force :		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)..... :		—
8.10.6	Thermoplastic temperature stability (°C)..... :		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i> :		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas..... :		N/A
	Button/Ball diameter (mm)..... :		—
9	THERMAL BURN INJURY		
9.2	Thermal energy source classifications	Classified as TS1	P
9.3	Safeguard against thermal energy sources		N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard	Not required due to TS1	N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
10.6	Protection against acoustic energy sources	No acoustic energy sources	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards :		N/A
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		
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 :		N/A
B.2.3	Supply voltage and tolerances	Rated Voltage	P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		N/A
B.3.1	General requirements..... :		N/A
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test	The EUT is not connected to a D.C. mains	N/A
B.3.4	Setting of voltage selector :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.5	Maximum load at output terminals		N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		N/A
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited		N/A
B.4.3	Motor tests	No motor within the EUT	N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		N/A
B.4.4	Short circuit of functional insulation		N/A
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3 & B.4)	N/A
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3 & B.4)	N/A
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	(See appended table B.3 & B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.3 & B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	(See appended table B.3 & B.4)	P
B.4.9	Battery charging under single fault conditions ... :	No battery involved in the EUT	N/A

C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation	No UV radiation	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A

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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		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V)		—
	Rated load impedance (Ω)		—
E.2	Audio amplifier abnormal operating conditions		N/A

F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		
F.1	General requirements		P
	Instructions – Language	Evaluated the user manual in English version. The manufacturer commits to provide them in the language of the countries where the product will be distributed.	—
F.2	Letter symbols and graphical symbols	Complied	P
F.2.1	Letter symbols according to IEC60027-1	Complied	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Complied	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Bottom side of the EUT	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	 and/or MSTronic Co., Ltd.	—
F.3.2.2	Model identification	See General product information for details	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		N/A
F.3.3.2	Equipment without direct connection to mains		P
F.3.3.3	Nature of supply voltage		—
F.3.3.4	Rated voltage	See General product information for details	—
F.3.3.4	Rated frequency	See General product information for details	—

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.6	Rated current or rated power		—
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device	No such Voltage setting device	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		N/A
F.3.5.3	Replacement fuse identification and rating markings		N/A
F.3.5.4	Replacement battery identification marking		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification	Class III equipment	N/A
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking	IPX0	—
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	After test there was no damage on the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	Equipment for use in locations where children not likely to be present - marking	P
	b) Instructions given for installation or initial use	Relevant safety caution texts and installation instruction are available.	P
	c) Equipment intended to be fastened in place	See above.	P
	d) Equipment intended for use only in restricted access area	See use manual	P
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No such terminals provided.	N/A
	f) Protective earthing employed as safeguard	No such Protective earthing	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	g) Protective earthing conductor current exceeding ES 2 limits	No such Protective earthing	N/A
	h) Symbols used on equipment	Class III	N/A
	i) Permanently connected equipment not provided with all-pole mains switch	Class III	N/A
	j) Replaceable components or modules providing safeguard function	No such Replaceable components	N/A
F.5	Instructional safeguards	No instructional safeguard is considered as necessary.	N/A
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction	No instructional safeguard required in the equipment.	N/A

G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General requirements	No such device used	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements	No such device used	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		N/A
G.3.1	Thermal cut-offs	No such device used	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No such device used	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)		—
	Single Fault Condition		—
	Test Voltage (V) and Insulation Resistance (Ω). :		—
G.3.3	PTC Thermistors	No such device used	N/A
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:	(See appended Table B.4)	N/A
G.4	Connectors		
G.4.1	Spacings	DC terminal not use such a purpose	N/A
G.4.2	Mains connector configuration		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....:	(See Annex J)	N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (°C)		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....:	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position.....:	T1	—
	Method of protection	Basic insulation	—
G.5.3.2	Insulation	See above and appended table B.3 & B.4.	P
	Protection from displacement of windings	Insulation tape used	—
G.5.3.3	Overload test.....:	(See appended table B.3)	N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements	No such device used	N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements	Class III equipment	N/A
	Type		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG)		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry	(See appended table 5.4.11.1)	N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (mm)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements		P
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such device used	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A)		—
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements	No such device used	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		N/A
G.11.1	General requirements	No such device used	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:	(See appended table 4.1.2)	P
	Type test voltage Vini		—
	Routine test voltage, Vini,b		—
G.13	Printed boards		P
G.13.1	General requirements	(See appended table 4.1.2)	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board complied with the minimum clearance and creepage requirements	P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction).....:		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation	(See appended table 5.4.4.5)	N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	(See G.13)	N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements	No such device used	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	No such device used	N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
c1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
c2)	Test voltage		—
d1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
d2)	Capacitance		—
d3)	Resistance		—

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General	No such device used	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		—

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements	No such winding wire sued	N/A

K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No such device used	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.2	Components of safety interlock safeguard mechanism.....:	(See Annex G)	N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance	(See appended table B.4)	N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test	(See appended table 5.4.11)	N/A

L	DISCONNECT DEVICES		N/A
L.1	General requirements	No such device used	N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		N/A
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

M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s)..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) :		N/A

N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used :		—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied..... :		—

P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements	No openings provided	N/A
P.2.2	Safeguards against entry of foreign object	No openings provided	N/A
	Location and Dimensions (mm) :	--	—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts :		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Tc (°C)..... :		—
	Tr (°C) :		—
	Ta (°C)..... :		—
P.4.2 b)	Abrasion testing :		N/A
P.4.2 c)	Mechanical strength testing :		N/A

Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		P
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition		P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) :		—
	Current limiting method :		—

R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A). :		N/A

S	TESTS FOR RESISTANCE TO HEAT AND FIRE		P
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W	The fire enclosure was made of rated min. V-1 material.	N/A
	Samples, material :	Enclosure, C6200(GG)	—
	Wall thickness (mm)..... :	Min.2.0 mm	—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out	Approved V-1 enclosure used	N/A
	- Material not consumed completely	Approved V-1 enclosure used	N/A
	- Material extinguishes within 30s	Approved V-1 enclosure used	N/A
	- No burning of layer or wrapping tissue	Approved V-1 enclosure used	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
S.2	Flammability test for fire enclosure and fire barrier integrity		P
	Samples, material	Enclosure, C6200(GG)	—
	Wall thickness (mm).....	Min.2.0 mm	—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out	Approved V-1 enclosure used	N/A
	Test specimen does not show any additional hole	Approved V-1 enclosure used	N/A
S.3	Flammability test for the bottom of a fire enclosure		P
	Samples, material	Enclosure, C6200(GG)	—
	Wall thickness (mm).....	Min.2.0 mm	—
	Cheesecloth did not ignite	Approved V-1 enclosure used	N/A
S.4	Flammability classification of materials	Approved V-1 enclosure used	N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Conditioning (test condition), (°C).....		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A

T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		P
T.2	Steady force test, 10 N	ES1, ES2, PS2, PS3, MS1, TS1	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N	ES1, ES2, PS2, PS3, MS1, TS1	P
T.5	Steady force test, 250 N	ES1, ES2, PS2, PS3, MS1, TS1	P
T.6	Enclosure impact test	MS1	P
	Fall test		P
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test	MS1	P
T.9	Impact Test (glass)		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....:		—
	Height (m)		—
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		—

U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements	No such device used	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:		N/A

V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹
- Description ²⁾ :					
Metal enclosure (for Model: MIT-69N-1248BDNM/ MIT-69N-1248BDNMH/ MIT-69G-1248BDNMH only)	Interchangeable	Interchangeable	Matel, min. 0.8 mm thickness	Evaluated with equipment	--
Mylar sheet (between PCB and Metal)for Model: MIT-69N-1248BDNM/ MIT-69N-1248BDNMH/ MIT-69G-1248BDNMH only	Interchangeable	Interchangeable	Min 0.4 mm. thickness	UL 94	UL
Plastic enclosure	Sabic Innovative Plastics B V	C6200(GG)	Min. V-1, min. 2.0 mm	ANSI/UL 94	UL
(Alternate)	Sabic Innovative Plastics Us L L C	C6200(GG)	Min. V-1, min. 2.0 mm	ANSI/UL 94	UL
(Alternate)	Teijin Limited Resin and Plastic	LN-1250G(#)(*)	Min. V-1, min. 2.0 mm	ANSI/UL 94	UL
PCB	Interchangeable	Interchangeable	V-1 or better, min.105°C	ANSI/UL 746	UL
Terminal block (P1, mounted on PCB)	Interchangeable	Interchangeable	Min. 5A, min. 100V, min. 105 degree C	IEC/EN 60947-1, IEC/EN 60947-7-1, IEC/EN 61984	VDE, TUV, FI or ENEC
Terminal block (P1, header connection)	Interchangeable	Interchangeable	Min. 5A, min. 100V, min. 105 degree C	IEC/EN 60947-1, IEC/EN 60947-7-1, IEC/EN 61984	VDE, TUV, FI or ENEC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Fuse (F1)	Conquer	PTU 005	T5A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE
(Alternate)	Interchangeable	Interchangeable	T5A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE, TUV, FI or ENEC
Fuse (F1) for Model: MIT-69G-4818BNNN/ MIT-69G-4824BNNN/ MIT-69G-4848BNNN only)	Conquer	PTU 002	T2A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE
(Alternate)	Interchangeable	Interchangeable	T2A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE, TUV, FI or ENEC
Choke (L1)	Jai Mei	13-02MIT-G45-L1	Min. 130°C	Evaluating with equipment	--
Optocoupler (PL1)	Lite-On	LTV-817	Min. dti=0.4mm, min. int. cr.=5.0mm, min. ext. cr.=5.0mm, complied with thermal cycling test, min. 100°C	IEC/EN 60747-5-5, IEC/EN 60950-1	VDE, TUV, FI or ENEC
(Alternate)	Interchangeable	Interchangeable	Min. dti=0.4mm, min. int. cr.=5.0mm, min. ext. cr.=5.0mm, complied with thermal cycling test, min. 100°C	IEC/EN 60747-5-5, IEC/EN 60950-1	VDE, TUV, FI or ENEC
Transformer (T1)	Jai Mei Technology Inc.	13-01MIT-G4548	Class 130°C	Evaluating with equipment	--
- Bobbin	SUMITOMO BAKELITE CO LTD	PM-9820	Phenolic, min. V-0, 150° C	UL 94	UL
- Insulation tape	3M Company	1350F-1 1350F-2	130°C	UL 510	UL
(Alternate)	Symbio Inc.	35660	130°C	UL 510	UL
(Alternate)	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	CT PZ	130°C	UL 510	UL

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. ²⁾ Description line content is optional. Main line description needs to clearly detail the component used for testing			

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress relief test			—
Part		Material	Oven Temperature (°C)	Comments
--		--	--	--
4.8.4.3	TABLE: Battery replacement test			—
Battery part no.:		--		—
Battery Installation/withdrawal			Battery Installation/Removal Cycle	Comments
--			1	--
			2	--
			3	--
			4	--
			5	--
			6	--
			8	--
			9	--
4.8.4.4	TABLE: Drop test			—
Impact Area		Drop Distance	Drop No.	Observations
--		--	1	--
--		--	2	--
--		--	3	--
4.8.4.5	TABLE: Impact			—
Impacts per surface		Surface tested	Impact energy (Nm)	Comments
--		--	--	--
--		--	--	--
--		--	--	--
4.8.4.6	TABLE: Crush test			—
Test position		Surface tested	Crushing Force (N)	Duration force applied (s)
--		--	--	--
--		--	--	--
Supplementary information:				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result		N/A
Test position	Surface tested	Force (N)	Duration force applied (s)
--	--	--	--
--	--	--	--
Supplementary information:			

5.2		TABLE: Classification of electrical energy sources					P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
Model : MIT-69G-4848BNNN							
1	72VDC	Input circuit by DC	Normal	--	--	--	ES2
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
2	72VDC	DC Input to accessible Terminal output	Normal	48.33VDC	--	DC	ES1
			Abnormal	--	--	--	
			Single fault – R13 SC	48.33VDC	--	DC	
5.2.2.3 - Capacitance Limits							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class	
				Capacitance, nF	Upk (V)		
--	--	--	Normal	--	--	--	
			Abnormal	--	--		
			Single fault – SC/OC	--	--		
5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
5.2	TABLE: Classification of electrical energy sources						P
5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
Test Conditions: Normal – Abnormal - Supplementary information: SC=Short Circuit, OC=Short Circuit							

5.4.1.4, 6.3.2, 9.0, B.2.6		TABLE: Temperature measurements				P
	Supply voltage (V) :	9Vdc		36Vdc		—
	Ambient T _{min} (°C) :	--	--	--	--	—
	Ambient T _{max} (°C) :	--	--	--	--	—
	Tma (°C) :	See below	Shift to 50°C	See below	Shift to 50°C	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)
Model : MIT-69N-1218BNNN						
1.	Plastic enclosure external surface above the T1	57.7	82.7	48.7	80.4	94
2.	Plastic enclosure internal surface above the T1	74.9	99.9	60.6	92.3	--
3.	Primary conductor body (P1) near VIN+ pin	51.1	76.1	35.4	67.1	85
4.	L1 coil	93.2	118.2	68.3	100.0	130
5.	C4 body	78.1	103.1	69.3	101.0	105
6.	T1 coil	83.4	108.4	77.2	108.9	110
7.	T1 core	82.3	107.3	76.9	108.6	110
8.	PCB near T1	104.6	129.6	88.9	120.6	130
9.	PL1 body	73.7	98.7	66.9	98.6	100
10.	Ambient	25.0	50.0	18.3	50.0	--
Model : MIT-69N-1248BDNMH						
1.	Metal enclosure external surface above the T1	44.3	69.3	37.9	69.4	70
2.	Primary conductor body (P1) near VIN+ pin	43.5	68.5	33.8	65.3	85
3.	L1 coil	94.4	119.4	60.9	92.4	130
4.	C4 body	78.5	103.5	65.9	97.4	105
5.	T1 coil	83.9	108.9	77.8	109.3	110

IEC 62368-1								
Clause	Requirement + Test	Result - Remark				Verdict		
6.	T1 core	83.1	108.1	77.2	108.7	110		
7.	PCB near T1	79.4	104.4	75.1	106.6	130		
8.	PL1 body	62.6	87.6	56.4	87.9	100		
9.	Ambient	25.0	50.0	18.5	50.0	--		
Model : MIT-69G-1248ANRN								
1.	Plastic enclosure external surface above the T1	51.1	76.0	38.8	70.5	94		
2.	Plastic enclosure internal surface above the T1	44.3	69.2	35.4	67.1	--		
3.	Primary conductor body (P1) near VIN+ pin	43.5	68.4	33.7	65.4	85		
4.	L1 coil	93.5	118.4	60.6	92.3	130		
5.	C4 body	78.5	103.4	68.3	100.0	105		
6.	T1 coil	83.8	108.7	75.5	107.2	110		
7.	T1 core	81.6	106.5	75.0	106.7	110		
8.	PCB near T1	74.9	99.8	71.8	103.5	130		
9.	PL1 body	62.6	87.5	60.6	92.3	100		
10.	Ambient	25.1	50.0	18.3	50.0	--		
Maximum measured temperature T of part/at:		36Vdc		72Vdc		—		
		See below	Shift to 50°C	See below	Shift to 50°C	Allowed T _{max} (°C)		
Model : MIT-69G-4848BNRN								
1.	Plastic enclosure external surface above the T1	47.7	71.5	46.1	69.5	94		
2.	Plastic enclosure internal surface above the T1	55.6	79.4	53.6	77.0	--		
3.	Primary conductor body (P1) near VIN+ pin	35.0	58.8	32.1	55.5	85		
4.	L1 coil	67.6	91.4	60.3	83.7	130		
5.	C4 body	72.8	96.6	64.5	87.9	105		
6.	T1 coil	83.5	107.3	80.6	104.0	110		
7.	T1 core	81.0	104.8	78.6	102.0	110		
8.	PCB near T1	76.7	100.5	78.8	102.2	130		
9.	PL1 body	64.4	88.2	62.7	86.1	100		
10.	Ambient	26.2	50.0	26.6	50.0	--		
Supplementary information:								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:								
Note 1: Tma should be considered as directed by applicable requirement								
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)								

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Penetration (mm)..... :		--	—
Object/ Part No./Material		Manufacture r/trademark	T softening (°C)
--		--	--
--		--	--
--		--	--
Supplementary information:			

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

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Transformer (T1) and enclosure accessible surface	189	72.4	>30	1.5	3.4	2.6	3.4
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							

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage		N/A
	Overvoltage Category (OV)		--
	Pollution Degree		--
Clearance distanced between:		Required withstand voltage	Required cl (mm)
Measured cl (mm)			
--		--	--
--		--	--
Supplementary information:			

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

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.9	TABLE: Electric strength tests		P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)
			Breakdown Yes / No
Model : MIT-69G-4848BNNN			
Input +&- pins and PoE (RJ45) port		DC	500V
			No
Input +&- pins and Plastic enclosure		DC	500V
			No
One layer of insulation tape		DC	500V
			No
T1 between primary windings/pins and secondary winding/pins		DC	500V
			No
Supplementary information:			

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

IEC 62368-1					
Clause	Requirement + Test	Result - Remark		Verdict	
5.6.6.2	TABLE: Resistance of protective conductors and terminations			N/A	
Accessible part		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
--		--	--	--	--
--		--	--	--	--
--		--	--	--	--
--		--	--	--	--
Supplementary information:					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage		—	
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)	
--	1	--	
	2*	--	
	3	--	
	4	--	
	5	--	
	6	--	
	8	--	
Supplementary Information:			
Notes:			
[1] Supply voltage is the anticipated maximum Touch Voltage			
[2] Earthed neutral conductor [Voltage differences less than 1% or more]			
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3			
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.			
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
6.2.2	TABLE: Electrical power sources (PS) measurements for classification				N/A
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s ^{*)}	PS Classification
MIT-69N-1218BNNN					
PoE output	Normal	Power (W)	28.8	28.8	PS2
		VA (V).....	18.39	18.39	
		IA (A)	1.6	1.6	
PoE output	R13 Short	Power (W)	42.1	42.1	PS2
		VA (V).....	18.39	18.39	
		IA (A)	2.85	2.85	
MIT-69N-1248BDNMH					
PoE output	Normal	Power (W)	31.512	31.512	PS2
		VA (V).....	48.64	48.64	
		IA (A)	0.65	0.65	
PoE output	R13 Short	Power (W)	35.23	35.23	PS2
		VA (V).....	48.64	48.64	
		IA (A)	1.12	1.12	
MIT-69G-1248ANRN					
PoE output	Normal	Power (W)	35.8875	35.8875	PS2
		VA (V).....	48.35	48.35	
		IA (A)	0.75	0.75	
PoE output	R13 Short	Power (W)	39.83	39.83	PS2
		VA (V).....	48.35	48.35	
		IA (A)	1.55	1.55	
MIT-69G-4848BNNN					
PoE output	Normal	Power (W)	36.0375	36.0375	PS2
		VA (V).....	48.33	48.33	
		IA (A)	0.75	0.75	
PoE output	R13 Short	Power (W)	42.53	42.53	PS2
		VA (V).....	48.33	48.33	
		IA (A)	1.62	1.62	
Supplementary Information:					
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits					

6.2.3.1	TABLE: Determination of Potential Ignition Sources (Arcing PIS)	N/A
----------------	--	-----

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Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p × I _{rms})	Arcing PIS? Yes / No
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--

Supplementary information:

An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.

6.2.3.2 TABLE: Determination of Potential Ignition Sources (Resistive PIS) N/A

Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
--	--	--	--	--	--
--	--	--	--	--	--

Supplementary Information:

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

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

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

8.5.5 TABLE: High Pressure Lamp N/A

Description	Values	Energy Source Classification
Lamp type	--	—
Manufacturer	--	—
Cat no.	--	—
Pressure (cold) (MPa)	--	MS_
Pressure (operating) (MPa)	--	MS_
Operating time (minutes)	--	—
Explosion method	--	—
Max particle length escaping enclosure (mm) ..	--	MS_
Max particle length beyond 1 m (mm)	--	MS_
Overall result	--	

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Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

Supplementary information:

B.2.5	TABLE: Input test							P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
9Vdc	2.68	2.8	24.12	--	F1	2.68	Max. normal load	
36Vdc	0.59	0.64	21.24	--	F1	0.59	(Test Model : MIT-69N-1218BNNN)	
9Vdc	2.32	2.8	20.88	--	F1	2.32	Max. normal load	
36Vdc	0.54	0.64	19.44	--	F1	0.54	(Test Model : MIT-69N-1248BDNMH)	
9Vdc	2.31	2.86	20.79	--	F1	2.31	Max. normal load	
36Vdc	0.52	0.67	18.72	--	F1	0.52	(Test Model : MIT-69G-1248ANRN)	
36Vdc	0.74	0.75	26.64	--	F1	0.74	Max. normal load	
72Vdc	0.36	0.37	25.92	--	F1	0.36	(Test Model : MIT-69G-4848BNNN)	

Supplementary information:

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
B.3	TABLE: Abnormal operating condition tests							N/A
Ambient temperature (°C)						--		—
Power source for EUT: Manufacturer, model/type, output rating						--		—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
Supplementary information: Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.								

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C)					--		—	
Power source for EUT: Manufacturer, model/type, output rating ...					--		—	
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
C4	SC	72Vdc	1 sec	F1	0.36→0.1	--	--	F1 opened, no hazards, NB
Q1, pin D to pin S	SC	72Vdc	1 sec	F1	0.36→0.1	--	--	F1 opened, no hazards, NB
Q1, pin D to pin G	SC	72Vdc	10 min	F1	0.36→0.1	--	--	Unit shutdown instantly, no hazards, NB
Q1, pin G to pin S	SC	72Vdc	10 min	F1	0.36→0.1	--	--	Unit shutdown instantly, no hazards, NB
PL1, pin 1 to pin 2	SC	72Vdc	10 min	F1	0.36→0.1	--	--	Unit shutdown instantly, no hazards, NB.
PL1, pin 3 to pin 4	SC	72Vdc	10 min	F1	0.36→0.1	--	--	Unit shutdown instantly, no hazards, NB
T1, pin 1 to pin 2	SC	72Vdc	10 min	F1	0.36→0.1	--	--	Unit shutdown instantly, F1 opened, Q1 damaged. No hazards, NB.
T1, pin 3 to pin 4	SC	72Vdc	10 min	F1	0.36→0.1	--	--	Unit shutdown instantly, no hazards, NB. Output voltage 0V.

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Clause	Requirement + Test					Result - Remark		Verdict
T1, pin 5 to pin 6	SC	72Vdc	10 min	F1	0.36→0.1	--	--	Unit shutdown instantly, no hazards, NB. Output voltage 0V.
PoE Output	SC	72Vdc	10 min	F1	0.36→0.1	--	--	Unit shutdown instantly. No damage, no hazards, NB.
Supplementary information:								

Annex M	TABLE: Batteries								N/A	
The tests of Annex M are applicable only when appropriate battery data is not available									—	
Is it possible to install the battery in a reverse polarity position? :									—	
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
Max. current during normal condition	--	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--	--
Test results:							--		Verdict	
- Chemical leaks							--		--	
- Explosion of the battery							--		--	
- Emission of flame or expulsion of molten metal							--		--	
- Electric strength tests of equipment after completion of tests							--		--	
Supplementary information:										

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

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
Supplementary Information:				
Battery identification	Charging at T _{lowest} (°C)	Observation	Charging at T _{highest} (°C)	Observation
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
Supplementary Information:				

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Model : MIT-69N-1218BNNN						
PoE port	Normal	18.39	1.6	8	28.8	100
PoE port	R13, SC	18.39	2.85	8	42.1	100
Model : MIT-69N-1248BDNMH						
PoE port	Normal	48.64	0.65	8	31.512	100
PoE port	R13, SC	48.64	1.12	8	35.23	100
Model : MIT-69G-1248ANRN						
PoE port	Normal	48.35	0.75	8	35.8875	100
PoE port	R13, SC	48.35	1.55	8	39.83	100
Model : MIT-69G-4848BNNN						
PoE port	Normal	48.33	0.75	8	36.0375	100
PoE port	R13, SC	48.33	1.62	8	42.53	100
Supplementary Information: SC=Short circuit, OC=Open circuit						

T4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Model : MIT-69G-4848BNNN						
Top Enclosure	Plastic	Min.2.0	100/250	5	No damaged	
Side Enclosure	Plastic	Min.2.0	100/250	5	No damaged	
Bottom Enclosure	Plastic	Min.2.0	100/250	5	No damaged	
Model : MIT-69N-1248BDNMH						
Top Enclosure	Metal	Min.0.8	100/250	5	No damaged	
Side Enclosure	Metal	Min.0.8	100/250	5	No damaged	

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Clause	Requirement + Test			Result - Remark	Verdict
Bottom Enclosure	Metal	Min.0.8	100/250	5	No damaged
Supplementary information:					

T.6	TABLE: Impact tests				N/A
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Model : MIT-69G-4848BNNN					
Top Enclosure	Plastic	Min.2.0	1300	No damaged	
Side Enclosure	Plastic	Min.2.0	1300	No damaged	
Bottom Enclosure	Plastic	Min.2.0	1300	No damaged	
Model : MIT-69N-1248BDNMH					
Top Enclosure	Metal	Min.0.8	1300	No damaged	
Side Enclosure	Metal	Min.0.8	1300	No damaged	
Bottom Enclosure	Metal	Min.0.8	1300	No damaged	
Supplementary information:					

IEC 62368-1				
Clause	Requirement + Test			Verdict
T.7	TABLE: Drop tests			N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
Supplementary information:				

T.8	TABLE: Stress relief test				P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Completed sample	Plastic	Min.2.0	109.9	7	No damaged, the hazardous live parts cannot be touched
Supplementary information:					

IEC62368_1B - ATTACHMENT																																										
Clause	Requirement + Test				Result - Remark	Verdict																																				
ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)																																										
Differences according to.....: EN 62368-1:2014+A11:2017																																										
Attachment Form No.....: EU_GD_IEC62368_1B_II																																										
Attachment Originator: Nemko AS																																										
Master Attachment: Date 2017-09-22																																										
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	CENELEC COMMON MODIFICATIONS (EN)					P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.					P																																				
CONTENT S	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords					P																																				
	Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list: <table><tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr><tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr><tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr><tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr><tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr></table>					0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
0.2.1	Note	1	Note 3	4.1.15	Note																																					
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c																																					
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note																																					
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3																																					
5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4																																					
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																					
	For special national conditions, see Annex ZB.					P																																				
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.					P																																				

4.Z1	Add the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.		N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.		N/A

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

Bibliography	Add the following standards: Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.	N/A
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)	P
4.1.15	Denmark, Finland, Norway and Sweden To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"	N/A
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex	N/A
5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	N/A

5.4.11.1 and Annex G	Finland and Sweden To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.		N/A

5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A, the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm² to 1,5 mm² in cross-sectional area.		N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

5.7.6.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkøplet utstyr – og er tilkøplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: “Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”		N/A
5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A

B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment , tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment , until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c		N/A
G.4.2	United Kingdom To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de		N/A

ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to.....: AS/NZS 62368.1:2018			
Attachment Form No.....: AU_NZ_ND_IEC62368_1B			
Attachment Originator.....: JAS-ANZ			
Master Attachment.....: Date 2018-02			
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Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		—
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		—
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		—

2	Add the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, Approval and test specification—Plugs and socket-outlets -AS/NZS 3123, Approval and test specification—Plugs, socket-outlets and couplers for general industrial application -AS/NZS 3191, Electric flexible cords -AS/NZS 60065, Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD) -AS/NZS 60320.1, Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD) -AS/NZS 60320.2.2, Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD) -AS/NZS 60695.2.11, Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products -AS/NZS 60695.11.5, Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance -AS/NZS 60695.11.10, Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods -AS/NZS 60884.1, Plugs and socket-outlets for household and similar purposes, Part 1: General requirements -AS/NZS 60950.1:2015, Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD) - IEC 61032:1997, Protection of persons and equipment by enclosures—Probes for verification -AS/NZS 61558.1:2008 (including Amendment 2:2015), Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD) -AS/NZS 61558.2.16, Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.		N/A
4.1.1	Application of requirements and acceptance of materials, components and subassemblies 1 Replace the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'. 2 Replace the text 'IEC 60065' with 'AS/NZS 60065'.		P

4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Requirements Delete the text of the second paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.7.3	Compliance Criteria Delete the first paragraph and Note 1 and Note 2 and replace with the following: Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.		N/A
4.8	Delete existing clause title and replace with the following: 4.8 Products containing coin/button cell batteries		N/A
4.8.1	General 1 Second dashed point, delete the text and replace with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, insert the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, renumber the existing Note as 'NOTE 2'. 4 Fifth dashed point, delete the word 'lithium'.		N/A
4.8.2	Instructional Safeguard First line, delete the word 'lithium'.		N/A
4.8.3	Construction First line, after the word 'Equipment' insert the words 'containing one or more coin/button batteries and'		N/A
4.8.5	Compliance criteria Delete the first paragraph and replace with the following: Compliance is checked by applying a force of 30 N +/- 1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.		N/A
5.4.10.2	Test Methods		N/A
5.4.10.2.1	General Delete the first paragraph and replace with the following: In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.		N/A

Table 29	Replace the table with the following:				N/A	
	Parts	Impulse test		Steady state test		
		New Zealand	Australia	New Zealand		Australia
	Parts indicated in Clause 5.4.10.1 a) *	2.5 kV 10/700 μs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 μs	1.5 kV		3 kV
	Parts indicated in Clause 5.4.10.1 b) and c) *	1.5 kV 10/700 μs †		1.0 kV		1.5 kV
	* Surge suppressors shall not be removed.					
	† Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.					
	‡ During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.					
5.4.10.2.2	After the first paragraph, insert new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.				N/A	
5.4.10.2.3	After the first paragraph, insert new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.				N/A	
6	Electrically-caused fire				P	
6.1	General After the first paragraph, insert the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202				P	
6.6	After Clause 6.6, add the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)				N/A	
8.5.4	Special categories of equipment comprising moving parts				N/A	
8.5.4.1	Large data storage equipment In the first dashed row and the second dashed rows replace 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.				N/A	
8.6	Stability of equipment				N/A	

8.6.1 and Table 36	Requirements 1. Table 36, insert Footnote c at the end of the 'Glass slide' heading, and add a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: c The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, insert '201' at the end of 'No stability requirements' 3. Table 36, ninth row, insert '201' at the end of 'No stability requirements' 4. Table 36, add the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, delete the words 'MS2 and MS3 television sets' and replace with 'MS2 and MS3 television sets and display devices'		N/A
8.6.1	After Clause 8.6.1 add the following new clauses: 8.6.1.201 Instructional safeguard for fixed-mount television sets (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	Mains appliance outlet and socket-outlet markings Replace 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A
Annex G Paragraph G.4.2	Mains connectors 1 In the second line insert 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line insert 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 Add the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		P
Paragraph G.5.3.1	Transformers, General 1 In the third dashed point replace 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 In the fourth dashed point replace 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Paragraph G.7.1	Mains supply cords, General In the fourth dashed paragraph, replace 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A

Table G.5	Sizes of conductors 1 In the second row, first column, delete '6' and replace with '7.5' 2 In the second row, second column, delete '0,75' and replace with '0.75b' 3 Delete Note 1. 4 Replace 'NOTE 2' with 'NOTE:'. 5 Delete the text of 'Footnote b' and replace with the following: b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c replace 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d replace 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M Paragraph M.3.2	Protection circuits for batteries provided within the equipment, Test method After the first dashed point add the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
	Special national conditions (if any)		N/A
6.201	External power supplies, docking stations and other similar devices For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4		N/A

6.202	Resistance to fire - Alternative tests		N/A
6.202.1	General		N/A
	Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another. Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4. For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5. The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		
6.202.2	Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.		N/A

6.202.3	Testing of insulating materials Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE: Contacts in components such as switch contacts are considered to be connections		N/A										
	For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test need not be tested		N/A										
	The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications <table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td>9 Test procedure</td><td></td></tr><tr><td>9.2 Application of needle-flame</td><td> Delete the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ±1 s. </td></tr><tr><td>9.3 Number of test specimens</td><td> Replace with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test. </td></tr><tr><td>11 Evaluation of test results</td><td> Replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. </td></tr></table> The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 70695.11.10, provided that the relevant parts is not thinner than the sample tested.	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle-flame	Delete the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ±1 s.	9.3 Number of test specimens	Replace with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.	11 Evaluation of test results	Replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.		N/A
Clause of AS/NZS 60695.11.5	Change												
9 Test procedure													
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9.3 Number of test specimens	Replace with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.												
11 Evaluation of test results	Replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.												

6.202.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow wire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
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6.202.5	Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source. The test is not carried out if— – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. Conformance shall be determined using the smallest thickness of the material. NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.		N/A
6.202.6	For open circuit voltages greater than 4 kV Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.		

8.6.1.201	8.6.1.201 Instructional safeguard for fixed-mount television sets MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment. The elements of the instructional safeguard shall be as follows: – element 1a: not available; – element 2: ‘Stability Hazard’ or equivalent wording; – element 3: ‘The television set may fall, causing serious personal injury or death’ or equivalent text; – element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions		N/A
8.6.1.202	Restraining device MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage. Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.		N/A

Photographs

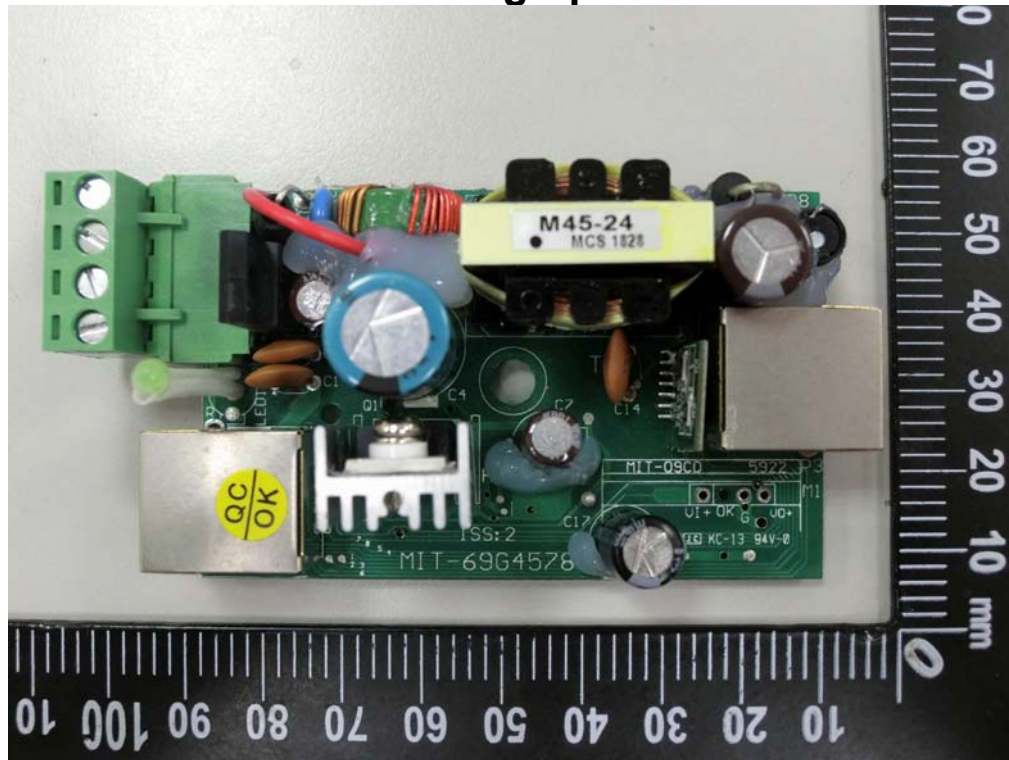


Overall view(MIT-69N-1218BNNN)

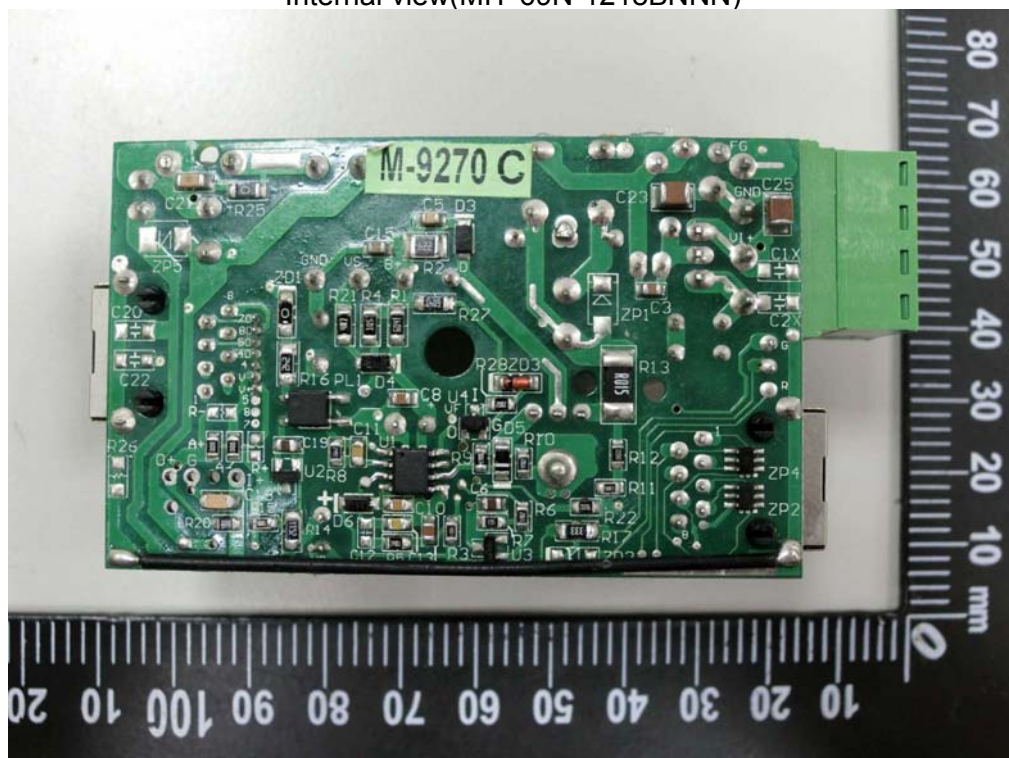


Overall view(MIT-69N-1218BNNN)

Photographs

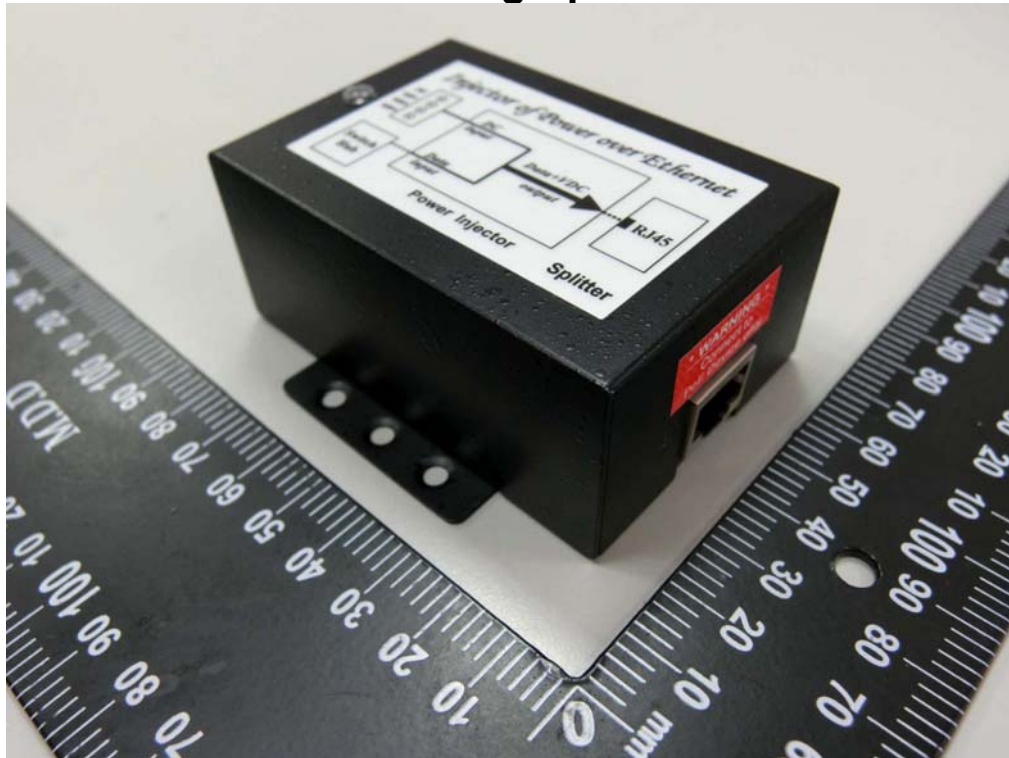


Internal view(MIT-69N-1218BNNN)

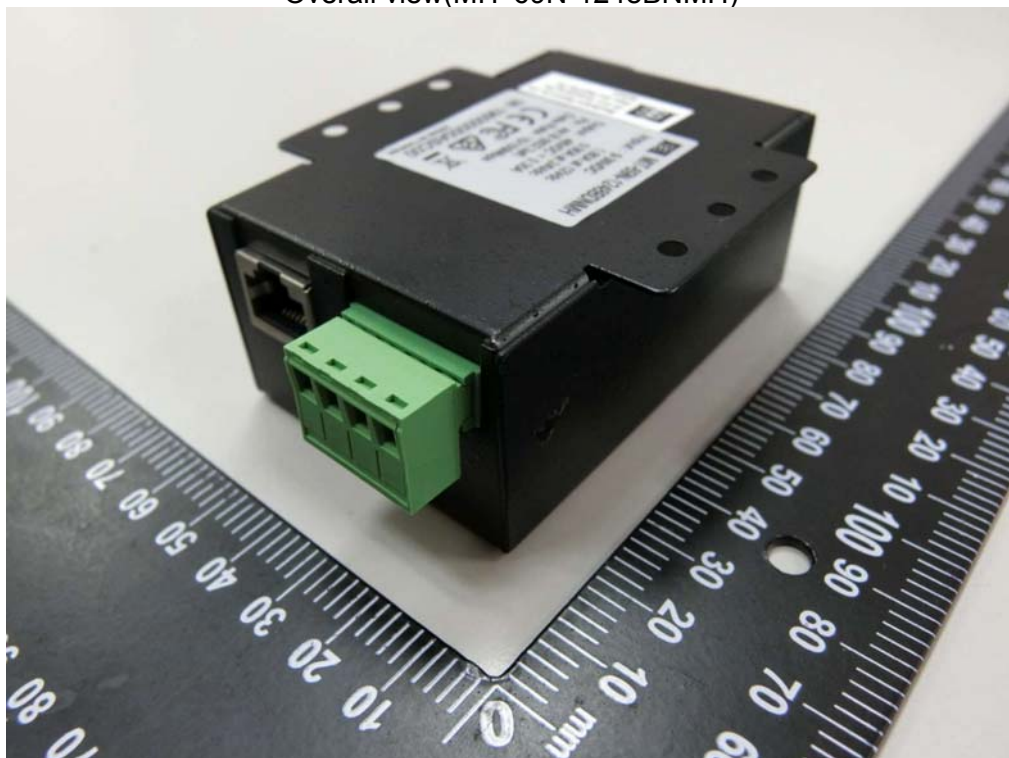


Internal view(MIT-69N-1218BNNN)

Photographs

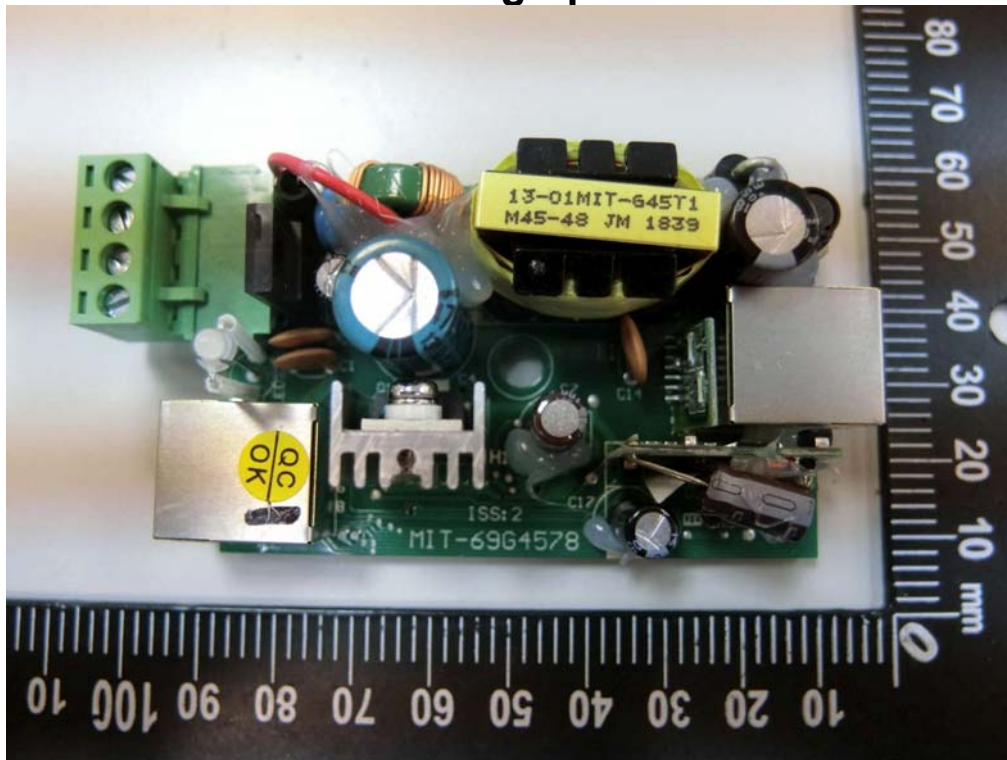


Overall view(MIT-69N-1248BNMH)

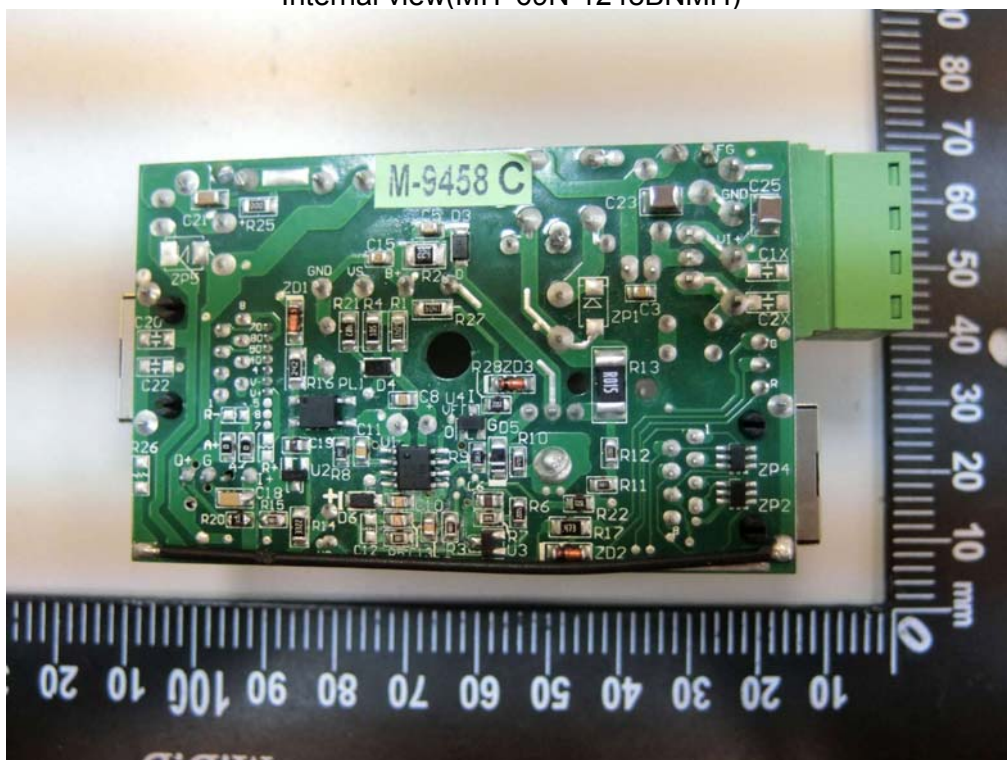


Overall view(MIT-69N-1248BNMH)

Photographs



Internal view(MIT-69N-1248BNMH)



Internal view(MIT-69N-1248BNMH)

Photographs

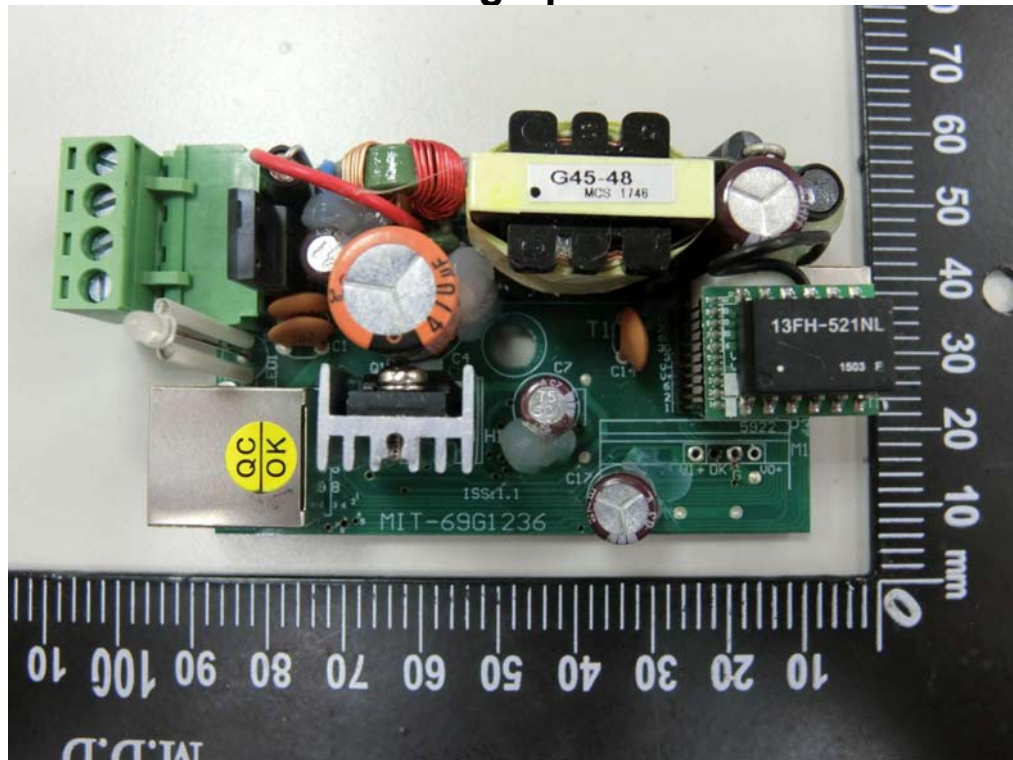


Overall view(MIT-69G-1248ANRN)

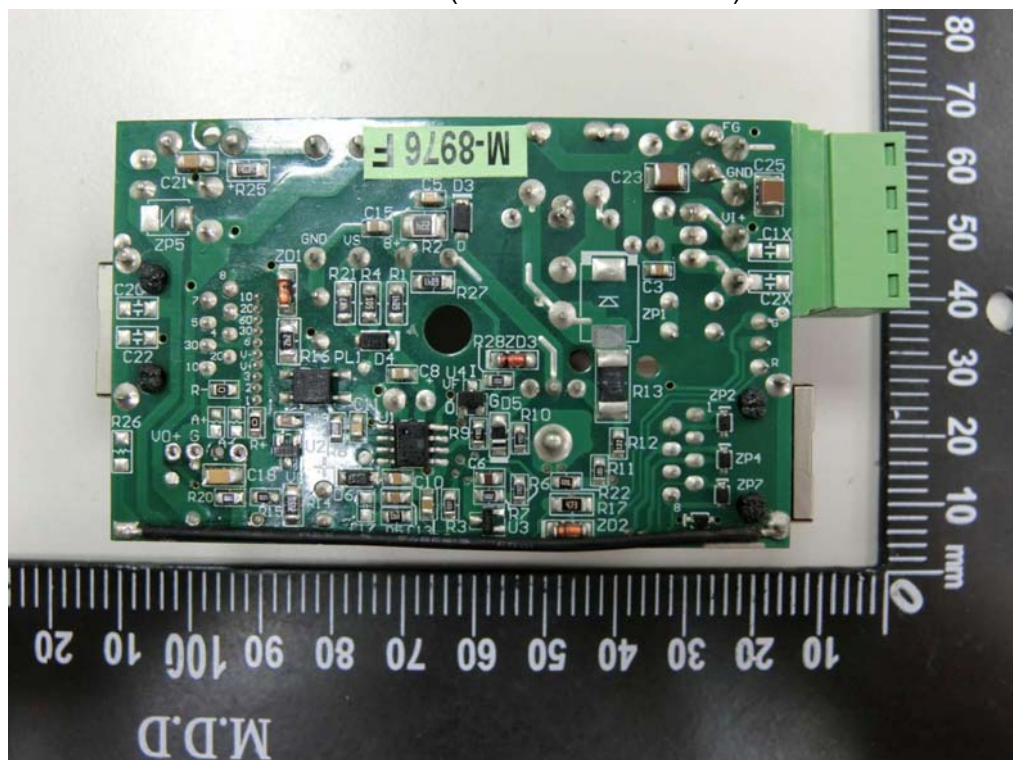


Overall view(MIT-69G-1248ANRN)

Photographs



Internal view(MIT-69G-1248ANRN)



Internal view(MIT-69G-1248ANRN)

Photographs

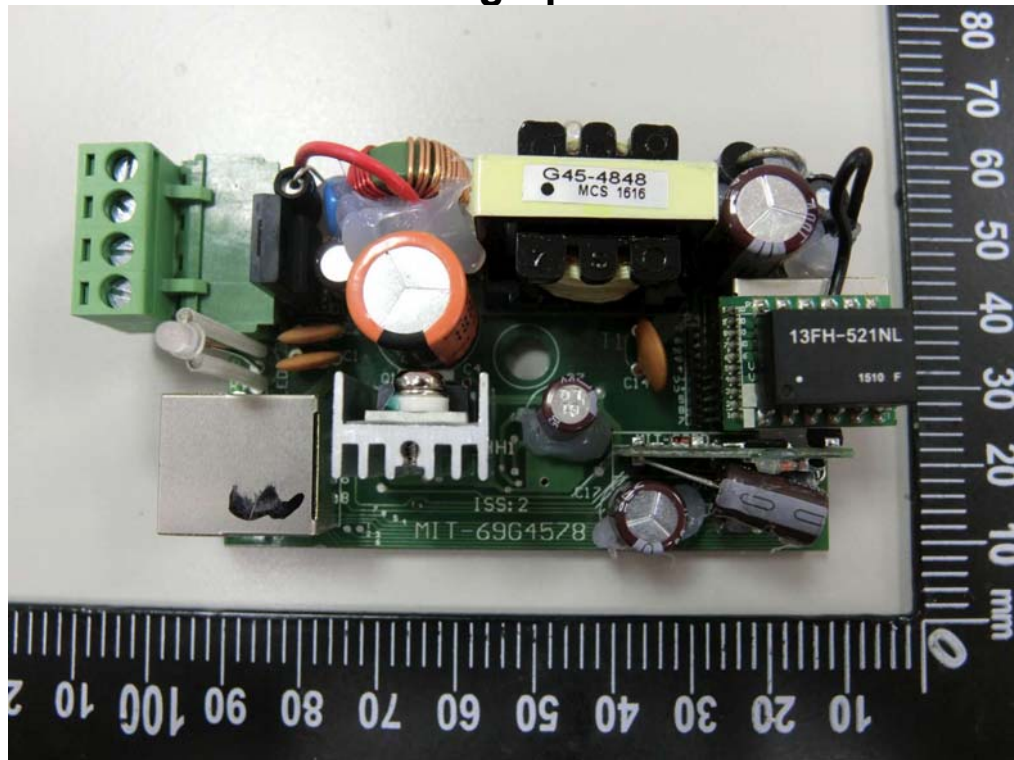


Overall view(MIT-69G-4848BNNN)

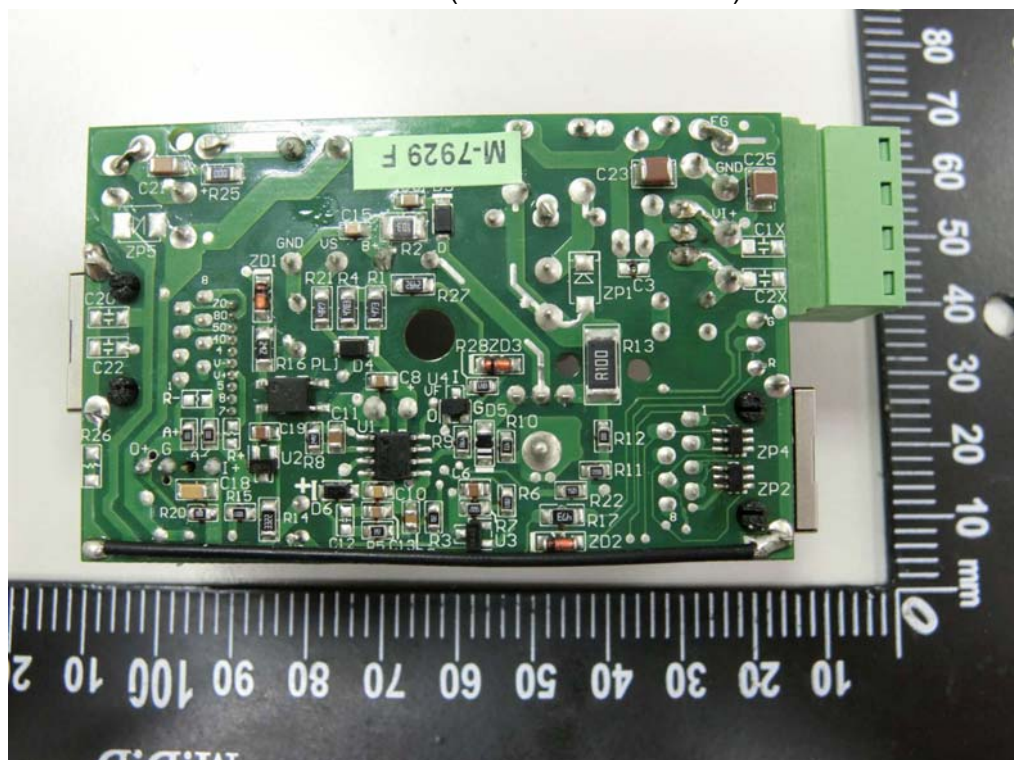


Overall view(MIT-69G-4848BNNN)

Photographs



Internal view(MIT-69G-4848BNNN)



Internal view(MIT-69G-4848BNNN)

- End of report -