Test Report issued under the responsibility of:

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

Report Number ..... :	PSE107-0262
Date of issue ..... :	2018-06-06
Total number of pages ..... :	71
Applicant's name ..... :	KAGA ELECTRONICS (USA) INC
Address ..... :	780 Montague Expy, Suite 403 San Jose, CA 95131 USA
Test specification:	
Standard ..... :	IEC 62368-1:2014 (Second Edition)
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC62368_1B
Test Report Form(s) Originator ..... :	UL(US)
Master TRF ..... :	2014-03

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

General disclaimer:

The test results presented in this report relate only to the object tested.
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Test Item description ..... :	AC ADAPTER
Trade Mark ..... :	Volgen
Manufacturer ..... :	KAGA ELECTRONICS (USA) INC 780 Montague Expy, Suite 403 San Jose, CA 95131 USA
Model/Type reference ..... :	KTPS120-xy-VI (x can be 12, 15, 16, 18, 19, 20, 24, 30, 48 or 56 for output voltage; y can be 0214, 025, 040, 050, 060, 063, 066, 075, 080 or 090 for output current)
Ratings ..... :	I/P: 100-240V~, 50-60Hz, 1.6A MAX. O/P: See Model Difference

Testing procedure and testing location:			
☒	CB Testing Laboratory:		
Testing location/ address ..... :		PSE INC., TAIWAN / 9F-1, No.80, Sec. 2, Guang Fu Rd., San Chung Distr., New Taipei City, TAIWAN CHINESE TAIPEI	
☐	Associated CB Testing Laboratory:		
Testing location/ address ..... :			
Tested by (name + signature) .....:		Kevin Lin Project handler	
Approved by (name + signature) .....:		Jacky Hsu Reviewer	
☐	Testing procedure: TMP/CTF Stage 1		
Testing location/ address ..... :			
Tested by (name + signature) .....:			
Approved by (name + signature) .....:			
☐	Testing procedure: WMT/CTF Stage 2		
Testing location/ address ..... :			
Tested by (name + signature) .....:			
Witnessed by (name + signature).....:			
Approved by (name + signature) .....:			
☐	Testing procedure: SMT/CTF Stage 3 or 4		
Testing location/ address .....:			
Tested by (name + signature) .....:			

Approved by (name + signature).....:		
Supervised by (name + signature) .....:		

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

1) Test result (11 pages)
2) National Differences (13 pages)
3) Enclosure Drawing (1 page)
4) Photo (7 pages)

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
- Steady force test 250N (4.4.4.2, T.5) - Drop tests (4.4.4.3, T.7) - Impact tests (4.4.4.4, T.6) - Stress relief test (4.4.4.7, T.8) - Classification of electrical energy sources (5.2) - Accessible ES1 circuits separated from other ES circuits using components (5.2.1.1) - Temperature measurements (5.4.1.4, 6.3.2, 9.0, B.2.6) - Determination of working voltage (5.4.1.8) - Humidity test (5.4.8) - Electric strength tests (5.4.9) - Stored discharge on capacitors (5.5.2.2) - Earthed accessible conductive part (5.7.2.2, 5.7.4) - Protective Conductor Current (5.7.5) - Input test (B.2.5) - Abnormal operating condition tests (B.3) - Fault condition tests (B.4) - Test for the permanence of markings (F.3.10) - Transformer overload test (G.5.3.3) - Cord strain relief (G.7.3.2.1) - Test Model: KTPS120-12090-VI, KTPS120-15080-VI, KTPS120-24050-VI and KTPS120-560214-VI for represent.	PSE INC., TAIWAN / 9F-1, No.80, Sec. 2, Guang Fu Rd., San Chung Distr., New Taipei City, TAIWAN CHINESE TAIPEI

Summary of compliance with National Differences:

List of countries addressed

- EU group differences, Canada and United States

  CENELEC member countries (EU group differences): Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

☒ **The product fulfils the requirements of CAN/CSA C22.2 No. 62368-1-14.**

☒ **The product fulfils the requirements of EN 62368-1:2014 + A11: 2017**

☒ **The product fulfils the requirements of UL 62368-1, Second Edition.**

Copy of marking plate:

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

TEST ITEM PARTICULARS:	
Classification of use by ..... :	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection ..... :	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ +____%/ -_____% ☐ None
Supply Connection – Type ..... :	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other:_____
Considered current rating of protective device as part of building or equipment installation ..... :	16A or 20A (for UL and CSA) for building; 3.15A (for equipment) Installation location: ☒ building; ☒ equipment
Equipment mobility ..... :	☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☐ wall-mounted
Over voltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: _____
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III
Access location ..... :	☐ restricted access location ☒ N/A
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maxium operating ambient :	40°C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power Systems ..... :	☒ TN ☐ TT ☒ IT - 230 V $_{L-L}$ for Norway
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ 5000 m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) ..... :	☒ 0.6
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..... :	2017-12-07
Date (s) of performance of tests..... :	2017-12-07 to 2017-12-26

GENERAL REMARKS:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... :	Boayang Electronics Co., Ltd. Di Feng Gong Ye Qu 2 Hao Xiasha Liuwu Village, Shipai Town Dong Guan City P. R. China

GENERAL PRODUCT INFORMATION:

Product Description –

The equipment for Class I, The equipment intended for use with Audio/video, information and communication technology Equipment, there electronic components mounted on PWB, and housed in a thermoplastic enclosure by screw.

No test conducted under this investigation due to copy of CB Test Report No.: PSE106-1096; CB Certification No. DK-70706-UL. All required test were carried out under the original investigation.

Report Number	Issued Date	Modification to the appliances	CB Certificate No.	Issued Date
PSE107-0262	2018-06-06	This test report is copy from PSE106-1096 and modify below items: 1) Change Applicant / Manufacturer to KAGA ELECTRONICS (USA) INC 2) Change Trade mark to Volgen 3) Change report number to PSE107-0262 4) Change model name. (See model difference)	--	--

Model Differences –

All models are identical except for model name, output rating, secondary winding of transformer and circuit and PCB on the secondary side due to U2 provided of not, is defined as SR and SBD, see as below:

Parts / Models	Output Rated	PCB	Transformer (T2)	Sec. Capacitors

KTPS120-12090-VI	12V⎓9A	SR	R53S10-6360	Provided C25, C26, C35, C38
KTPS120-15080-VI	15V⎓8A	SR	R53S10-6630	Provided C25, C26, C35, C38
KTPS120-16075-VI	16V⎓7.5A	SR	R53S10-6630	Provided C25, C26, C35, C38
KTPS120-18066-VI	18V⎓6.6A	SR	R53S10-6640	Provided C25, C26, C35, C38
KTPS120-19063-VI	19V⎓6.3A	SR	R53S10-6640	Provided C25, C26, C35, C38
KTPS120-20060-VI	20V⎓6A	SR	R53S10-6640	Provided C26, C35, C38
KTPS120-24050-VI	24V⎓5A	SBD	R53S10-6370	Provided C26, C35, C38
KTPS120-30040-VI	30V⎓4A	SBD	R53S10-6650	Provided C26, C35, C38
KTPS120-48025-VI	48V⎓2.5A	SBD	R53S10-6380	Provided C26, C38
KTPS120-560214-VI	56V⎓2.14A	SBD	R53S10-6660	Provided C26, C38

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

-	normal conditions	**N.C**.	-	single fault conditions	**S.F.C**
-	functional insulation	**OP**	-	basic insulation	**BI**
-	double insulation	**DI**	-	supplementary insulation	**SI**
-	between parts of opposite polarity	**BOP**	-	reinforced insulation	**RI**

Indicate used abbreviations (if any)

PRIMARY CIRCUIT: circuit that is directly connected to the AC MAINS SUPPLY It includes, for example, the means for connection to the AC MAINS SUPPLY, the primary windings of transformers, motors and other loading devices.

SECONDARY CIRCUIT: circuit that has no direct connection to a PRIMARY CIRCUIT and derives its power from a transformer, converter or equivalent isolation device, or from a battery

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)**
Accessible part of inlet (X capacitor)	ES3
All circuits except for output connector	ES3
Output connector	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	**Corresponding classification (PS)**
All circuits	PS3, Arching PIS, Resistive PIS
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**
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)**
Sharp edges and corners	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)**
Plastic enclosure	TS1
Output connector	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)**
LED indicator	RS1

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below
See "ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE" ☐ ES ☐ PS ☐ MS ☐ TS ☐ RS

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	**Possible Hazard**			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	ES3: Primary circuit	N/A	N/A	Plastic enclosure, See 5.4.2, 5.4.3, 5.5.3, 5.5.4
Ordinary	ES3: Capacitor connected between L and N	N/A	N/A	See 5.5.2.2
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
PCB	PS3	See 6.3	Min. V-1	N/A
Plastic enclosure	PS3	See 6.3	V-0	N/A
Internal and external wiring	PS3	N/A	N/A	See 6.5
The other components/materials	PS3	See 6.3	See 6.4.5, 6.4.6	N/A
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)
N/A	N/A	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
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	(See appended table 4.1.2)	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	No accessible part which could cause injury.	P
4.1.15	Markings and instructions ..... :	(See Annex F)	P
4.4.4	Safeguard robustness	See as below.	P
4.4.4.2	Steady force tests ..... :	(See Annex T.5)	P
4.4.4.3	Drop tests..... :	(See Annex T.7)	P
4.4.4.4	Impact tests..... :	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests ..... :	No such parts.	N/A
4.4.4.6	Glass Impact tests ..... :	No such 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	All safeguards remain effective.	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors	See as below.	P
4.6.1	Fix conductors not to defeat a safeguard	All conductors are reliable secured.	P
4.6.2	10 N force test applied to ..... :	10 N pull test performed for all relevant conductors.	P
4.7	Equipment for direct insertion into mains socket – outlets	The equipment is not for direct insertion into mains socket-outlets.	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 coin/button batteries provided.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery ..... :		—

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Clause	Requirement + Test	Result – Remark	Verdict
4.8.4	Battery Compartment Mechanical Tests..... :		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object ..... :	(See Annex P)	P
5	**ELECTRICALLY-CAUSED INJURY**		**P**
5.2.1	Electrical energy source classifications ..... :	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits	(See appended table 5.2)	P
5.2.2.2	Steady-state voltage and current.....:	(See appended table 5.2)	P
5.2.2.3	Capacitance limits.....:	(See appended table 5.2)	P
5.2.2.4	Single pulse limits.....:	No such single pulse occur.	N/A
5.2.2.5	Limits for repetitive pulses.....:	(See appended table 5.2)	P
5.2.2.6	Ringing signals .....:	No such circuit provided.	N/A
5.2.2.7	Audio signals .....:	No such circuit provided.	N/A
5.3	Protection against electrical energy sources	See table “OVERVIEW OF EMPLOYED SAFEGUARDS”	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See as below.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	No access with test probe to ES2, ES3.	P
5.3.2.2	Contact requirements	No openings.	P
	a) Test with test probe from Annex V .....:		N/A
	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 provided.	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
5.4.1.5	Pollution degree.....:	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformers provided.	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such circuits provided.	N/A

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Clause	Requirement + Test	Result – Remark	Verdict
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8 in attached test result)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Phenolic bobbin materials used in Transformer (T2) which are acceptable without test.	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	See as below.	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 .....:	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage.....:	2500Vpeak	—
	b) d.c. mains transient voltage .....:	AC Mains.	—
	c) external circuit transient voltage .....:	No such external circuit provided.	—
	d) transient voltage determined by measurement:	Not applicable.	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Not applicable.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages.....:	1.48 for clearances.	P
5.4.3	Creepage distances .....:	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group .....:	IIIa or IIIb.	—
5.4.4	Solid insulation	See as below.	P
5.4.4.2	Minimum distance through insulation .....:	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation	Certified sources of photo couplers used. (See appended table 4.1.2)	P
5.4.4.4	Solid insulation in semiconductor devices	See clause 5.4.4.3.	P
5.4.4.5	Cemented joints	Certified sources of photo couplers used. (See appended table 4.1.2)	P
5.4.4.6	Thin sheet material	See as below.	P
5.4.4.6.1	General requirements	Supplementary insulation.	P
5.4.4.6.2	Separable thin sheet material	T2 transformer two layers used, each of which complies with the required electric strength test.	P
	Number of layers (pcs) .....:	(See appended table 5.4.4.2)	P
5.4.4.6.3	Non-separable thin sheet material	No non-separable thin sheet material employed.	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	Not applicable.	N/A
5.4.4.7	Solid insulation in wound components	See G.5 and G.6.	P
5.4.4.9	Solid insulation at frequencies >30 kHz.....:	(See appended Table 5.4.4.9)	P
5.4.5	Antenna terminal insulation	Not applicable.	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	Humidity treatment performed to 120hrs in condition: 93% humidity, 40°C. Electric strength test conducted after the humidity treatment.	P
	Relative humidity (%) ..... :	93	—
	Temperature (°C) .....:	40	—
	Duration (h) ..... :	120	—
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	Method 1 is used. - Method 1: required withstand voltage: 2.5kV; test voltage for reinforced insulation according to Table 26: 4kVpeak or d.c. - Method 2: peak working voltage: 0.716kV; test voltage for reinforced insulation according to Table 27: 1.28kVpeak or d.c. - Method 3: nominal mains voltage: <250Vrms; test voltage for reinforced insulation according to Table 28: 4kVpeak or d.c.	P
5.4.9.2	Test procedure for routine tests	T2	P
5.4.10	Protection against transient voltages between external circuit	No such external circuits provided.	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
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		
5.5.1	General	See as below.	P
5.5.2	Capacitors and RC units	Approved X and Y capacitors provided. (See appended table 4.1.2)	P
5.5.2.1	General requirement	See as below.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector..... :	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See sub-clause 5.4)	P
5.5.5	Relays		N/A
5.5.6	Resistors	(See Annex G.16)	P
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable..... :	No such external circuits provided.	N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors	See as below.	P
5.6.2.1	General requirements	Appliance inlet employed.	P
5.6.2.2	Colour of insulation	Green-and-yellow.	P
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm^2) ..... :		—
5.6.4	Requirement for protective bonding conductors	See as below.	P

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Clause	Requirement + Test	Result – Remark	Verdict
5.6.4.1	Protective bonding conductors	Protective bonding conductors evaluated based on Table G.5.	P
	Protective bonding conductor size (mm^2)..... :	0.75mm^2 / 18AWG wire was used.	—
	Protective current rating (A) ..... :	16A (20A for North America).	—
5.6.4.3	Current limiting and overcurrent protective devices	No current limiting and overcurrent protective devices in parallel with any other components.	N/A
5.6.5	Terminals for protective conductors	No such terminals provided.	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	Not applicable.	N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω) ..... :		N/A
5.6.7	Reliable earthing	Not applicable.	N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks	Figure 4 or Figure 5 of IEC 60990.	P
5.7.2.1	Measurement of touch current ..... :	Instrument indicating peak voltage used.	P
5.7.2.2	Measurement of prospective touch voltage	Not applicable.	N/A
5.7.3	Equipment set-up, supply connections and earth connections	Equipment has only one mains connections.	P
	System of interconnected equipment (separate connections/single connection)..... :	Single connection.	—
	Multiple connections to mains (one connection at a time/simultaneous connections)..... :	N/A	—
5.7.4	Earthed conductive accessible parts ..... :	(See appended table 5.7.2.2, 5.7.4)	P
5.7.5	Protective conductor current	Protective conductor current does not exceed ES2.	P
	Supply Voltage (V) ..... :	264Vac	—
	Measured current (mA) ..... :	0.39 (with jump) 0.31 (with C153)	—
	Instructional Safeguard ..... :		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No such external circuits provided.	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

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Clause	Requirement + Test	Result – Remark	Verdict
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA) ..... :		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA) ..... :		N/A
6	**ELECTRICALLY- CAUSED FIRE**		**P**
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	See Energy source identification and classification table.	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault..... :		N/A
6.2.2.3	Power measurement for worst-case power source fault ..... :		N/A
6.2.2.4	PS1 ..... :		N/A
6.2.2.5	PS2 ..... :		N/A
6.2.2.6	PS3 ..... :	All circuits within equipment are considered as PS3.	P
6.2.3	Classification of potential ignition sources	Arcing and Resistive PIS are considered exist in all circuits.	P
6.2.3.1	Arcing PIS ..... :	See 6.2.3	P
6.2.3.2	Resistive PIS ..... :	See 6.2.3	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials..... :	(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	No such materials provided.	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method of Control fire spread used. See sub-clause 6.4.4 to 6.4.6.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards ..... :	(See appended tables 4.1.2 and Annex G.)	P
6.4.6	Control of fire spread in PS3 circuit	Components other than PCB and wires are: - mounted on PCB rated V-1 or better, or - made of V-2/VTM-2 or better.	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General ..... :		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	See as below.	P
6.4.8.1	Fire enclosure and fire barrier material properties	Equipment enclosure was evaluated as a fire enclosure.	P
6.4.8.2.1	Requirements for a fire barrier	No such fire barrier provided.	N/A
6.4.8.2.2	Requirements for a fire enclosure	Material for fire enclosure was made of min. V-0 material. Material for components that fill an opening in a fire enclosure is made of min. V-1 class material. (LED cover & Strain relief) (See appended table 4.1.2.)	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	See as below.	P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions	No such fire barrier provided.	N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm).....:	No openings.	P
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm).....:	No openings.	P
	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 such door or cover can be opened by ordinary.	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating .....:	Equipment fire enclosure was made of min. V-0 material. (See appended table 4.1.2.)	P
6.5	Internal and external wiring		P
6.5.1	Requirements	The material of VW-1 on internal or external wiring were considered compliance equivalent to IEC	P

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Clause	Requirement + Test	Result – Remark	Verdict
		60332 or IEC/TS 60695- 11-21 relevant standards.	
6.5.2	Cross-sectional area (mm^2) ..... :	N/A	—
6.5.3	Requirements for interconnection to building wiring.....:		N/A
6.6	Safeguards against fire due to connection to additional equipment		N/A
	External port limited to PS2 or complies with Clause Q.1		N/A
7	**INJURY-CAUSED BY HAZARDOUS SUBSTANCES**		**N/A**
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions.....:		N/A
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010).....:		N/A
7.6	Batteries..... :		N/A
8	**MECHANICALLY-CAUSED INJURY**		**P**
8.1	General	See as below.	P
8.2	Mechanical energy source classifications	MS1	P
8.3	Safeguards against mechanical energy sources	See Energy source identification and classification table.	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.	N/A
8.4.1	Safeguards	Same as above.	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 .....:		—

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Clause	Requirement + Test	Result – Remark	Verdict
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	No such lamps provided.	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	See as below.	P
8.6.1	Product classification	MS1.	P
	Instructional Safeguard ..... :	N/A	—
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 ..... :		—
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	Not applicable.	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	No such handles provided.	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force ..... :		N/A
8.9	Wheels or casters attachment requirements	No such wheels or casters provided.	N/A
8.9.1	Classification		N/A
8.9.2	Applied force..... :		—
8.10	Carts, stands and similar carriers	No such devices provided.	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)..... :		—

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Clause	Requirement + Test	Result – Remark	Verdict
8.10.6	Thermoplastic temperature stability (°C) ..... :		N/A
8.11	Mounting means for rack mounted equipment	Not applicable.	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable *N* ..... :		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas ..... :	No such devices provided.	N/A
	Button/Ball diameter (mm) ..... :		—
9	**THERMAL BURN INJURY**		**P**
9.2	Thermal energy source classifications	See Energy source identification and classification table.	P
9.3	Safeguard against thermal energy sources	Same as above.	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	Plastic enclosure and output connector are used to limit the transfer of thermal energy (source temperature) under normal operating conditions, abnormal operating and single fault conditions.	P
9.4.2	Instructional safeguard ..... :		N/A
10	**RADIATION**		P
10.2	Radiation energy source classification		P
10.2.1	General classification	LED indicator was RS1.	P
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault ..... :		N/A
	Instructional safeguard ..... :		—
	Tool ..... :		—
10.4	Protection against visible, infrared, and UV radiation		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

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Clause	Requirement + Test	Result – Remark	Verdict
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 such x-radiation provided.	N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards ..... :		N/A
	Instructional safeguard for skilled person ..... :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation..... :		—
	Abnormal and single-fault condition.....:		N/A
	Maximum radiation (pA/kg).....:		N/A
10.6	Protection against acoustic energy sources	No such devices provided.	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

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Clause	Requirement + Test	Result – Remark	Verdict
	Maximum dB(A) .....:		—
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		**P**
B.2	Normal Operating Conditions		P
B.2.1	General requirements .....:	(See Test Item Particulars and appended test tables.)	P
	Audio Amplifiers and equipment with audio amplifiers.....:		N/A
B.2.3	Supply voltage and tolerances	+10 % and −10 % for a.c. mains.	P
B.2.5	Input test .....:	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements .....:	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector.....:	No such device provided.	N/A
B.3.5	Maximum load at output terminals.....:	(See appended table B.3)	P
B.3.6	Reverse battery polarity	No battery provided.	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	No audio amplifiers provided.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effectively.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited:.....:	No such components provided.	N/A
B.4.3	Motor tests	No such motor provided.	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		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the equipment.	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	The equipment is intended for continuous 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.4)	P

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Clause	Requirement + Test	Result – Remark	Verdict
B.4.9	Battery charging under single fault conditions ....:	No batteries provided.	N/A
C	**UV RADIATION**		**N/A**
C.1	Protection of materials in equipment from UV radiation	No UV radiation provided.	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	**TEST GENERA TORS**		**N/A**
D.1	Impulse test generators	Not applicable.	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	No audio amplifiers provided.	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**		P
F.1	General requirements		P
	Instructions – Language ..... :	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on the exterior surface and is easily visible.	P

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Clause	Requirement + Test	Result – Remark	Verdict
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification ..... :	See copy of marking plate	—
F.3.2.2	Model identification ..... :	See copy of marking plate	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage ..... :	See copy of marking plate	—
F.3.3.4	Rated voltage ..... :	See copy of marking plate	—
F.3.3.4	Rated frequency ..... :	See copy of marking plate	—
F.3.3.6	Rated current or rated power ..... :	See copy of marking plate	—
F.3.3.7	Equipment with multiple supply connections	Not multiple power sources provided.	N/A
F.3.4	Voltage setting device	No such device provided.	N/A
F.3.5	Terminals and operating devices	See as below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings..... :	No socket-outlets provided.	N/A
F.3.5.2	Switch position identification marking ..... :	No such switch provided.	N/A
F.3.5.3	Replacement fuse identification and rating markings..... :	Fuse marking on PCB near fuse (F1): T3.15AL/250Vac	P
F.3.5.4	Replacement battery identification marking..... :	No batteries provided.	N/A
F.3.5.5	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification	See as below.	P
F.3.6.1	Class I Equipment	The earth terminal is marked with standard earth symbol (IEC 60417-5019) near the inlet.	P
F.3.6.1.1	Protective earthing conductor terminal	Same as above.	P
F.3.6.1.2	Neutral conductor terminal	The unit is not permanently connected equipment.	N/A
F.3.6.1.3	Protective bonding conductor terminals	See F.3.6.1.	P
F.3.6.2	Class II equipment (IEC60417-5172)	Class I equipment.	N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking ..... :	IPX0 declared.	—
F.3.8	External power supply output marking	The voltage rating, the current rating and the polarity are provided.	P
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test, 15	P

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Clause	Requirement + Test	Result – Remark	Verdict
		sec. for water and 15 sec. for petroleum spirit. After each test, the marking remained legible.	
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No audio amplifiers provided.	N/A
	f) Protective earthing employed as safeguard		P
	g) Protective earthing conductor current exceeding ES 2 limits	Protective earthing conductor current does not exceed ES2.	N/A
	h) Symbols used on equipment	No such symbols provided.	N/A
	i) Permanently connected equipment not provided with all-pole mains switch	The unit is not permanently connected equipment.	N/A
	j) Replaceable components or modules providing safeguard function	The required information for fuse are marked adjacent to the fuse. (see F.3.5.3 for details)	P
F.5	Instructional safeguards		N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A

G	**COMPONENTS**		**P**
G.1	**Switches**		**N/A**
G.1.1	General requirements	No switches provided.	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	**Relays**		**N/A**
G.2.1	General requirements	No relays provided.	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	**Protection Devices**		**P**
G.3.1	Thermal cut-offs	No such thermal cut-offs provided.	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
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 thermal links provided.	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 PTC thermistors provided.	N/A
G.3.4	Overcurrent protection devices	(See appended tables 4.1.2)	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided	No such components provided.	N/A
G.3.5.2	Single faults conditions ..... :		N/A
G.4	**Connectors**		**P**
G.4.1	Spacings		P
G.4.2	Mains connector configuration ..... :	AC inlet is complied with IEC60320-1	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Connectors complying with IEC 60083 or IEC 60320-1 is not be used for ES1 circuit output.	P
G.5	**Wound Components**		**P**
G.5.1	Wire insulation in wound components	(See Annex J)	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Insulation tape and/or tubing provided.	P
G.5.1.2 b)	Construction subject to routine testing	Certified source of triple insulated wire used in Transformer. (see appended tables 4.1.2)	P
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

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Clause	Requirement + Test	Result – Remark	Verdict
	Position ..... :	T2	—
	Method of protection ..... :	Over current protection by circuit design.	—
G.5.3.2	Insulation	Primary windings and secondary windings are isolated by double and reinforced insulation (The core is considered as primary part) (See appended table 5.4.9.1, G.5.3.2 in attached test result)	P
	Protection from displacement of windings ..... :	The end-turn of each winding is fixed by insulating tape.	—
G.5.3.3	Overload test..... :	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended table B.3)	P
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 motors provided.	N/A
	Position ..... :		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	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

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Clause	Requirement + Test	Result – Remark	Verdict
	Operating voltage ..... :		—
G.6	**Wire Insulation**		**P**
G.6.1	General	Approved triple insulated wires comply with Annex J. (See appended table 4.1.2.)	P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	**Mains supply cords**		**P**
G.7.1	General requirements	No power supply cord provided.	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	PS3 circuits for output wire.	P
G.7.3.2	Cord strain relief		P
G.7.3.2.1	Requirements	Displacement of the conductors did not exceed 2 mm.	P
	Strain relief test force (N) ..... :	30N	—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) ... :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry ..... :		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) ..... :		—
	Diameter (m) ..... :		—
	Temperature (°C) ..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	**Varistors**		**P**
G.8.1	General requirements	See as below.	P
G.8.2	Safeguard against shock	Approved varistors used. (See appended table 4.1.2)	P
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**

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Clause	Requirement + Test	Result – Remark	Verdict
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such IC current limiter provided.	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		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**		**P**
G.11.1	General requirements	X and Y-capacitor used as safeguard and complied with IEC/EN 60384-14. (See appended table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	**Optocouplers**		**N/A**
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:		N/A
	Type test voltage Vini .....:		—
	Routine test voltage, Vini,b .....:		—
G.13	**Printed boards**		**P**
G.13.1	General requirements		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. (see appended tables 5.4.2.2, 5.4.2.4 and 5.4.3)	P
G.13.3	Coated printed boards	No coated printed board provided.	N/A

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Clause	Requirement + Test	Result – Remark	Verdict
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction) ..... :		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation.....:		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	**Coating on components terminals**		**N/A**
G.14.1	Requirements .....:	No coating on component terminals.	N/A
G.15	**Liquid filled components**		**N/A**
G.15.1	General requirements	The equipment does not contain liquid.	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		**P**
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	Approved ICX used. (See appended table 4.1.2)	N/A
b)	Impulse test using circuit 2 with Uc = to transient voltage ..... :		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage ..... :		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance ..... :		—

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Clause	Requirement + Test	Result – Remark	Verdict
D3)	Resistance ..... :		—

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General	No telephone ringing signals provided.	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		P
	General requirements	Approved triple insulated wire used. (See appended table 4.1.2)	P

K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No safety interlock provided within the equipment.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance ..... :		N/A
K.6	Mechanically operated safety interlocks		N/A
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

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Clause	Requirement + Test	Result – Remark	Verdict
K.7.3	Endurance test		N/A
K.7.4	Electric strength test .....:		N/A

L	DISCONNECT DEVICES		P
L.1	General requirements	The appliance inlet is considered to be the disconnect device.	P
L.2	Permanently connected equipment	The unit is not permanently connected equipment.	N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment	Disconnect device disconnects both poles simultaneously.	P
L.5	Three-phase equipment	Single-phase equipment.	N/A
L.6	Switches as disconnect devices	No switch or the switch is not a disconnect device.	N/A
L.7	Plugs as disconnect devices	The appliance inlet is considered to be the disconnect device.	N/A
L.8	Multiple power sources	Not multiple power sources provided.	N/A

M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements	No battery provided.	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
	- 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 .....:		—

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Clause	Requirement + Test	Result – Remark	Verdict
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) ..... :		N/A
M.6.2	Leakage current (mA) ..... :		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume *Vz* (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

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Clause	Requirement + Test	Result – Remark	Verdict

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..... :	Pollution degree considered.	—

P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object		P
	Location and Dimensions (mm) ..... :	No openings.	—
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	The equipment does not contain liquid.	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	No such devices provided.	N/A
P.4.2 a)	Conditioning testing		N/A
	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		N/A
Q.1	Limited power sources	Not applicable.	N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) ..... :		—
	Current limiting method..... :		—
R	**LIMITED SHORT CIRCUIT TEST**		**N/A**
R.1	General requirements	Not applicable.	N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). ..... :		N/A
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		**N/A**
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W	The fire enclosure was made of rated min. V-0 material.	N/A
	Samples, material ..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material ..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material ..... :		—
	Wall thickness (mm)..... :		—

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Clause	Requirement + Test	Result – Remark	Verdict
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Conditioning (test condition), (°C).....:		—
	Test flame according to IEC 60695-11-20 with conditions as set out		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 .....:	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
T.3	Steady force test, 30 N .....:		N/A
T.4	Steady force test, 100 N .....:		N/A
T.5	Steady force test, 250 N .....:	(See appended table T.5)	P
T.6	Enclosure impact test	(See appended table T.6)	P
	Fall test	By fall test.	P
	Swing test	Not applicable.	N/A
T.7	Drop test .....:	(See appended table T.7)	P
T.8	Stress relief test .....:	(See appended table T.8)	P
T.9	Impact Test (glass)	No such glass provided.	N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....:		—
	Height (m) .....:		—
T.10	Glass fragmentation test .....:		N/A
T.11	Test for telescoping or rod antennas	No such antennas provided.	N/A
	Torque value (Nm) .....:		—

U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION**	**N/A**

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Clause	Requirement + Test	Result – Remark	Verdict
U.1	General requirements	No CRT provided within the equipment.	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	Following the probes test specified in this annex Figure V.1, V.2 are suitable.	P
V.2	Accessible part criterion	No live parts can be accessible.	P

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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]
1) Enclosure	Sabic Japan L L C	940(f1)	V-0, 120°C, min. 1.5 mm thick	UL 94 UL 746C	UL
(Alternate)	Sabic Japan L L C	945(GG)	V-0, 120°C, min. 1.5 mm thick	UL 94 UL 746C	UL
2) PCB	Interchangeable	Interchangeable	Min. V-1, min. 130°C	UL 796	UL
3) Appliance Inlet (CN101)	Tecx-Unions	TU-301-SP	10A, 250Vac (C14 type)	EN 60320-1, IEC 60320-1, UL 498	VDE, UL
(Alternate)	Solteam	ST-01	10A, 250Vac (C14 type)	EN 60320-1, IEC 60320-1, UL 498	VDE, UL
(Alternate)	HCR	SK01	10A, 250Vac (C14 type)	EN 60320-1, IEC 60320-1, UL 498	VDE, UL
(Alternate)	Inalways	0711	10A, 250Vac (C14 type)	EN 60320-1, IEC 60320-1, UL 498	VDE, UL
(Alternate)	Tecx-Unions	TU-333	2.5A, 250Vac (C6 type)	EN 60320-1, IEC 60320-1, UL 498	VDE, UL
(Alternate)	Solteam	ST-03	2.5A, 250Vac (C6 type)	EN 60320-1, IEC 60320-1, UL 498	VDE, UL
(Alternate)	HCR	SK03	2.5A, 250Vac (C6 type)	EN 60320-1, IEC 60320-1, UL 498	VDE, UL
(Alternate)	Inalways	0724	2.5A, 250Vac (C6 type)	EN 60320-1, IEC 60320-1, UL 498	VDE, UL
4) Fuse (F1)	Conquer	MST	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
(Alternate)	Ever Island Electric Co Ltd & Walter Electric	2010 series	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
(Alternate)	Walter Electronic Co Ltd	2010	T3.15AL, 250Vac	ANSI/UL 248-1 ANSI/UL 248-14	UL

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Clause	Requirement + Test	Result – Remark	Verdict

5) Varistor (RV1) (optional)	Thinking	TVR10471, TVR10471-V, TVR10471-D, TVR14471	300Vac, 385Vdc, 85°C (flame class of body coating complied with V-0)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449	VDE, UL
(Alternate)	Thinking	TVR10471-M, TVR14471-M	300Vac, 385Vdc, 125°C (flame class of body coating complied with V-0)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449	VDE, UL
(Alternate)	DongGuan Littelfuse	SAS-471KD14	300Vac, 385Vdc, 85°C (flame class of body coating complied with V-0)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449	VDE, UL
(Alternate)	Centra	CNR-14D471K	300Vac, 385Vdc, 85°C (flame class of body coating complied with V-0)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449	VDE, UL
(Alternate)	Ceramate	GNR14D471K	300Vac, 385Vdc, 85°C (flame class of body coating complied with V-0)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449	VDE, UL
6) X-Capacitor (C21) (optional)	Cheng Tung	CTX	Max. 0.68μF, min. 250Vac, 110°C	IEC/EN 60384-14:2013 UL 60384-14	ENEC15, UL
(Alternate)	Chiefcon	CKX	Max. 0.68μF, min. 250Vac, 110°C	IEC/EN 60384-14:2013 UL 60384-14	ENEC14, UL
(Alternate)	Iskra	KNB 1560	Max. 0.68μF, min. 250Vac, 125°C	IEC/EN 60384-14:2013 UL 60384-14	VDE, UL
(Alternate)	Okaya	RE-Series	Max. 0.68μF, min. 250Vac, 100°C	IEC/EN 60384-14:2013 UL 60384-14	ENEC14, UL
(Alternate)	Carli	MPX	Max. 0.68μF, min. 250Vac, 110°C	IEC/EN 60384-14:2013 UL 60384-14	VDE, UL
7) ICX (U1)	Leadtrend	LD7791GS	100-250Vac, 47-63Hz	IEC 62368-1:2014	CB by Nemko

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Clause	Requirement + Test	Result – Remark	Verdict

- Resistor (R5, R6)	Interchangeable	Interchangeable	5.1kohm, 1/4W	--	--
- Diode (D1, D2)	Interchangeable	Interchangeable	Min. 600V, min. 0.5A	--	--
8) Bridge Rectifier (BD1)	Interchangeable	Interchangeable	Min. 4A, min. 600V	--	--
9) Storage Capacitor (C9)	Interchangeable	Interchangeable	150µF, min. 420V, min. 105°C	--	--
10) Transistor (Q3)	Interchangeable	Interchangeable	Min. 11A, min. 600V	--	--
11) Thermistor (NTH1)	Interchangeable	Interchangeable	100 k ohm at 25°C	--	--
12) Bridge Capacitor (C1, C3, C4) (Y1 type) (optional)	TDK	CD	Max. 2200pF, min. 250Vac, 125°C	IEC/EN 60384-14:2013 UL 60384-14	VDE, UL
(Alternate)	Murata	KX	Max. 2200pF, min. 250Vac, 125°C	IEC/EN 60384-14:2013 UL 60384-14	VDE, UL
(Alternate)	Walsin	AH	Max. 2200pF, min. 250Vac, 125°C	IEC/EN 60384-14:2013 UL 60384-14	VDE, UL
13) Photo Coupler (U3)	Vishay	TCLT1000, TCLT1001, TCLT1002, TCLT1003, TCLT1004, TCLT1005, TCLT1006, TCLT1007, TCLT1008, TCLT1009	Dti = 0.7 mm, Int. dcr=4.2 mm, Ext. dcr=8.2 mm, 100°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL
(Alternate)	Vishay	TCLT1010, TCLT1012, TCLT1013, TCLT1014, TCLT1015, TCLT1016, TCLT1017, TCLT1018, CTLT1019	Dti=0.75mm, Ext. dcr=8.0mm, thermal cycle test, 100°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL
(Alternate)	Vishay	VOL618A-…- (blank; A-Z; 0-9)	Dti=0.4mm, Ext. dcr=8.0mm, thermal cycle test, 110°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL

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(Alternate)	Vishay	VOL617A-…-(blank; A-Z; 0-9)	Dti=0.4mm, Ext. dcr=8.0mm, thermal cycle test, 110°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL
(Alternate)	Everlight	EL1010V EL1011V EL1012V EL1013V EL1014V EL1015V EL1016V EL1017V EL1018V EL1019V	Dti=0.4mm, Ext. dcr=8.1mm, thermal cycle test, 110°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL
(Alternate)	Everlight	EL1110V EL1111V EL1112V EL1113V EL1114V EL1115V EL1116V EL1117V EL1118V EL1119V	Dti=0.4mm, Ext. dcr=8.1mm, thermal cycle test, 110°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL
(Alternate)	Cosmo	KT10xx	Dti=0.7mm, Ext. dcr=8.6mm, thermal cycle test, 110°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL
(Alternate)	Lite-On	LTV-10xx (x=0,1,2,3,4,5, 6,7,8,9)	Dti=0.4mm, Ext. dcr=8.0mm, thermal cycle test, 115°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL
(Alternate)	Sharp	PC3L57 (0; 1; 2; 3; 4; 5; 6; 7; 8; 9)	Dti=0.4mm, Ext. dcr=8.0mm, Thermal cycle test, 115°C	IEC/EN 60950-1 EN 60747-5-5 UL 1577	VDE, Fimko, UL
14) Choke (L101)	Dong Guan Readore	R55M96-102D	130°C	--	--
(Alternate)	Mao Hsin	R55M96-102D	130°C	--	--
(Alternate)	Newline	R55M96-102D	130°C	--	--
15) Choke (L102)	Friendship	R55MR6-123E	130°C	--	--
(Alternate)	Mao Hsin	R55MR6-123E	130°C	--	--
(Alternate)	Newline	R55MR6-123E	130°C	--	--

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Clause	Requirement + Test	Result – Remark	Verdict

16) Choke (L3)	Dong Guan Readore	R55M26-231E	130°C	--	--
(Alternate)	Mao Hsin	R55M26-231E	130°C	--	--
(Alternate)	Newline	R55M26-231E	130°C	--	--
(Alternate)	Dongguanshi PuHang	R55M26-231E	130°C	--	--
17) PFC Choke (T1)	Mao Hsin	R53S10-5960	130°C	--	--
(Alternate)	Newline	R53S10-5960	130°C	--	--
(Alternate)	Dongguanshi PuHang	R53S10-5960	130°C	--	--
(Alternate)	Dong Guan Readore	R53S10-5960	130°C	--	--
18) Transformer (T2) (for KTPS120-12090-VI)	Mao Hsin	R53S10-6360	Class B	--	--
(Alternate)	Newline	R53S10-6360	Class B	--	--
(Alternate)	Dongguanshi PuHang	R53S10-6360	Class B	--	--
(for KTPS120-15080-VI and KTPS120-16075-VI)	Mao Hsin	R53S10-6630	Class B	--	--
(Alternate)	Newline	R53S10-6630	Class B	--	--
(Alternate)	Dongguanshi PuHang	R53S10-6630	Class B	--	--
(for KTPS120-18066-VI, KTPS120-19063-VI and KTPS120-20060-VI)	Mao Hsin	R53S10-6640	Class B	--	--
(Alternate)	Newline	R53S10-6640	Class B	--	--
(Alternate)	Dongguanshi PuHang	R53S10-6640	Class B	--	--
(for KTPS120-24050-VI)	Mao Hsin	R53S10-6370	Class B	--	--
(Alternate)	Newline	R53S10-6370	Class B	--	--
(Alternate)	Dongguanshi PuHang	R53S10-6370	Class B	--	--
(for KTPS120-30040-VI)	Mao Hsin	R53S10-6650	Class B	--	--
(Alternate)	Newline	R53S10-6650	Class B	--	--

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Clause	Requirement + Test	Result – Remark	Verdict

	(Alternate)	Dongguanshi PuHang	R53S10-6650	Class B	--	--
	(for KTPS120-48025-VI)	Mao Hsin	R53S10-6380	Class B	--	--
	(Alternate)	Newline	R53S10-6380	Class B	--	--
	(Alternate)	Dongguanshi PuHang	R53S10-6380	Class B	--	--
	(for KTPS120-560214-VI)	Mao Hsin	R53S10-6660	Class B	--	--
	(Alternate)	Newline	R53S10-6660	Class B	--	--
	(Alternate)	Dongguanshi PuHang	R53S10-6660	Class B	--	--
-	Bobbin (for Mao Hsin and Newline)	Chang Chun	T375J	V-0, 150°C, phenolic, min. 0.71mm thick.	UL 94 UL 746C	UL
	(for Dongguanshi Puhang)	Sumitomo Bakelite	PM-9820, PM-9630	V-0, 150°C, phenolic, min. 0.71mm thick.	UL 94 UL 746C	UL
-	Insulations Tape	3M Company	1350F-1	Polyester Tape, 130°C	UL 510	UL
	(Alternate)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT	Polyester Tape, 130°C	UL 510	UL
-	Triple Insulation Wire	Great Leoflon	TRW(B)	130°C	EN 60950-1:2006+A11+A1+A12+A2:2013 UL 60950-1	VDE, UL
19)	Mylar Sheet (between PCB trace and U sharp Heat Sink)	Sichuan Longhua Film Co Ltd	PP-(i)(j)	Min. V-2, min. 105°C, min. 0.4mm thickness	UL 94	UL
20)	Insulation Tape (on Heat Sink)	Symbio	35660	Min. V-2, min. 105°C, 2 layers	UL 510	UL
	(Alternate)	3M Company	1350F-1, 1388Y-1	Min. V-2, min. 105°C, 2 layers	UL 510	UL
	(Alternate)	Jingjiang Yahua	CT	Min. V-2, min. 105°C, 2 layers	UL 510	UL
21)	Output Wire (for KTPS120-12090-VI, KTPS120-15080-VI, KTPS120-	Interchangeable	Interchangeable	Max. 3.05m. VW-1 or FT-1, min 80°C, min. 60V, min. 14AWG	UL 758	UL

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Clause	Requirement + Test	Result – Remark	Verdict

16075-VI, KTPS120-18066-VI, KTPS120-19063-VI and KTPS120-20060-VI)					
(for KTPS120-24050-VI and KTPS120-30040-VI)	Interchangeable	Interchangeable	Max. 3.05m. VW-1 or FT-1, min 80°C, min. 60V, min. 16AWG	UL 758	UL
(for KTPS120-48025-VI and KTPS120-560214-VI)	Interchangeable	Interchangeable	Max. 3.05m. VW-1 or FT-1, min 80°C, min. 60V, min. 18AWG	UL 758	UL
22) Strain Relief	Interchangeable	Interchangeable	V-1 or better	UL 94, UL 746C	UL
23) Secondary capacitors (C25, C26, C35, C38)	Interchangeable	Interchangeable	Min 105°C	--	--
24) Bonding Wiring	Interchangeable	Interchangeable	Green/Yellow, 18AWG min.	UL758	UL
25) Internal Wiring (L/N Wiring)	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, Neoprene, Polyimide or marked VW-1; 300V min., min. 80 degree C , minimum.20WAG.	UL758	UL
26) LED Cover	Sabic Innovative Plastics Us L L C	945(GG)	V-0, 120°C, min. 1.5 mm thick	UL 94 UL 746C	UL
(Alternate)	Idemitsu Kosan	AZ1900(+)	V-0, 80°C, min. 1.5 mm thick	UL 94 UL 746C	UL
(Alternate)	Sabic Innovative Plastics B V	940A	V-0, 120°C, min. 3.0 mm thick	UL 94 UL 746C	UL
Supplementary information: [1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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Clause	Requirement + Test	Result – Remark	Verdict

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests		N/A
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	TABLE: Stress Relief test		—
Part	**Material**	**Oven Temperature (°C)**	**Comments**
4.8.4.3	TABLE: Battery replacement test		—
Battery part no.....:			
Battery Installation/withdrawal		Battery Installation/Removal Cycle	**Comments**
		1	
		2	
		3	
		4	
		5	
		6	
		8	
		9	
		10	
4.8.4.4	Table: DROP TEST		—
Impact Area	**Drop Distance**	**Drop No.**	**Observations**
		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:			

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

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Clause	Requirement + Test	Result – Remark	Verdict

5.2	TABLE: Classification of electrical energy sources					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	
1	264Vac/ 60Hz	+56V – RTN (KTPS120-560214-VI)	Normal	56.33Vdc	-- / --	ES1
			Abnormal (overload)	55.7Vdc	-- / --	
			Abnormal (output short)	0	-- / --	
			Single fault- (when shutdown)	0	-- / --	
			Single fault- (when fuse open)	0	-- / --	
			Single fault L6(-) SC	57.6Vdc	-- / --	
			Single fault L6(+) SC	57.6Vdc	-- / --	
2	264Vac/ 60Hz	Output (+/-) – Earth (KTPS120-560214-VI) with C153	Normal	--	0.27mApk / --	ES1
			Abnormal (overload)	--	0.27mApk / --	
			Abnormal (output short)	--	0.27mApk / --	
			Single fault- (when shutdown)	--	0.27mApk / --	
			Single fault- (when cycle)	--	0.27mApk / --	
			Single fault- (when fuse open)	--	0.46mApk / --	
3	264Vac/ 60Hz	+24V – RTN (KTPS120-24050-VI)	Normal	24.28Vdc	-- / --	ES1
			Abnormal (overload)	23.74Vdc	-- / --	
			Abnormal (output short)	0	-- / --	
			Single fault- (when shutdown)	0	-- / --	

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Clause	Requirement + Test	Result – Remark		Verdict

			Single fault L6(-) SC	24.8Vdc	--	--	
			Single fault L6(+) SC	24.8Vdc	--	--	
4	264Vac/ 60Hz	Output (+/-) – Earth (KTPS120-24050-VI) with C153	Normal	--	--	--	ES1
			Abnormal (overload)	--	0.27mApk	--	
			Abnormal (output short)	--	0.27mApk	--	
			Single fault- (when shutdown)	--	0.27mApk	--	
5	264Vac/ 60Hz	+15V – RTN (KTPS120-15080-VI)	Normal	15.27Vdc	--	--	ES1
			Abnormal (overload)	15.23Vdc	--	--	
			Abnormal (output short)	0	--	--	
			Single fault- (when shutdown)	0	--	--	
			Single fault Q104 SC	0	--	--	
			Single fault C30 SC	15.6Vdc	--	--	
			Single fault C29 SC	15.2Vdc	--	--	
			Single fault L6(+) SC	15.2Vdc	--	--	
6	264Vac/ 60Hz	Output (+/-) – Earth (KTPS120-15080-VI) with C153	Normal	--	--	--	ES1
			Abnormal (overload)	--	0.27mApk	--	
			Abnormal (output short)	--	0.27mApk	--	
			Single fault- (when shutdown)	--	0.27mApk	--	
7	264Vac / 60Hz	+12V – RTN (KTPS120-12090-VI)	Normal	12.27Vdc	--	--	ES1
			Abnormal (overload)	12.11Vdc	--	--	
			Abnormal (output short)	0	--	--	

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Clause	Requirement + Test	Result – Remark	Verdict

			Single fault- (when shutdown)	0	--	--	
			Single fault Q104 SC	0	--	--	
			Single fault C30 SC	12.4Vdc	--	--	
			Single fault C29 SC	12.6Vdc	--	--	
8	264Vac / 60Hz	+12V – RTN (KTPS120-12090-VI) with C153	Normal	--	--	--	ES1
			Abnormal (overload)	--	0.27mApk	--	
			Abnormal (output short)	--	0.27mApk	--	
			Single fault- (when shutdown)	--	0.27mApk	--	

5.2.2.3 – Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
1.	240Vac / 60Hz	C21	Normal	C21=max. 680 (+20%)	340	ES3
			Abnormal	--	--	
			Single fault- SC/OC	--	--	

5.2.2.4 – Single Pulses

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

5.2.2.5 – Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
1	264Vac/ 60Hz	+56V – RTN (KTPS120-560214-VI)	Normal	--	--	--	ES1
			Abnormal	--	--	--	
			Single fault- (when cycle)	Less than 3000	Less than 42.4	--	

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

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).....:	90/60Hz	90/60Hz	264/60Hz	264/60Hz	—
	Ambient T_{min} (°C).....:	--	--	--	--	—
	Ambient T_{max} (°C) .....:	--	--	--	--	—
	Tma (°C).....:	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
Test condition: KTPS120-560214-VI		Label on bottom	Label on top	Label on bottom	Label on top	--
AC inlet		66.5	59.4	50.5	51.0	70
Input wire		72.0	65.5	53.4	55.1	80
RV1 body		80.8	73.6	58.6	60.2	85
L101 coil		85.7	78.3	59.9	61.4	130
C21 body		90.0	82.1	63.6	64.7	100
L102 coil		99.1	91.4	65.8	66.6	130
C3 near C4 body		69.6	62.4	51.9	53.1	125
PCB near BD1 & HS1		90.1	83.8	65.8	66.8	130
T1 coil		100.4	93.0	71.4	72.1	130
T1 core		94.6	87.1	69.9	70.7	130
L3 coil		98.9	91.3	71.5	72.1	130
PCB near NTH1		95.0	86.6	73.6	73.5	130
C9 body		100.0	91.6	76.2	76.0	105
HS2 near Q3		94.5	87.0	72.1	73.0	130
T2 primary coil side		104.3	96.2	83.7	84.1	110
T2 secondary coil side		103.2	95.9	84.4	84.7	110
T2 core		94.1	86.8	74.8	75.2	110
C1 body		89.3	84.0	73.1	73.7	125
U3 body		93.9	85.3	76.7	76.4	100
L6 coil		71.0	69.9	64.0	64.6	105
C35 body		74.1	71.7	65.7	65.5	105
HS3 near Q105		97.0	89.8	81.0	80.7	130

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Clause	Requirement + Test	Result – Remark	Verdict

Output wire	60.1	60.7	56.4	56.5	80
Inside plastic enclosure near T2	72.7	71.0	60.9	63.1	120
Surface of Plastic enclosure near T2	66.3	64.9	54.0	58.2	77 (TS)
Ambient air	40.0	40.0	40.0	40.0	--
--	--	--	--	--	--
Test condition: KTPS120-24050-VI	Label on bottom	Label on top	Label on bottom	Label on top	--
AC inlet	64.6	64.9	56.3	56.4	70
Input wire	70.5	72.4	56.5	59.4	80
RV1 body	77.5	79.0	68.9	70.1	85
L101 coil	89.1	89.4	70.5	71.3	130
C21 body	89.0	88.9	72.8	73.3	100
L102 coil	104.1	103.4	75.2	74.5	130
C3 near C4 body	79.8	80.2	60.1	59.1	125
PCB near BD1 & HS1	86.5	86.5	69.2	68.5	130
T1 coil	103.0	102.4	81.1	81.0	130
T1 core	91.1	90.9	80.2	80.3	130
L3 coil	104.1	103.2	81.8	81.4	130
PCB near NTH1	96.7	95.5	80.9	80.4	130
C9 body	98.9	98.1	87.2	87.1	105
HS2 near Q3	95.3	95.4	81.6	82.3	130
T2 primary coil side	102.1	101.3	88.4	89.3	110
T2 secondary coil side	95.7	94.9	85.2	85.6	110
T2 core	86.6	86.6	76.5	77.4	110
C1 body	82.9	83.7	73.2	74.8	125
U3 body	91.4	90.4	82.0	82.4	100
L6 coil	71.9	72.1	65.8	65.9	105
C35 body	86.3	84.7	79.5	79.1	105
HS3 near Q105	99.0	97.4	85.9	84.3	130
Output wire	67.2	64.9	61.5	61.0	80
Inside plastic enclosure near T2	71.3	73.8	75.2	75.5	120
Surface of plastic enclosure near T2	62.2	59.9	63.7	59.1	77 (TS)
Ambient air	40.0	40.0	40.0	40.0	--
Test condition: KTPS120-15080-VI	Label on bottom	Label on top	Label on bottom	Label on top	--
AC inlet	55.7	57.0	57.3	56.6	70
Input wire	61.2	64.6	58.6	59.5	80
RV1 body	70.4	72.1	68.6	68.3	85

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Clause	Requirement + Test	Result – Remark	Verdict

L101 coil	75.4	76.6	67.9	67.4	130
C21 body	75.4	75.9	72.1	71.2	100
L102 coil	89.3	90.6	66.1	68.2	130
C3 near C4 body	58.4	63.0	49.9	52.5	125
PCB near BD1 & HS1	64.3	68.6	57.9	60.1	130
T1 coil	91.2	91.7	73.7	75.4	130
T1 core	86.3	86.9	72.9	74.7	130
L3 coil	92.4	93.0	72.8	74.4	130
PCB near NTH1	88.0	88.3	75.5	76.7	130
C9 body	87.8	87.1	78.0	79.5	105
HS2 near Q3	83.9	82.4	74.9	76.7	130
T2 primary coil side	93.1	92.8	87.9	89.4	110
T2 secondary coil side	97.5	97.2	90.6	91.7	110
T2 core	81.6	81.3	79.1	80.7	110
C1 body	80.0	78.2	79.5	78.5	125
U3 body	84.3	83.6	79.1	79.9	100
L6 coil	80.0	78.4	70.7	71.1	105
C35 body	85.9	84.1	83.7	82.7	105
HS3 near Q105	91.1	88.3	81.3	79.8	130
Output wire	67.5	67.4	62.4	62.6	80
Inside plastic enclosure near T2	73.7	74.8	66.2	66.7	120
Surface of plastic enclosure near T2	66.7	63.2	64.2	59.1	77 (TS)
Ambient air	40.0	40.0	40.0	40.0	--
Test condition: KTPS120-12090-VI	Label on bottom	Label on top	Label on bottom	Label on top	--
AC inlet	64.3	64.2	55.2	55.5	70
Input wire	72.5	72.6	60.5	61.2	80
RV1 body	83.7	83.3	68.5	69.1	85
L101 coil	88.9	88.1	69.9	70.2	130
C21 body	90.1	88.8	72.8	72.8	100
L102 coil	95.7	93.9	72.2	71.9	130
C3 near C4 body	68.1	65.7	58.0	57.1	125
PCB near BD1 & HS1	82.2	80.9	67.5	66.8	130
T1 coil	101.2	99.6	79.7	79.6	130
T1 core	94.7	93.3	78.3	78.4	130
L3 coil	104.2	102.3	79.5	79.2	130
PCB near NTH1	98.7	96.4	78.4	77.7	130

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Clause	Requirement + Test	Result – Remark	Verdict

C9 body	102.1	100.6	84.7	84.3	105
HS2 near Q3	95.7	95.2	80.9	81.3	130
T2 primary coil side	96.3	99.3	86.3	86.9	110
T2 secondary coil side	97.8	100.5	88.2	88.5	110
T2 core	87.8	90.5	79.0	79.5	110
C1 body	92.1	90.1	80.0	79.8	125
U3 body	87.3	89.6	85.7	84.8	100
L6 coil	90.9	90.1	81.5	81.1	105
C35 body	100.6	99.2	87.6	87.0	105
HS3 near Q105	99.6	98.9	83.8	84.1	130
Output wire	77.0	77.1	70.2	71.0	80
Inside plastic enclosure near T2	74.7	77.0	66.9	68.4	120
Surface of plastic enclosure near T2	74.4	72.1	63.4	58.7	77 (TS)
Ambient air	40.0	40.0	40.0	40.0	--
Test condition: KTPS120-12090-VI	--	--	--	--	--
DC Jack body	--	26.0	--	--	77
Ambient air	--	25.0	--	--	--

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 appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

TS: Tma is included in assessment of Touch Temperatures (Clause 9), unless Touch Temperatures exceeded TS1, Touch Temperatures will be evaluated at 25°C

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Penetration (mm).....:			—
Object/ Part No./Material	Manufacturer/ 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	—

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Clause	Requirement + Test	Result – Remark	Verdict

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**	**P**

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)
Basic/supplementary:	--	--	--	--	--	--	--
Under F1 trace	420	250	--	2.3 (1.5x1.48)	3.2	2.5	3.2
Reinforced:	--	--	--	--	--	--	--
Line trace → G trace	420	250	50	4.5 (3.0x1.48)	6.1	5.0	6.1
C4 trace → U HS (connector to G trace)	420	250	50	4.5 (3.0x1.48)	6.1	5.0	6.1
L trace → J10	420	250	50	4.5 (3.0x1.48)	6.6	5.0	6.6
Under C3, C4 trace	420	250	50	4.5 (3.0x1.48)	6.0	5.0	6.0
Under C1 trace	420	250	50	4.5 (3.0x1.48)	7.3	5.0	7.3
Under U3 trace	420	250	50	4.5 (3.0x1.48)	8.5	5.0	8.5
Under T2 trace	716	403	50	4.5 (3.0x1.48)	8.1	8.1	8.1
T2 (6) trace → R30 trace	484	250	50	4.5 (3.0x1.48)	7.5	5.0	7.5
T2 (6) trace → C29 trace	420	250	50	4.5 (3.0x1.48)	7.7	5.0	7.7
T2 (6) trace → U3 (2) trace	420	250	50	4.5 (3.0x1.48)	8.0	5.0	8.0
C3 with bead core with glue → HS1 with tape	420	250	50	4.5 (3.0x1.48)	6.0	5.0	6.0
Between C3, C4 with bead core with glue	420	250	50	4.5 (3.0x1.48)	6.0	5.0	6.0
Between C1 with bead core with glue	420	250	50	4.5 (3.0x1.48)	6.4	5.0	6.4
HS2 with tape → C1 secondary pin with bead core with glue (10N)	420	250	50	4.5 (3.0x1.48)	9.0	5.0	7.1

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Clause	Requirement + Test	Result – Remark	Verdict

T2 core → Q104 with tape	716	403	50	4.5 (3.0x1.48)	9.2	8.1	9.2
T2 Transformer	--	--	--	--	--	--	--
T2 Primary to Secondary	716	403	50	4.5 (3.0x1.48)	21.0	8.1	21.0
T2 Secondary to Core	716	403	50	4.5 (3.0x1.48)	23.0	8.1	23.0

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

1) Specified the equipment to be operated up to 5000m above sea level, the required clearance is multiplied by the altitude correction factor 1.48 according to Table 17.

5.4.2.3	**TABLE: Minimum Clearances distances using required withstand voltage**	**P**
	Overvoltage Category (OV):	II
	Pollution Degree:	2

Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)
Basic/supplementary[1)]	2500	2.3 (1.5x1.48)	[1)]
Reinforced[1)]	2500	4.5 (3.0x1.48)	[1)]

Supplementary information:

[1)] See appended table 5.4.2.2, 5.4.2.4 and 5.4.3 for measurements.

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**	**P**

Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
Photo Coupler (U3) (Reinforced Insulation)	420	50	[1)]	0.4	[1)]
Insulation tape (T2, HS2, HS3)	716	50	Other	2 layers	2 layers

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Clause	Requirement + Test	Result – Remark	Verdict

(Reinforced Insulation)					
Enclosure (Reinforced Insulation)	716	50	Other	0.4	1)
Mylar sheet (between PCB trace and U sharp Heat Sink) (Reinforced Insulation)	716	50	Other	0.4	1)

Supplementary information:

1) See appended table 4.1.2.

2) According to clause 5.4.4.9:

For Insulation tape (Reinforced Insulation):
Kr=0.46, Vpw=716Vp. Required electric strengh test voltage: 1.2*2*716/0.46=3736Vpeak

For Optical Isolator, Mylar sheet and plastic enclosure (Reinforced Insulation):
Kr=0.35, Vpw=420Vp. Required electric strengh test voltage: 1.2*2*420/0.35=2880Vpeak

For Mylar sheet and plastic enclosure (Reinforced Insulation):
Kr=0.35, Vpw=716Vp. Required electric strengh test voltage: 1.2*2*716/0.35=4910Vpeak

5.4.9	TABLE: Electric strength tests	P

Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:			
--	--	--	--
Basic/supplementary:			
Unit: primary to earth	DC	2500	No
Reinforced:			
Primary / Secondary	DC	4000	No
Unit: primary to secondary	DC	4000	No
Photo Coupler (U3) (see appended tables 4.1.2)	AC (pk)	4000	No
Enclosure (see appended tables 4.1.2)	AC (pk)	4910	No
One layer of insulation tape (T2)	AC (pk)	4000	No
Mylar sheet (between PCB trace and U sharp Heat Sink)	AC (pk)	4910	No
T2: Primary to Secondary	AC (pk)	4000	No
T2: Core to Secondary	AC (pk)	4000	No
Routine Tests:			
--	--	--	--

Supplementary information:

1. By applying an d.c. voltage in one polarity and then repeat it in reverse polarity.
2. See supplementary information of appended table 5.4.4.9.

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Clause	Requirement + Test	Result – Remark	Verdict

3. All testing Including after Humidity required of clause 5.4.8, there are including unit, transformer and all material of transformer, see appended tables 4.1.2

5.5.2.2	TABLE: Stored discharge on capacitors				P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification
264, 60	Phase to Neutral	N	--	0	ES1

Supplementary information:

X-capacitors installed for testing are: C21= 0.68μF

☐ bleeding resistor rating:

☒ ICX: U1 (Leadtrend type LD7791GS) include Resistor rated: R5, R6=5.1Kohm

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

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	P
Supply voltage.....:	264Vac / 60Hz	—
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)
Output RTN (Earth)	1	0.58
	2*	N/A
	3	0.01
	4	N/A
	5	0.01
	6	N/A
	8	N/A

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Clause	Requirement + Test	Result – Remark	Verdict

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.

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
A		Power (W) :			
		V_A (V) :			
		I_A (A) :			
B		Power (W) :			
		V_A (V) :			
		I_A (A) :			
C		Power (W) :			
		V_A (V) :			
		I_A (A) :			
D		Power (W) :			
		V_A (V) :			
		I_A (A) :			

Supplementary Information:

(*) Measurement taken only when limits at 3 seconds exceed PS1 limits

All circuits within the equipment are considered as PS3. For output circuits see appended table Q.1.

6.2.3.1	TABLE: Determination of Potential Ignition Sources (Arcing PIS)			N/A
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (V_p x 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.

All components in the equipment are considered as arcing PIS.

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Clause	Requirement + Test	Result – Remark	Verdict

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:

All components in the equipment are considered as arcing resistive.

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

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

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

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 .....:			

Supplementary information:

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
--	--	--	--	--	--	--	Test Model: KTPS120-560214-VI
90	1.50	--	134	--	F1	1.50	56V⎓2.14A / 50Hz
100	1.34	1.6	133	--	F1	1.34	56V⎓2.14A / 50Hz
240	0.57	1.6	130	--	F1	0.57	56V⎓2.14A / 50Hz
254	0.54	--	130	--	F1	0.54	56V⎓2.14A / 50Hz

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Clause	Requirement + Test	Result – Remark	Verdict

264	0.52	--	130	--	F1	0.52	56V⎓2.14A / 50Hz
90	1.50	--	134	--	F1	1.50	56V⎓2.14A / 60Hz
100	1.34	1.6	134	--	F1	1.34	56V⎓2.14A / 60Hz
240	0.57	1.6	130	--	F1	0.57	56V⎓2.14A / 60Hz
254	0.55	--	130	--	F1	0.55	56V⎓2.14A / 60Hz
264	0.53	--	130	--	F1	0.53	56V⎓2.14A / 60Hz
--	--	--	--	--	--	--	Test Model: KTPS120-48025-VI
90	1.48	--	132.8	--	F1	1.48	48V⎓2.5A / 50Hz
100	1.32	1.6	132.0	--	F1	1.32	48V⎓2.5A / 50Hz
240	0.56	1.6	130.0	--	F1	0.56	48V⎓2.5A / 50Hz
254	0.53	--	128.0	--	F1	0.53	48V⎓2.5A / 50Hz
264	0.51	--	128.0	--	F1	0.51	48V⎓2.5A / 50Hz
90	1.48	--	132.8	--	F1	1.48	48V⎓2.5A / 60Hz
100	1.32	1.6	132.0	--	F1	1.32	48V⎓2.5A / 60Hz
240	0.56	1.6	129.0	--	F1	0.56	48V⎓2.5A / 60Hz
254	0.54	--	129.0	--	F1	0.54	48V⎓2.5A / 60Hz
264	0.52	--	129.0	--	F1	0.52	48V⎓2.5A / 60Hz
--	--	--	--	--	--	--	Test Model: KTPS120-30040-VI
90	1.49	--	134.1	--	F1	1.49	30V⎓4A / 50Hz
100	1.33	1.6	133.0	--	F1	1.33	30V⎓4A / 50Hz
240	0.56	1.6	130.0	--	F1	0.56	30V⎓4A / 50Hz
254	0.54	--	130.0	--	F1	0.54	30V⎓4A / 50Hz
264	0.52	--	130.0	--	F1	0.52	30V⎓4A / 50Hz
90	1.49	--	134.1	--	F1	1.49	30V⎓4A / 60Hz
100	1.33	1.6	133.0	--	F1	1.33	30V⎓4A / 60Hz
240	0.57	1.6	131.0	--	F1	0.57	30V⎓4A / 60Hz
254	0.55	--	131.0	--	F1	0.55	30V⎓4A / 60Hz
264	0.53	--	130.0	--	F1	0.53	30V⎓4A / 60Hz
--	--	--	--	--	--	--	Test Model: KTPS120-24050-VI
90	1.51	--	135.7	--	F1	1.51	24V⎓5A / 50Hz
100	1.35	1.6	134.9	--	F1	1.35	24V⎓5A / 50Hz
240	0.58	1.6	132.0	--	F1	0.58	24V⎓5A / 50Hz
254	0.54	--	131.0	--	F1	0.54	24V⎓5A / 50Hz
264	0.53	--	131.0	--	F1	0.53	24V⎓5A / 50Hz
90	1.51	--	135.8	--	F1	1.51	24V⎓5A / 60Hz

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Clause	Requirement + Test	Result – Remark	Verdict

100	1.35	1.6	134.9	--	F1	1.35	24V⎓5A / 60Hz
240	0.58	1.6	132.0	--	F1	0.58	24V⎓5A / 60Hz
254	0.55	--	132.0	--	F1	0.55	24V⎓5A / 60Hz
264	0.53	--	132.0	--	F1	0.53	24V⎓5A / 60Hz
--	--	--	--	--	--	--	Test Model: KTPS120-19063-VI
90	1.51	--	135.6	--	F1	1.51	19V⎓6.3A / 50Hz
100	1.35	1.6	134.7	--	F1	1.35	19V⎓6.3A / 50Hz
240	0.57	1.6	131.0	--	F1	0.57	19V⎓6.3A / 50Hz
254	0.54	--	131.0	--	F1	0.54	19V⎓6.3A / 50Hz
264	0.52	--	131.0	--	F1	0.52	19V⎓6.3A / 50Hz
90	1.51	--	135.5	--	F1	1.51	19V⎓6.3A / 60Hz
100	1.35	1.6	134.6	--	F1	1.35	19V⎓6.3A / 60Hz
240	0.57	1.6	131.0	--	F1	0.57	19V⎓6.3A / 60Hz
254	0.55	--	132.0	--	F1	0.55	19V⎓6.3A / 60Hz
264	0.53	--	131.0	--	F1	0.53	19V⎓6.3A / 60Hz
--	--	--	--	--	--	--	Test Model: KTPS120-15080-VI
90	1.53	--	137.0	--	F1	1.53	15V⎓8A / 50Hz
100	1.37	1.6	137.0	--	F1	1.37	15V⎓8A / 50Hz
240	0.58	1.6	133.0	--	F1	0.58	15V⎓8A / 50Hz
254	0.55	--	133.0	--	F1	0.55	15V⎓8A / 50Hz
264	0.53	--	133.0	--	F1	0.53	15V⎓8A / 50Hz
90	1.53	--	137.0	--	F1	1.53	15V⎓8A / 60Hz
100	1.37	1.6	137.0	--	F1	1.37	15V⎓8A / 60Hz
240	0.59	1.6	133.0	--	F1	0.59	15V⎓8A / 60Hz
254	0.56	--	133.0	--	F1	0.56	15V⎓8A / 60Hz
264	0.54	--	133.0	--	F1	0.54	15V⎓8A / 60Hz
--	--	--	--	--	--	--	Test Model: KTPS120-12090-VI
90	1.39	--	125	--	F1	1.39	12V⎓9A / 50Hz
100	1.25	1.6	125	--	F1	1.25	12V⎓9A / 50Hz
240	0.53	1.6	122	--	F1	0.53	12V⎓9A / 50Hz
254	0.51	--	122	--	F1	0.51	12V⎓9A / 50Hz
264	0.49	--	122	--	F1	0.49	12V⎓9A / 50Hz
90	1.40	--	125	--	F1	1.40	12V⎓9A / 60Hz
100	1.25	1.6	125	--	F1	1.25	12V⎓9A / 60Hz
240	0.54	1.6	122	--	F1	0.54	12V⎓9A / 60Hz

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Clause	Requirement + Test	Result – Remark	Verdict

254	0.52	--	122	--	F1	0.52	12V⎓9A / 60Hz
264	0.51	--	122	--	F1	0.51	12V⎓9A / 60Hz
Supplementary information: Equipment may be have rated current or rated power or both. Both should be measured							

B.3	TABLE: Abnormal operating condition tests	P
Ambient temperature (°C) ..... :	40 (Tma) / 25 (Tamb)	—
Power source for EUT: Manufacturer, model/type, output rating..... :	--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Test Model: KTPS120-560214-VI	--	--	--	--	--	--	--	--
T2 (B) after Q104 for +56V 2)	Overload	240Vac	5h:56m	F1	0.59	T2 coil Amb.	98.0 22.5	CT at 0.1A (Output load: 2.14A, total: 2.24A), increased to 0.4A, unit shutdown, NT, NB, NC, ASRE
+56V – RTN 2)	Overload	240Vac	3h:11m	F1	0.60	T2 coil Amb.	90.0 23.5	CT at 2.3A, increased to 2.5A, unit shutdown, NT, NB, NC, ASRE
+56V – RTN	Short	240Vac	30min	F1	0.06-0.1	--	--	1)
Test Model: KTPS120-24050-VI	--	--	--	--	--	--	--	--
T2 (B) after Q104 for +24V 2)	Overload	240Vac	3h:10m	F1	0.6	T2 coil Amb.	104.0 23.1	CT at 0.2A (Output load: 5A, total: 5.2A), increased to 1.7A, unit shutdown, NT, NB, NC, ASRE
+24V – RTN 2)	Overload	240Vac	4h:23m	F1	0.60	T2 coil Amb.	107.0 22.8	CT at 5.5A, increased to 6.0A, unit shutdown, NT, NB, NC, ASRE
+24V – RTN	Short	240Vac	30min	F1	0.06-0.1	--	--	1)

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Clause	Requirement + Test	Result – Remark	Verdict

Test Model: KTPS120-15080-VI	--	--	--	--	--	--	--	--
T2 (B) after Q104 for +15V 2)	Overload	240Vac	4h:05m	F1	0.64	T2 coil Amb.	110.0 23.1	CT at 0.8A (Output load: 8A, total: 8.8A), increased to 1.7A, unit shutdown, NT, NB, NC, ASRE
+15V – RTN 2)	Overload	240Vac	6h:34m	F1	0.66	T2 coil Amb.	113.0 22.0	CT at 9.1A, increased to 9.5A, unit shutdown, NT, NB, NC, ASRE
+15V – RTN	Short	240Vac	30min	F1	0.06-0.1	--	--	1)
Test Model: KTPS120-12090-VI	--	--	--	--	--	--	--	--
T2 (B) after Q104 for +12V	Overload	240Vac	3h:53m	F1	0.59	T2 coil Amb.	122.0 22.5	CT at 1.0A (Output load: 9A, total: 10A), increased to 1.5A, unit shutdown, NT, NB, NC, ASRE
+12V – RTN	Overload	240Vac	3h:01m	F1	0.63	T2 coil Amb. Enclosure DC jack Tamb	114.0 21.7 62.4 26.4 25.0	CT at 10.8A, increased to 11.45A, unit shutdown, NT, NB, NC, ASRE
+12V – RTN	Short	240Vac	30min	F1	0.06-0.1	--	--	1)

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.

Abbreviations used:

NC: Cheesecloth remain intact

NT: Tissue paper remains intact

NB: No indication of dielectric breakdown

IP: Internal protection operated (list component)

CT: Constant temperatures were obtained

CD: Components damaged (list damaged components)

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Clause	Requirement + Test	Result – Remark	Verdict

ASRE: All safeguards remained effectively

1) After 1sec unit cycle protection, NT, NB, NC, ASRE
2) Heating was waived due to T2 coil (Output O/L) was considered the worst case condition

B.4	TABLE: Fault condition tests	P
Ambient temperature (°C) ..... ….:	40, 50 (Tma) / 25 (Tamb)	—
Power source for EUT: Manufacturer, model/type, output rating :	--	—

Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Test Model: KTPS120-560214-VI	--	--	--	--	--	--	--	--
BD1 (1-2)	Short	240Vac	1sec	F1	0	--	--	3)
C9	Short	240Vac	1sec	F1	0	--	--	3)
T2 (1-3)	Short	240Vac	30min	F1	0.06	--	--	CD(U1), RP2, ASRE
T2 (4-6)	Short	240Vac	30min	F1	0.06	--	--	1)
T2 (B-W)	Short	240Vac	30min	F1	0.06	--	--	1)
Q1 (G-S)	Short	240Vac	30min	F1	0.49-0.06	--	--	2)
Q1 (G-D)	Short	240Vac	1sec	F1	0	--	--	IP (F1), CD (Q1) NT, NB, NC, ASRE
Q1 (D-S)	Short	240Vac	1sec	F1	0	--	--	IP (F1), CD (Q1) NT, NB, NC, ASRE
Q3 (G-S)	Short	240Vac	30min	F1	0.06	--	--	1)
Q3 (G-D)	Short	240Vac	1sec	F1	0	--	--	IP (F1), CD (Q3) NT, NB, NC, ASRE
Q3 (D-S)	Short	240Vac	1sec	F1	0	--	--	IP (F1), CD (Q3) NT, NB, NC, ASRE
U3 (1-2)	Short	240Vac	30min	F1	0.06	--	--	1)
U3 (3-4)	Short	240Vac	30min	F1	0.06	--	--	1)
U3 (1)	Open	240Vac	30min	F1	0.06	--	--	1)
U1(16-3)	Short	240Vac	30min	F1	0.06	--	--	1)

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

Test Model: KTPS120-24050-VI	--	--	--	--	--	--	--	--
T2 (1-3)	Short	240Vac	30min	F1	0.06	--	--	1)
T2 (4-6)	Short	240Vac	30min	F1	0.06	--	--	1)
T2 (B-W)	Short	240Vac	30min	F1	0.06	--	--	1)
Test Model: KTPS120-15080-VI	--	--	--	--	--	--	--	--
T2 (1-3)	Short	240Vac	30min	F1	0.06	--	--	1)
T2 (4-6)	Short	240Vac	30min	F1	0.06	--	--	1)
T2 (B-W)	Short	240Vac	30min	F1	0.06	--	--	1)
Test Model: KTPS120-12090-VI	--	--	--	--	--	--	--	--
T2 (1-3)	Short	240Vac	30min	F1	0.06	--	--	1)
T2 (4-6)	Short	240Vac	30min	F1	0.06	--	--	1)
T2 (B-W)	Short	240Vac	30min	F1	0.06	--	--	1)

Supplementary information:

Abbreviations used:

NC: Cheesecloth remain intact

NT: Tissue paper remains intact

NB: No indication of dielectric breakdown

IP: Internal protection operated (list component) repeat all fuse, result were same

Manufacturer/ trademark	Type / model	Test times
Conquer	MST	1
Ever Island	2010 series	1
Walter Electronic Co Ltd	2010	3

CT: Constant temperatures were obtained

CD: Components damaged (list damaged components)

ASRE: All safeguards remained effectively.

RP2: Repeat two times, results were the same

1) After 1 sec unit shutdown, NT, NB, NC, ASRE
2) After 1 sec unit cycle protection, NT, NB, NC, ASRE
3) IP (F1), NT, NB, NC, RF, ASRE

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		Charging	Discharging	Reversed charging

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

	Meas. current	Manuf. Specs.	Un-intentional charging	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				
	Normal				
	Abnormal				
	Single fault – SC/OC				
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)**					**N/A**
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U_{oc} (V)	I_{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit

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

Supplementary Information:
SC=Short circuit, OC=Open circuit

T.2, T.3 T.4, T.5	TABLE: Steady force test	P

Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation
Enclosure / Top	1)	1)	250	5	2)
Enclosure / Side	1)	1)	250	5	2)
Enclosure / Bottom	1)	1)	250	5	2)

Supplementary information:
1) See appended table 4.1.2.
2) No cracking, class 3 energy sources did not become accessible and all safeguards remain effective, No indication of dielectric breakdown

T.6, T.9	TABLE: Impact tests	P

Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation
Top enclosure/Near inlet	1)	1)	1300	2)
Bottom enclosure/Near inlet	1)	1)	1300	2)
Side enclosure/Near inlet	1)	1)	1300	2)

Supplementary information:
1) See appended table 4.1.2.
2) No cracking, class 3 energy sources did not become accessible and all safeguards remain effective, No indication of dielectric breakdown

T.7	TABLE: Drop tests	P

Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation
Enclosure / Top	1)	1)	1000	2)
Enclosure / Side	1)	1)	1000	2)
Enclosure / Bottom	1)	1)	1000	2)

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

Supplementary information:

1) See appended table 4.1.2.

2) No cracking, class 3 energy sources did not become accessible and all safeguards remain effective, No indication of dielectric breakdown

T.8	TABLE: Stress relief test				P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Enclosure	1)	1)	84	7	2)
Mylar sheet (between PCB trace and U sharp Heat Sink)	1)	1)	114.3	7	2)

Supplementary information:

1) See appended table 4.1.2.

2) No cracking, class 3 energy sources did not become accessible and all safeguards remain effective, No indication of dielectric breakdown.

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date

Test result

5.4.1.8 Determination of working voltage

Table: Working Voltage Meansurement				
Test voltage / Frequency..... :	240Vac / 60Hz			
Location	Measured Voltage/frequency			Comments
	RMS voltage (V)	Peak voltage (V)	Hz	
--	--	--	--	Model: KTPS120-560214-VI
T2 (1-B)	**403**	652	50k	Max Vrms
T2 (1-W)	325	504	50k	--
T2 (1-RTN)	365	556	50k	--
T2 (3-B)	272	428	50k	--
T2 (3-W)	250	388	50k	--
T2 (3-RTN)	301	416	50k	--
T2 (4-B)	265	**716**	50k	Max Vpk
T2 (4-W)	224	500	50k	--
T2 (4-RTN)	181	432	50k	--
T2 (6-B)	246	640	50k	--
T2 (6-W)	221	484	50k	--
T2 (6-RTN)	179	368	50k	--
U3 (3-1)	202	364	50k	--
U3 (3-2)	180	420	50k	--
U3 (4-1)	202	364	50k	--
U3 (4-2)	179	416	50k	--
C1 Primary - Secondary	178	368	50k	--
C3 Primary - Secondary	3.8	9.8	50k	--
C4 Primary - Secondary	243	372	50k	--
T2 (6) - R30 trace	221	484	50k	--
T2 (6) - U3(2) trace	185	416	50k	--
T2 (6) - C29&R39 trace	248	660	50k	--
T2 (6) - C29&Q104(S) trace	182	420	50k	--
--	--	--	--	Model: KTPS120-24050-VI
T2 (1-B)	**376**	580	50k	Max Vrms
T2 (1-W)	346	552	50k	--
T2 (1-RTN)	362	**600**	50k	Max Vpk
T2 (3-B)	285	420	50k	--
T2 (3-W)	281	400	50k	--

Test result

T2 (3-RTN)	303	408	50k	--
T2 (4-B)	213	564	50k	--
T2 (4-W)	198	456	50k	--
T2 (4-RTN)	182	432	50k	--
T2 (6-B)	201	492	50k	--
T2 (6-W)	195	400	50k	--
T2 (6-RTN)	178	364	50k	--
--	--	--	--	Model: KTPS120-15080-VI
T2 (1-B)	**367**	592	50k	Max Vrms
T2 (1-W)	350	576	50k	--
T2 (1-RTN)	361	**616**	50k	Max Vpk
T2 (3-B)	291	432	50k	--
T2 (3-W)	290	440	50k	--
T2 (3-RTN)	303	420	50k	--
T2 (4-B)	200	512	50k	--
T2 (4-W)	193	448	50k	--
T2 (4-RTN)	183	424	50k	--
T2 (6-B)	193	476	50k	--
T2 (6-W)	191	464	50k	--
T2 (6-RTN)	180	372	50k	--
--	--	--	--	Model: KTPS120-12090-VI
T2 (1-B)	**368**	624	50k	Max Vrms
T2 (1-W)	353	608	50k	--
T2 (1-RTN)	362	**632**	50k	Max Vpk
T2 (3-B)	292	408	50k	--
T2 (3-W)	291	400	50k	--
T2 (3-RTN)	302	404	50k	--
T2 (4-B)	197	500	50k	--
T2 (4-W)	190	444	50k	--
T2 (4-RTN)	182	432	50k	--
T2 (6-B)	189	420	50k	--
T2 (6-W)	188	384	50k	--
T2 (6-RTN)	180	364	50k	--
--	--	--	--	--

Supplementary information:
The following terminals were connected to earth: RTN

Test result

5.2.1.1 Accessible ES1 circuits separated from other ES circuits using components

TABLE: Evaluation of voltage limiting components in ES circuits			
Test voltage / Frequency..... :	240Vac / 60Hz		
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
Model No.: KTPS120-560214-VI	--	--	--
T2 Pin B – RTN	280	--	--
Q104 – RTN	92.0	--	--
L6(-) – RTN	0	--	L6
T2 pin W - RTN	148	--	--
L6(+) - RTN	--	58	L6
Model No.: KTPS120-24050-VI	--	--	--
T2 Pin B – RTN	132	--	--
Q104 - RTN	44.8	--	--
L6(-) - RTN	0	--	L6
T2 pin W - RTN	68.0	--	--
L6(+) - RTN	--	25.2	L6
Model No.: KTPS120-15080-VI	--	--	--
T2 Pin B – RTN	83	--	--
Q104, C29 - RTN	31	--	Q104, C29
R39 - RTN	83	--	--
R3 - RTN	86	--	--
C30 - RTN	32.0	--	C30
T2 pin W - RTN	48	--	--
L6 (+) - RTN	--	15.2	L6
Model No.: KTPS120-12090-VI	--	--	--
T2 Pin B – RTN	66	--	--
Q104, C29 - RTN	26.4	--	Q104, C29
R39 - RTN	64	--	--
R3 - RTN	70	--	--
C30 - RTN	28.4	--	C30
T2 pin W - RTN	39.4	--	--
supplementary information: The following terminals were connected to earth: RTN			

Test result

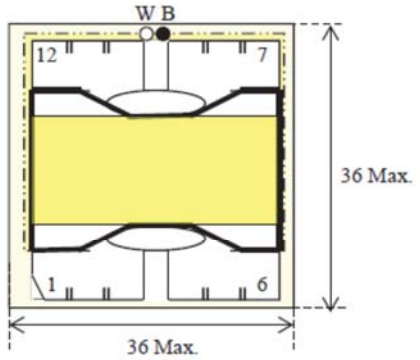
G.5.3.2	**TABLE: Transformer**

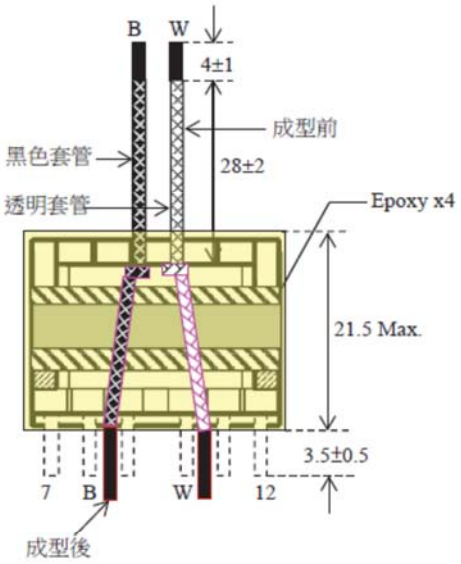
T2 all manufacturer Mao Hsin, Newline and Dongguanshi Puhang (Mao Hsin spec for represent)

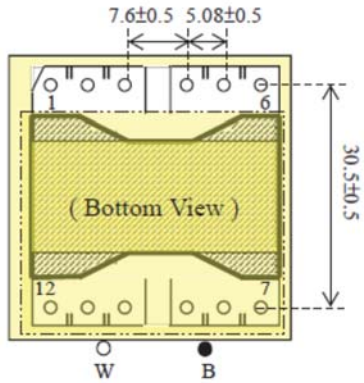
R53S10-6360, R53S10-6630, R53S10-6640, R53S10-6370, R53S10-6650, R53S10-6380, R53S10-6660

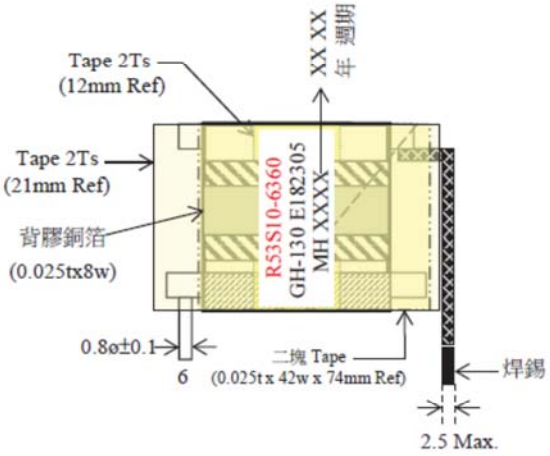
1. Outline Dim. Dwg. (Unit: m/m) 外型尺寸圖

Model No:	MH-11609
Page 1 of 5	



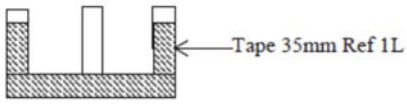






Note:

1. Pin 5,7,8,9,10,11,12 Cut Off.
2. Pin 2 Cut Off ½.
3. Core組裝前靠Pin端須包Tape (35mm Ref) 1L.(如下圖所示).
4. 鐵心結合處須點Epoxy四點.
5. Core Tape 2Ts (12mm Ref).
6. 鐵心組合後,沿線包處,包Tape 2Ts,加背膠銅箔 (0.025tx8wx1T),銅箔引線加套管,接Pin 6.
7. 產品外圍Pin(7-12)側,底部及兩側鐵心包二塊Tape (0.025t x 42w x 74mm Ref),多餘部份折向Pin(7-12)側, 最後再成品外圍包Tape(21mm Ref) 2Ts.
8. B&W 為飛線出線位置及長度:
(1) B線→ 由Bobbin 頂部中間凹槽靠Pin(7)出線,加黑色套管.
(2) W線→ 由Bobbin頂部中間凹槽,靠Pin(9)出線,加透明套管.
(3) B&W套管長從線包量起為28±2,不含焊錫4±1.
9. 為控制产品高度21.5 Max.,須研磨铁心.
10. 成品完成後,飛線B彎至Bobbin底部Pin8-9; 飛線W 彎至 Bobbin底部 Pin10-11(如圖所示).
11. 產品須使用環保材料.



茂薪電子股份有限公司 Mao Hsin Electronic Co.,Ltd.	Customer	阿達特
	Type	PQ-3220 12P
	Customer P/N	R53S10-6360

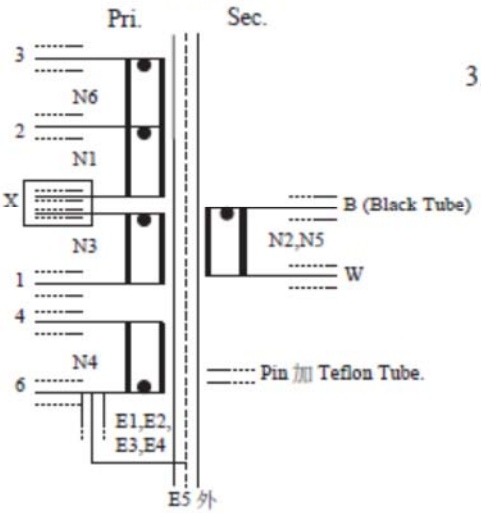
Approved By: 黃文芬	Checked By: 陳碧連	Draw By: 陳莉權	Date: 2016 年 12 月 15 日

Test result

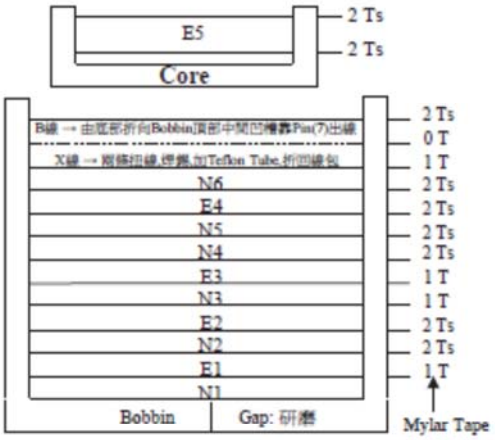
R53S10-6360

Model No:	MH-11609
Page 2 of 5	

2. Schematic: (線路圖)



3. Winding: (剖面圖)



4. Winding Table: (繞線結構)

Step	Symbol	Winding Detail					Margin Tape	Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns	M		
1	N1	2	X	0.1øx30 股 (紋線)	11	密繞	0	1
2	E1	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
3	N2	B	W	0.5øx3 TRW(B)	4	密繞	0	2
4	E2	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	1
5	N3	X	1	0.1øx30 股 (紋線)	11	密繞	0	1
6	E3	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
7	N4	6	4	0.3ø	6	疏繞	0	2
8	N5	B	W	0.5øx3 TRW(B)	4	密繞	0	2
9	E4	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
10	N6	3	2	0.1øx30 股 (紋線)	11	密繞	0	1
11	X 線 → 兩條扭線,焊錫,加 Teflon Tube,折回線包							0
12	B 線 → 由底部折向 Bobbin 頂部中間凹槽,靠 Pin(7)出線							2
7	E5	6	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:
1. 繞線方向:底視反時針.
2. Pin 加 Teflon Tube.
3. 注意繞線時同層不可疊繞.
4. N1,N3→X進.出線加套管,由Pin(1-6)頂部出線,待所有繞組完成後,兩條扭線,焊錫,加套管,折回線包.
5. E1,E2,E3,E4,E5 使用背膠銅箔,繞制時E1,E3焊點朝下,E2,E4焊點朝上,引線(0.3ø),從無線端起繞.
6. N2,N5 使用三層絕緣線,繞線方式如下:
(1) B線→由Bobbin底部中間凹槽入線,加黑色套管,待N6繞線完成後,
將B線折向Bobbin 頂部中間凹槽靠Pin(7)出線,包Tape 2Ts.
(2) W線→由Bobbin頂部中間凹槽,靠Pin(9)出線,加透明套管.

茂薪電子股份有限公司 Mao Hsin Electronic Co.,Ltd.	Customer	阿達特
	Type	PQ-3220 12P
	Customer P/N	R53S10-6360

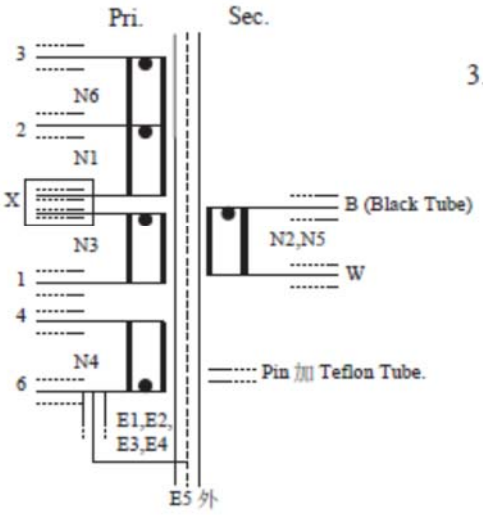
Approved By: 黃文芬	Checked By: 陳碧連	Draw By: 陳莉槿	Date: 2016 年 12 月 15 日

Test result

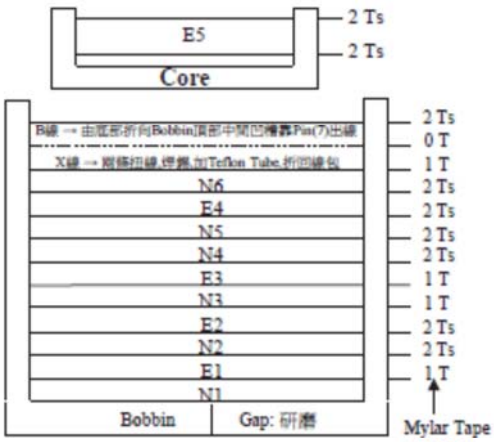
R53S10-6630

Model No:	MH-11701
Page 2 of 5	

2. Schematic: (線路圖)



3. Winding: (剖面圖)



4. Winding Table: (繞線結構)

Step	Symbol	Winding Detail					Margin Tape	Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns	M		
1	N1	2	X	0.1øx30 股 (絞線)	11	密繞	0	1
2	E1	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
3	N2	B	W	0.65øx2 TRW(B)	5	密繞	0	2
4	E2	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	1
5	N3	X	1	0.1øx30 股 (絞線)	11	密繞	0	1
6	E3	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
7	N4	6	4	0.3ø	6	疏繞	0	2
8	N5	B	W	0.65øx2 TRW(B)	5	密繞	0	2
9	E4	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
10	N6	3	2	0.1øx30 股 (絞線)	11	密繞	0	1
11	X 線 → 兩條扭線,焊錫,加 Teflon Tube,折回線包							0
12	B 線 → 由底部折向 Bobbin 頂部中間凹槽,靠 Pin(7)出線							2
13	E5	6	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:
1. 繞線方向:底視反時針.
2. Pin 加 Teflon Tube.
3. 注意繞線時同層不可疊繞.
4. N1,N3→X連.出線加套管,由Pin(1-6)頂部出線,待所有繞組完成後,兩條扭線,焊錫,加套管,折回線包.
5. E1,E2,E3,E4,E5 使用背膠銅箔,繞制時E1,E3焊點朝下,E2,E4焊點朝上,引線(0.3ø),從無線端起繞.
6. N2,N5 使用三層絕緣線,繞線方式如下:
(1) B線→由Bobbin底部中間凹槽入線,加黑色套管,待N6繞線完成後,
將B線折向Bobbin 頂部中間凹槽靠Pin(7)出線,包Tape 2Ts.
(2) W線→由Bobbin頂部中間凹槽,靠Pin(9)出線,加透明套管.

茂薪電子股份有限公司 Mao Hsin Electronic Co.,Ltd.	Customer	阿達特
	Type	PQ-3220 12P
	Customer P/N	R53S10-6630

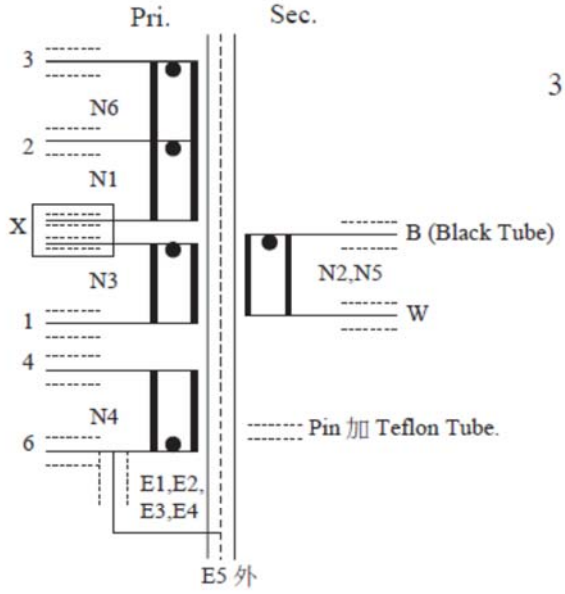
Approved By: 黃文芬	Checked By: 陳碧連	Draw By: 陳莉槿	Date: 2017 年 01 月 12 日

Test result

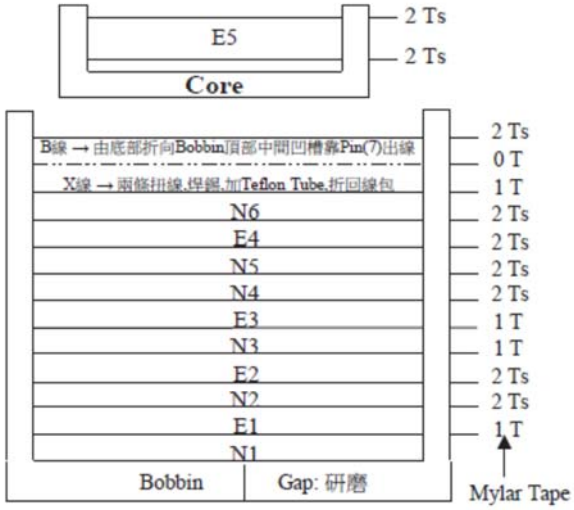
R53S10-6640

Model No:	MH-11702
Page 2 of 5	

2. Schematic: (線路圖)



3. Winding: (剖面圖)



4. Winding Table: (繞線結構)

Step	Symbol	Winding Detail					Margin Tape	Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns	M		
1	N1	2	X	0.1øx30 股 (絞線)	11	密繞	0	1
2	E1	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
3	N2	B	W	0.5øx2 TRW(B)	6	密繞	0	2
4	E2	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	1
5	N3	X	1	0.1øx30 股 (絞線)	11	密繞	0	1
6	E3	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
7	N4	6	4	0.3ø	6	疏繞	0	2
8	N5	B	W	0.5øx2 TRW(B)	6	密繞	0	2
9	E4	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
10	N6	3	2	0.1øx30 股 (絞線)	11	密繞	0	1
11	X 線 → 兩條扭線,焊錫,加 Teflon Tube,折回線包							0
12	B 線 → 由底部折向 Bobbin 頂部中間凹槽,靠 Pin(7)出線							2
13	E5	6	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:
1. 繞線方向:底視反時針.
2. Pin 加 Teflon Tube.
3. 注意繞線時同層不可疊繞.
4. N1,N3→X進.出線加套管,由Pin(1-6)頂部出線,待所有繞組完成後,兩條扭線,焊錫,加套管,折回線包.
5. E1,E2,E3,E4,E5 使用背膠銅箔,繞制時E1,E3焊點朝下,E2,E4焊點朝上,引線(0.3ø),從無線端起繞.
6. N2,N5 使用三層絕緣線,繞線方式如下:
(1) B線→由Bobbin底部中間凹槽入線,加黑色套管,待N6繞線完成後,
將B線折向Bobbin 頂部中間凹槽靠Pin(7)出線,包Tape 2Ts.
(2) W線→由Bobbin頂部中間凹槽,靠Pin(9)出線,加透明套管.

茂薪電子股份有限公司 Mao Hsin Electronic Co.,Ltd.	Customer	阿達特
	Type	PQ-3220 12P
	Customer P/N	R53S10-6640

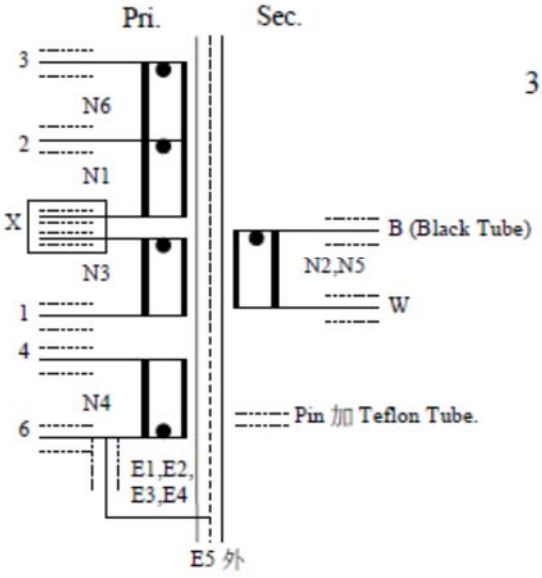
Approved By: 黃文芬	Checked By: 陳碧連	Draw By: 陳莉槿	Date: 2017 年 01 月 12 日

Test result

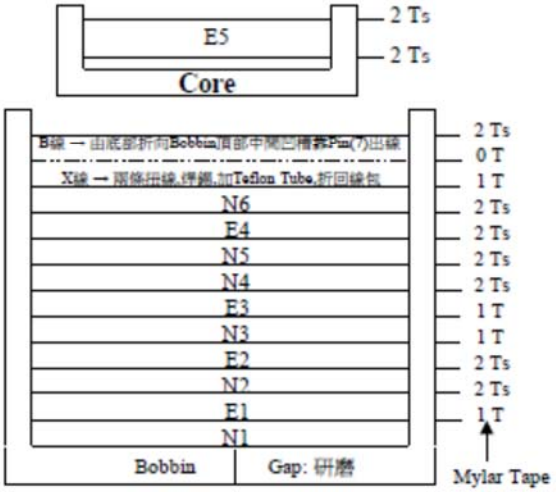
R53S10-6370

Model No:	MH-11615
Page 2 of 5	

2. Schematic: (線路圖)



3. Winding: (剖面圖)



4. Winding Table: (繞線結構)

Step	Symbol	Winding Detail					Margin Tape	Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns	M		
1	N1	2	X	0.1øx30 股 (絞線)	11	密繞	0	1
2	E1	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
3	N2	B	W	0.7ø TRW(B)	8	密繞	0	2
4	E2	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	1
5	N3	X	1	0.1øx30 股 (絞線)	11	密繞	0	1
6	E3	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
7	N4	6	4	0.3ø	6	疏繞	0	2
8	N5	B	W	0.7ø TRW(B)	8	密繞	0	2
9	E4	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
10	N6	3	2	0.1øx30 股 (絞線)	11	密繞	0	1
11	X 線 → 兩條扭線,焊錫,加 Teflon Tube,折回線包							0
12	B 線 → 由底部折向 Bobbin 頂部中間凹槽,靠 Pin(7)出線							2
7	E5	6	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:
1. 繞線方向:底視反時針.
2. Pin 加 Teflon Tube.
3. 注意繞線時同層不可疊繞.
4. N1,N3→X進.出線加套管,由Pin(1-6)頂部出線,待所有繞組完成後,兩條扭線,焊錫,加套管,折回線包.
5. E1,E2,E3,E4,E5 使用背膠銅箔,繞制時E1,E3焊點朝下,E2,E4焊點朝上,引線(0.3ø),從無線端起繞.
6. N2,N5 使用三層絕緣線,繞線方式如下:
(1) B線→由Bobbin底部中間凹槽入線,加黑色套管,待N6繞線完成後,
將B線折向Bobbin 頂部中間凹槽靠Pin(7)出線,包Tape 2Ts.
(2) W線→由Bobbin頂部中間凹槽,靠Pin(9)出線,加透明套管.

茂薪電子股份有限公司 Mao Hsin Electronic Co.,Ltd.	Customer	阿達特
	Type	PQ-3220 12P
	Customer P/N	R53S10-6370

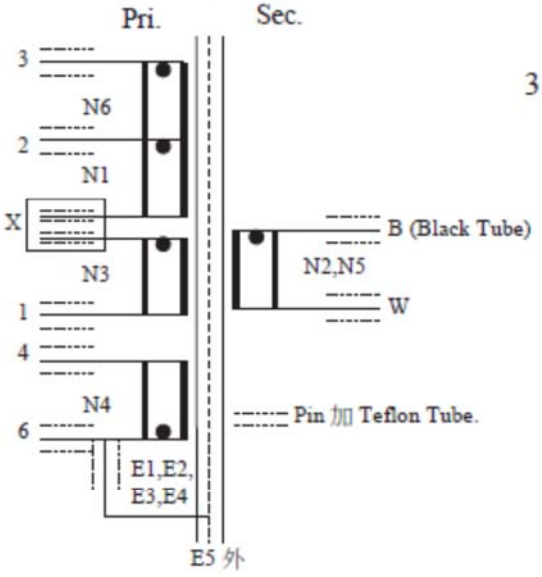
Approved By: 黃文芬	Checked By: 陳碧連	Draw By: 陳莉槿	Date: 2016 年 12 月 16 日

Test result

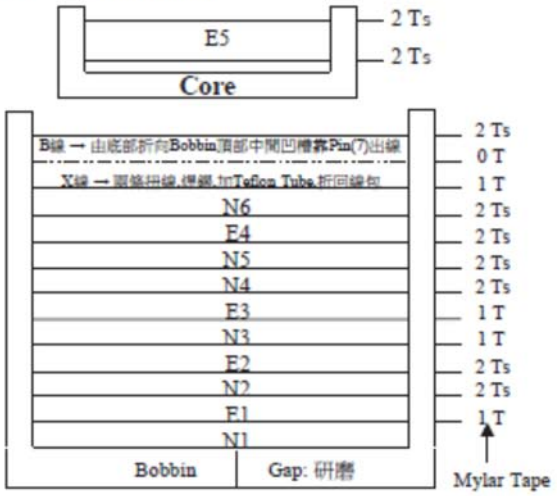
R53S10-6650

Model No:	MH-11703
Page 2 of 5	

2. Schematic: (線路圖)



3. Winding: (剖面圖)



4. Winding Table: (繞線結構)

Step	Symbol	Winding Detail					Margin Tape	Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns	M		
1	N1	2	X	0.1øx30 股 (絞線)	11	密繞	0	1
2	E1	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
3	N2	B	W	0.65ø TRW(B)	10	密繞	0	2
4	E2	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	1
5	N3	X	1	0.1øx30 股 (絞線)	11	密繞	0	1
6	E3	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
7	N4	6	4	0.3ø	6	疏繞	0	2
8	N5	B	W	0.65ø TRW(B)	10	密繞	0	2
9	E4	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
10	N6	3	2	0.1øx30 股 (絞線)	11	密繞	0	1
11	X 線 → 兩條扭線,焊錫,加 Teflon Tube,折回線包							0
12	B 線 → 由底部折向 Bobbin 頂部中間凹槽,靠 Pin(7)出線							2
7	E5	6	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:
1. 繞線方向:底視反時針.
2. Pin 加 Teflon Tube.
3. 注意繞線時同層不可疊繞.
4. N1,N3→X進.出線加套管,由Pin(1-6)頂部出線,待所有繞組完成後,兩條扭線,焊錫,加套管,折回線包.
5. E1,E2,E3,E4,E5 使用背膠銅箔,繞制時E1,E3焊點朝下,E2,E4焊點朝上,引線(0.3ø),從無線端起繞.
6. N2,N5 使用三層絕緣線,繞線方式如下:
(1) B線→由Bobbin底部中間凹槽入線,加黑色套管,待N6繞線完成後,
將B線折向Bobbin 頂部中間凹槽靠Pin(7)出線,包Tape 2Ts.
(2) W線→由Bobbin頂部中間凹槽,靠Pin(9)出線,加透明套管.

茂薪電子股份有限公司 Mao Hsin Electronic Co.,Ltd.	Customer	阿達特
	Type	PQ-3220 12P
	Customer P/N	R53S10-6650

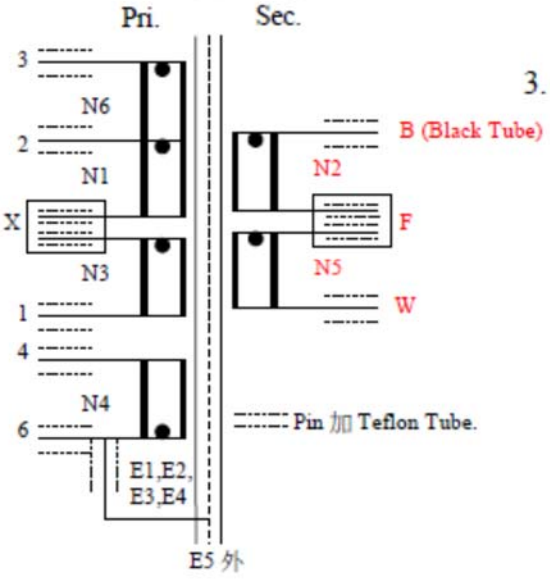
Approved By: 黃文芬	Checked By: 陳碧連	Draw By: 陳莉槿	Date: 2017 年 01 月 12 日

Test result

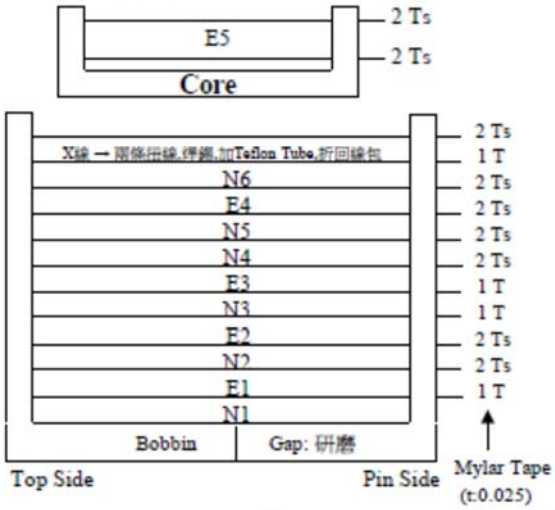
R53S10-6380

Model No:	MH-11614
Page 2 of 5	

2. Schematic: (線路圖)



3. Winding: (剖面圖)



4. Winding Table: (繞線結構)

Step	Symbol	Winding Detail					Margin Tape Top Side / Pin Side	Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns	M		
1	N1	2	X	0.1øx30 股 (絞線)	11	密繞	0	1
2	E1	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
3	N2	B	F	0.7ø TRW(B)	8	密繞	0	2
4	E2	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	1
5	N3	X	1	0.1øx30 股 (絞線)	11	密繞	0	1
6	E3	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
7	N4	6	4	0.3ø	6	疏繞	0	2
8	N5	F	W	0.7ø TRW(B)	8	密繞	0	2
9	E4	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
10	N6	3	2	0.1øx30 股 (絞線)	11	密繞	0	1
11	X 線 → 兩條扭線,焊錫,加 Teflon Tube,折回線包							2
12	E5	6	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:

1. 繞線方向:底視反時針.
2. Pin 加 Teflon Tube.
3. 注意繞線時同層不可疊繞.
4. N1,N3→X進.出線加套管,由Pin(1-6)頂部出線,待所有繞組完成後,兩條扭線,焊錫,加套管,折回線包內.
5. E1,E2,E3,E4,E5 使用背膠銅箔,繞制時E1,E3焊點朝下,E2,E4焊點朝上,引線(0.3ø),從無線端起繞.
6. N2,N5 使用三層絕緣線,繞線方式如下:

(1) B線 → 由Bobbin頂部中間凹槽,靠Pin(7)入線,加黑色套管.

(2) F進.出線加套管,由底部Pin(7-12)中間凹槽,進出線,待鐵心組合後,兩條扭線,焊錫,加Teflon 套管,折至線包上,長度10mm Ref.

(3) W線→ 由Bobbin頂部中間凹槽,靠Pin(9)出線,加透明套管.

茂薪電子股份有限公司 Mao Hsin Electronic Co.,Ltd.	Customer	阿達特
	Type	PQ-3220 12P
	Customer P/N	R53S10-6380

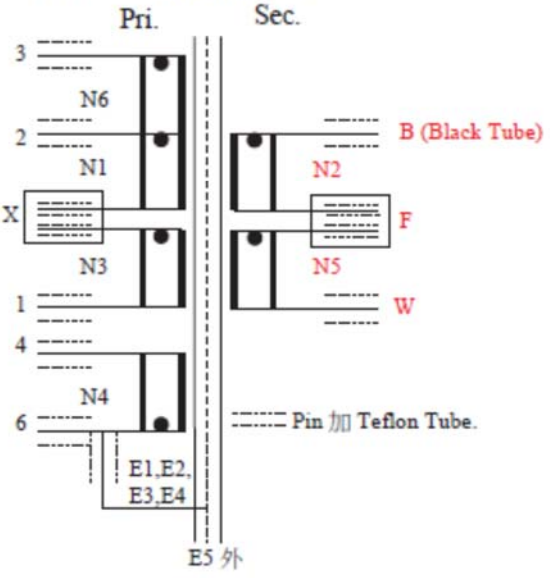
Approved By: 黃文芬	Checked By: 陳碧連	Draw By: 陳莉槿	Date: 2017 年 03 月 15 日

Test result

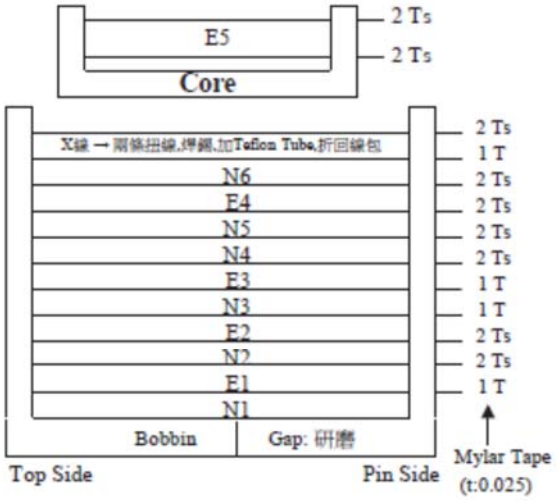
R53S10-6660

Model No:	MH-11704
Page 2 of 5	

2. Schematic: (線路圖)



3. Winding: (剖面圖)



4. Winding Table: (繞線結構)

Step	Symbol	Winding Detail					Margin Tape Top Side / Pin Side	Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns	M		
1	N1	2	X	0.1øx30 股 (絞線)	11	密繞	0	1
2	E1	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
3	N2	B	F	0.7ø TRW(B)	9	密繞	0	2
4	E2	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	1
5	N3	X	1	0.1øx30 股 (絞線)	11	密繞	0	1
6	E3	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
7	N4	6	4	0.3ø	6	疏繞	0	2
8	N5	F	W	0.7ø TRW(B)	9	密繞	0	2
9	E4	-	6	Copper Foil (0.025tx8w)	1.1	背膠	0	2
10	N6	3	2	0.1øx30 股 (絞線)	11	密繞	0	1
11	X 線 → 兩條扭線,焊錫,加 Teflon Tube,折回線包							2
12	E5	6	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:

1. 繞線方向:底視反時針.
2. Pin 加 Teflon Tube.
3. 注意繞線時同層不可疊繞.
4. N1,N3→X進.出線加套管,由Pin(1-6)頂部出線,待所有繞組完成後,兩條扭線,焊錫,加套管,折回線包內.
5. E1,E2,E3,E4,E5 使用背膠銅箔,繞制時E1,E3焊點朝下,E2,E4焊點朝上,引線(0.3ø),從無線端起繞.
6. N2,N5 使用三層絕緣線,繞線方式如下:

(1) B線 → 由Bobbin頂部中間凹槽,靠Pin(7)入線,加黑色套管.

(2) F進.出線加套管,由底部Pin(7-12)中間凹槽,進出線,待鐵心組合後,兩條扭線,焊錫,加Teflon 套管,折至線包上,長度10mm Ref.

(3) W線→ 由Bobbin頂部中間凹槽,靠Pin(9)出線,加透明套管.

茂薪電子股份有限公司 Mao Hsin Electronic Co.,Ltd.	Customer	阿達特
	Type	PQ-3220 12P
	Customer P/N	R53S10-6660

Approved By: 黃文芬	Checked By: 陳碧連	Draw By: 陳莉槿	Date: 2017 年 03 月 15 日

IEC 62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result – Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Audio/video, information and communication technology equipment –
Part 1: Safety requirements

Differences according to.....:	EN 62368-1:2014+A11:2017
Attachment Form No.....:	EU_GD_IEC62368_1B_II
Attachment Originator. .....:	Nemko AS
Master Attachment.....:	Date 2017-09-22

	CENELEC COMMON MODIFICATIONS (EN)		**P**
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.		P
CONTENTS	**Add** the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
	Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list:		P
	For special national conditions, see Annex ZB.		
1	**Add** the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.	Added.	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

IEC 62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result – Remark	Verdict
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.	Protective devices are integrated in the equipment.	P
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.	No such external circuit provided.	N/A
10.2.1	Add the following to [c] and [d] in table 39: For additional requirements, see 10.5.1.	Not applicable.	N/A
10.5.1	**Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions:* *In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.* *Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is*	No such x-radiation provided.	N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	maintained for 1 h, at the end of which the measurement is made. *For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		
10.6.1	**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.	No such devices provided.	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	No such devices provided.	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.	No power supply cord provided.	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.	Added.	P

IEC 62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result – Remark	Verdict
	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.		

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”	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	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	The equipment is not for direct insertion into mains socket-outlets.	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.	The touch current not 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:	No such external circuits provided.	N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	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.		
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).	Complied check.	P
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.	Not applicable.	N/A
5.6.1	**Denmark**	Not applicable.	N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		
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.	Not applicable.	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 mm^2 to 1,5 mm^2 in cross-sectional area.	No such terminals provided.	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.	The protective conductor current not 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	No such external circuits provided.	N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	frequency range (galvanic isolator, see EN 60728-11)" NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): "Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet." Translation to Swedish: "Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.".		
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 .	No such external circuits provided.	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	Not direct plug-in equipment.	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	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A

IEC 62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result – Remark	Verdict
	is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c		
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.	Not direct plug-in equipment.	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.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	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	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	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.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A

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Clause	Requirement + Test	Result – Remark	Verdict

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. *Justification:* German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de	No such radiation provided.	N/A

ATTACHMENT TO TEST REPORT IEC 62368-1 2th Ed.
U.S.A. NATIONAL DIFFERENCES

Audio/video, information and communication technology equipment –

Part 1: Safety requirements

Differences according to.....:	CSA/UL 62368-1:2014
Attachment Form No.....:	US&CA_ND_IEC623681B
Attachment Originator. .....:	UL(US)
Master Attachment.....:	Date 2015-06

IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1.1	All equipment is to be designed to allow installation according to the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.		P
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		P
4.1.17	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable	The requirements have to be checked during national approval.	N/A

IEC 62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result – Remark	Verdict
	assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.		
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.		P
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.	No such coin/button batteries provided.	N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment	No power supply cord provided.	N/A
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.	No such external circuits provided.	N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.	(See appended table B.4)	P
Annex F (F.3.3.8)	Output terminals provided for supply of other equipment, except mains, supply are marked with a maximum rating or references to which equipment it is permitted to be connected.		P
Annex G (G.7.1)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	The unit is not permanently connected equipment.	N/A
Annex G (G.7.3)	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
Annex G (G.7.5)	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No telephone ringing signals provided.	N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 V d.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	7.1 mA peak or 30 mA d.c. under normal operating conditions.		
Annex M	Battery packs for stationary applications comply with special component requirements.	No battery provided.	N/A
Annex DVA (1)	Equipment intended for use in spaces used for environmental air are subjected to special flammability requirements for heat and visible smoke release.	Not applicable.	N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m3 (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. & Canadian Regulations.		N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	The equipment does not contain liquid.	N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a min. flammability classification of V-1.	Not applicable.	N/A
Annex DVA (10.3.1)	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No laser provided.	N/A
Annex DVA (10.5.1)	Equipment that produces ionizing radiation complies with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No ionizing radiation provided.	N/A
Annex DVA (F.3.3.3)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or are lower than the “Normal Operating Condition” in Table 2 of CAN/CSA C22.2 No. 235.”	Only single-phase equipment.	N/A

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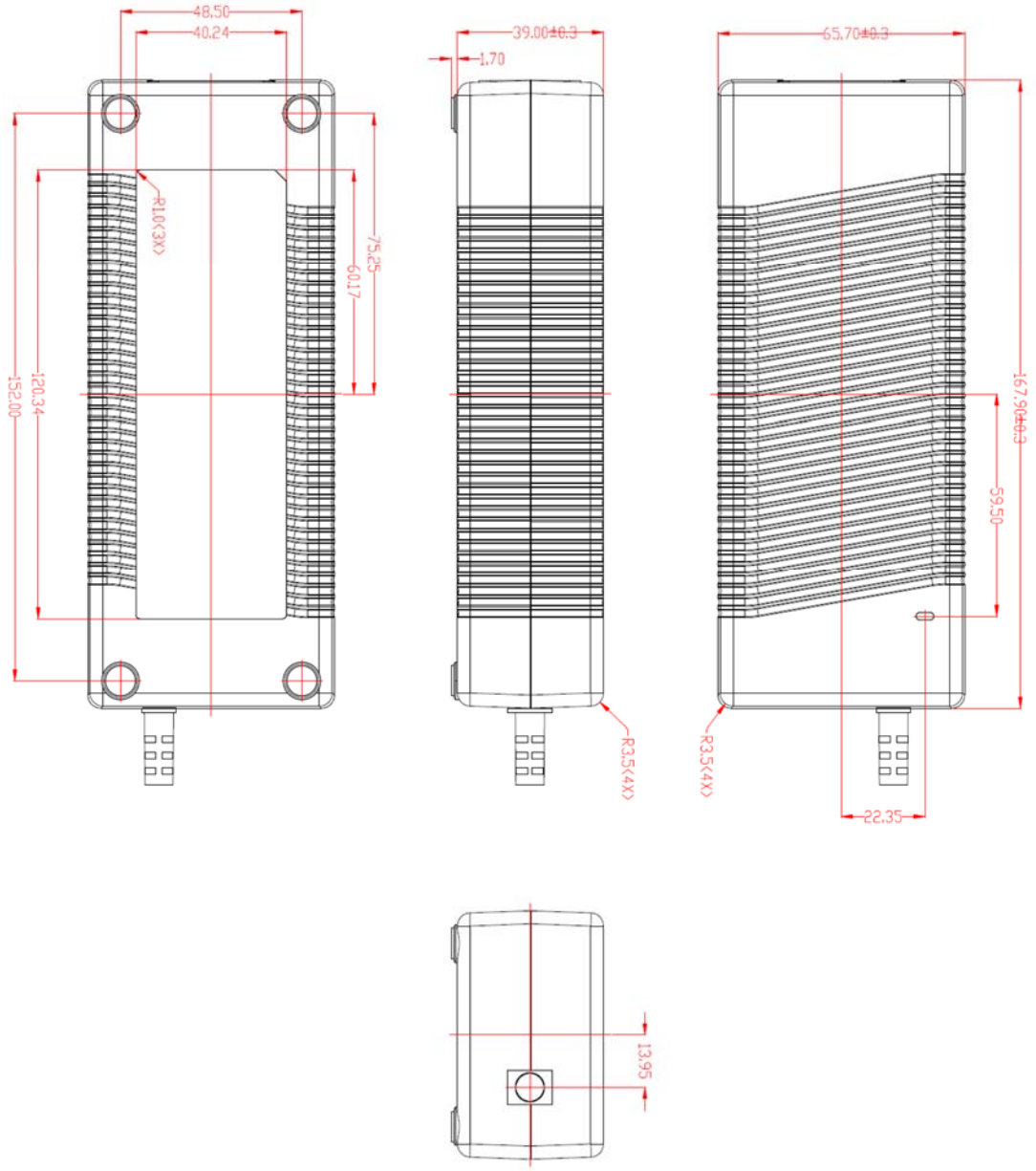
Clause	Requirement + Test	Result – Remark	Verdict
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current	Not applicable.	N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position	No such switches provided.	N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles complies with NEC 250.146(D) and CEC 10-112 and 10-906(8).	Not applicable.	N/A
Annex DVA (G.4.3)	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.	Not applicable.	N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	Not applicable.	N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).	No such motors provided.	N/A
Annex DVA (Annex M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the ITE room remote power-off circuit.	No battery provided.	N/A
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1are marked with the voltage rating and “Class 2” or equivalent; marking is located adjacent to the terminals and visible during wiring.	Not applicable.	N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.	Not applicable.	N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.	Not applicable.	N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery		P

IEC 62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result – Remark	Verdict
	back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.		
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.	The unit is not permanently connected equipment.	N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and are specially marked when specified.		N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm^2).		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, complies with special earthing, wiring, marking and installation instruction requirements.	The equipment is connected to AC mains supply.	N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.	No such external circuits provided.	N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	No such external circuits provided.	N/A

Enclosure Drawing



PHOTO

C14 type

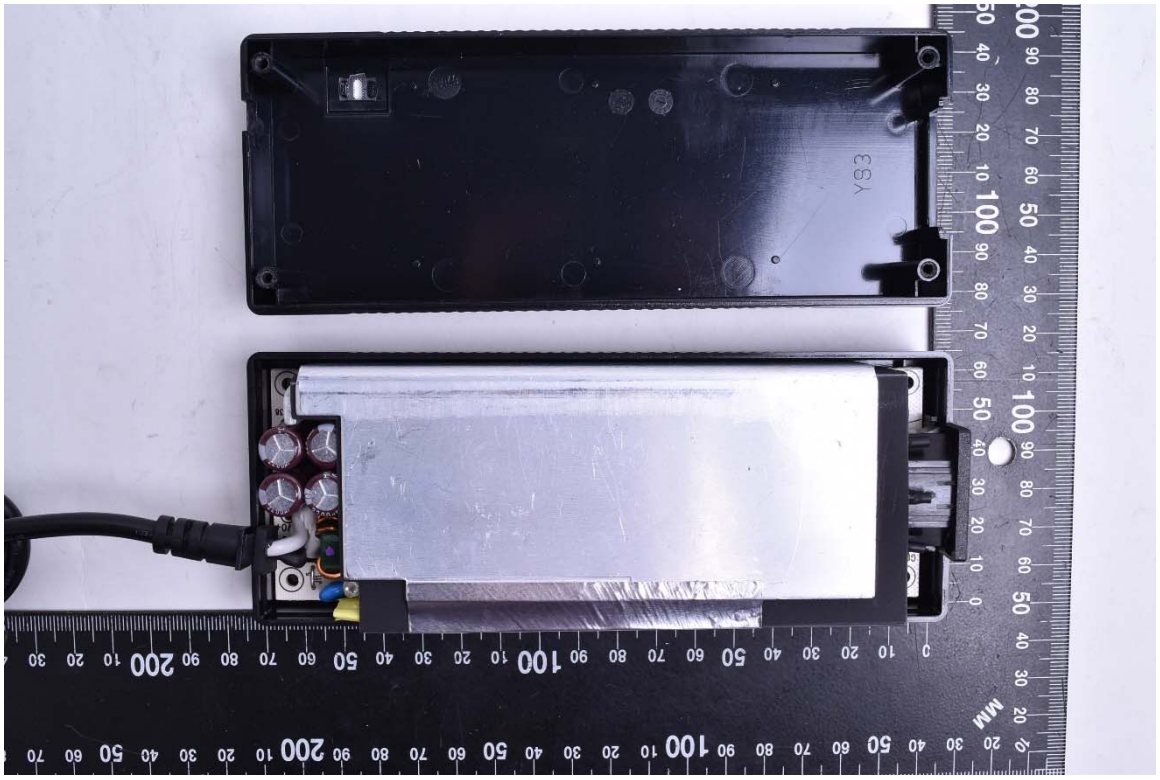
C6 type

PHOTO

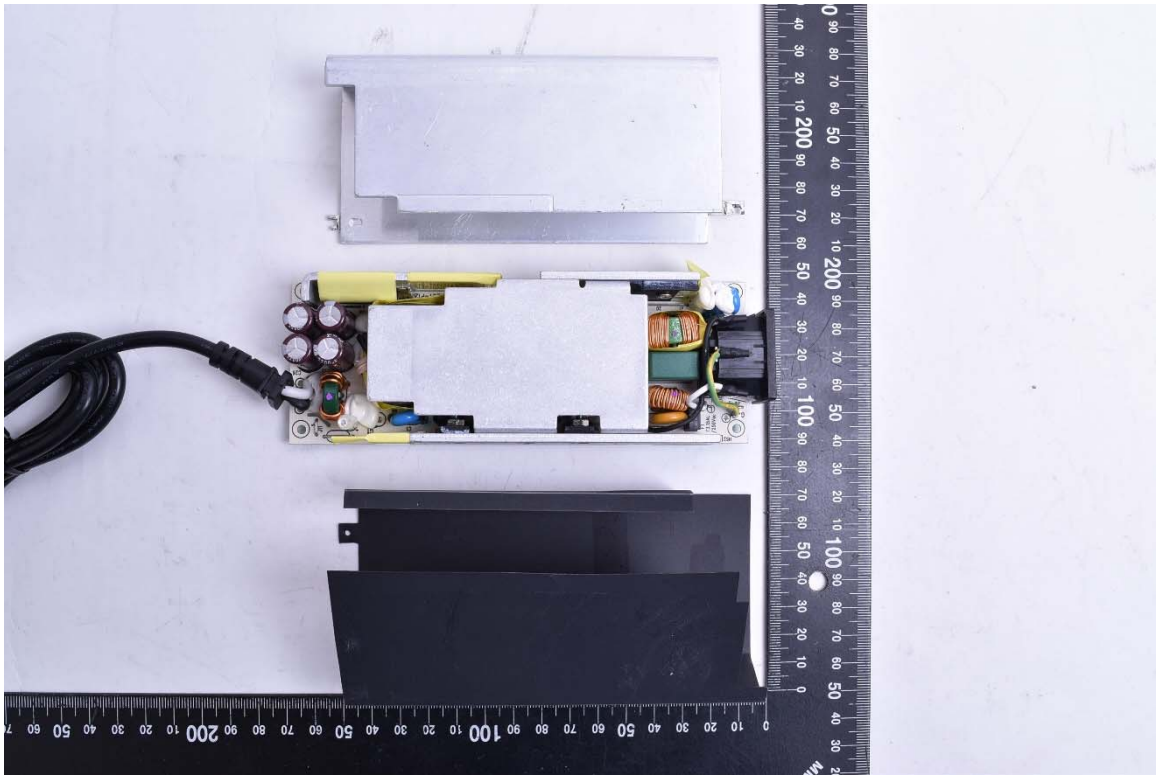
KTPS120-12090-VI, KTPS120-15080-VI, KTPS120-16075-VI, KTPS120-18066-VI, KTPS120-19063-VI, KTPS120-20060-VI

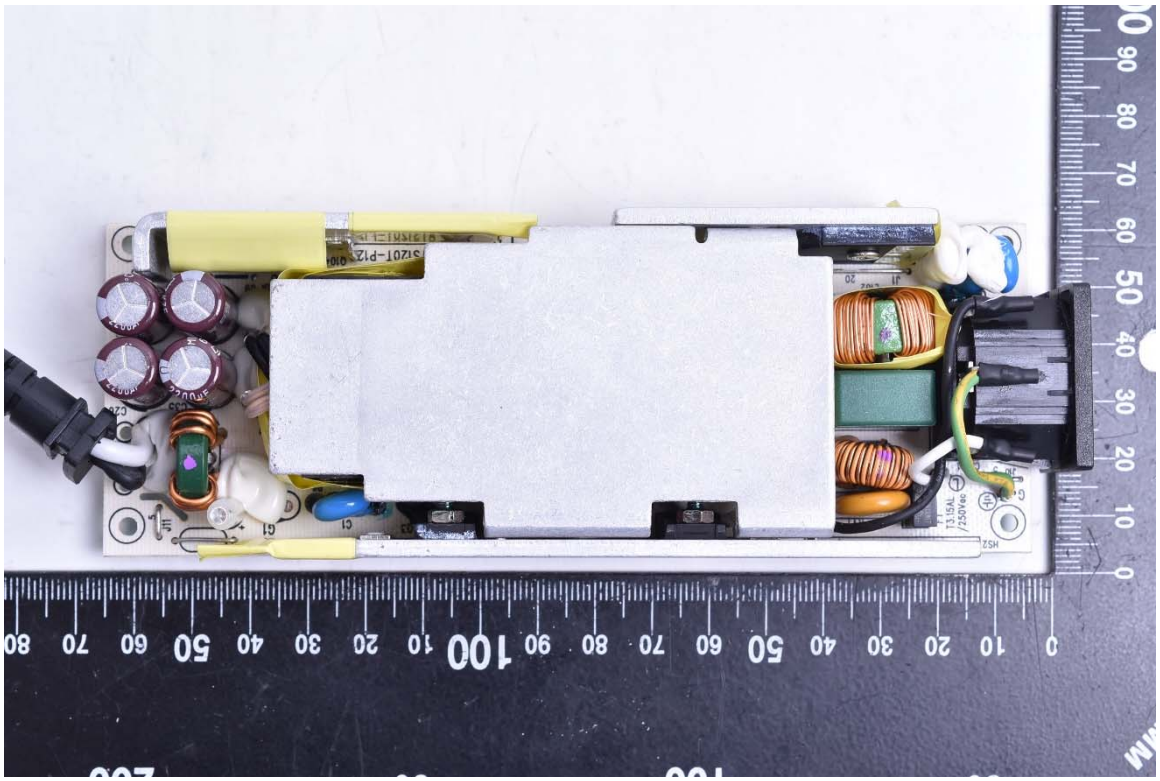
KTPS120-24050-VI, KTPS120-30040-VI, KTPS120-480025-VI, KTPS120-560214-VI

PHOTO



PHOTO





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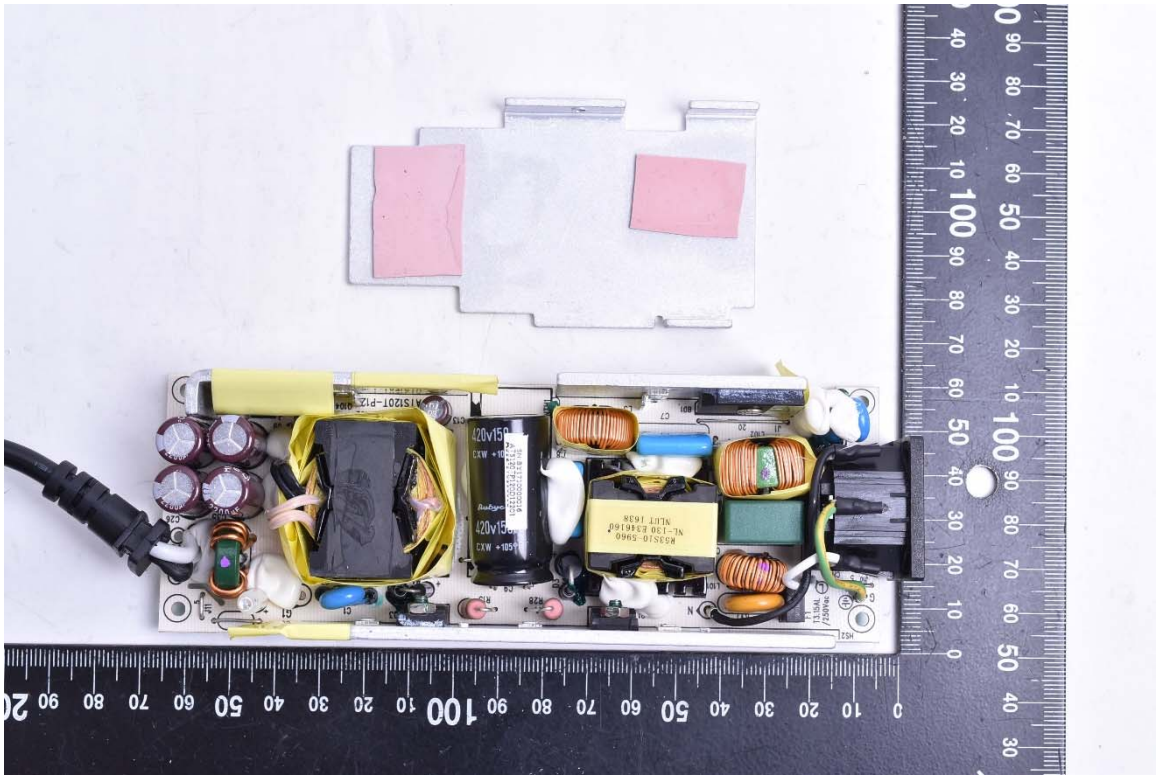
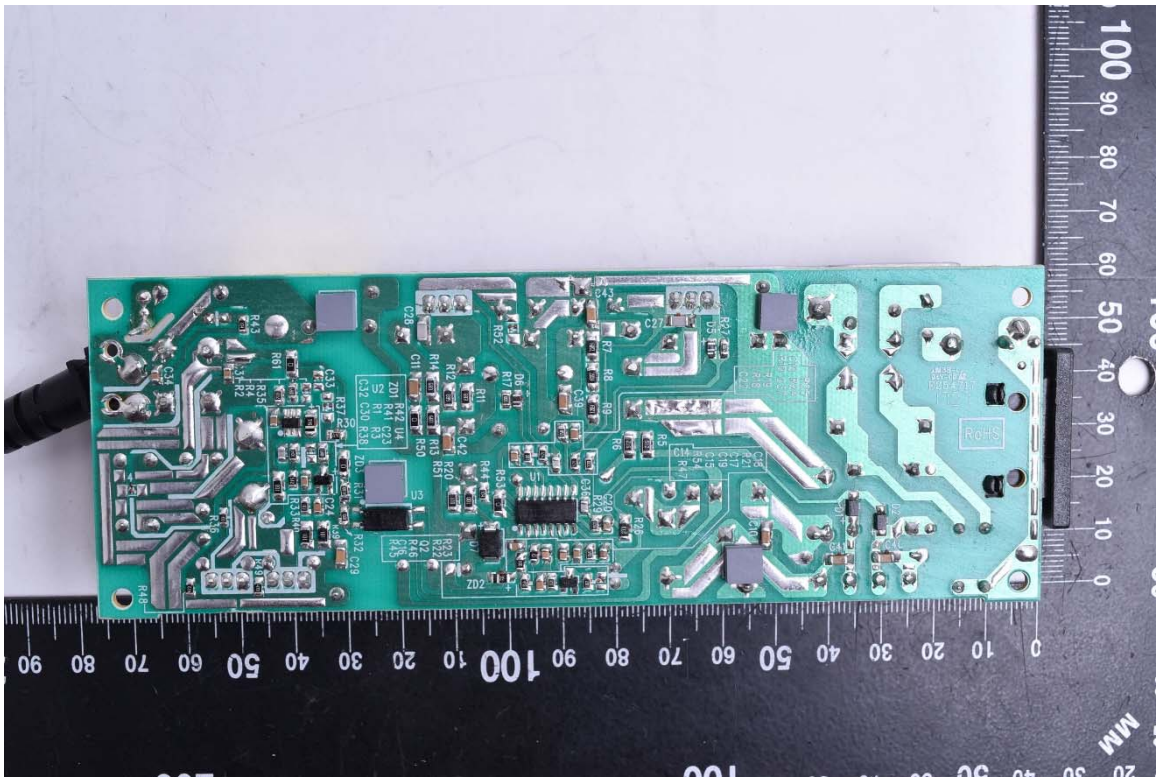


Provided C153

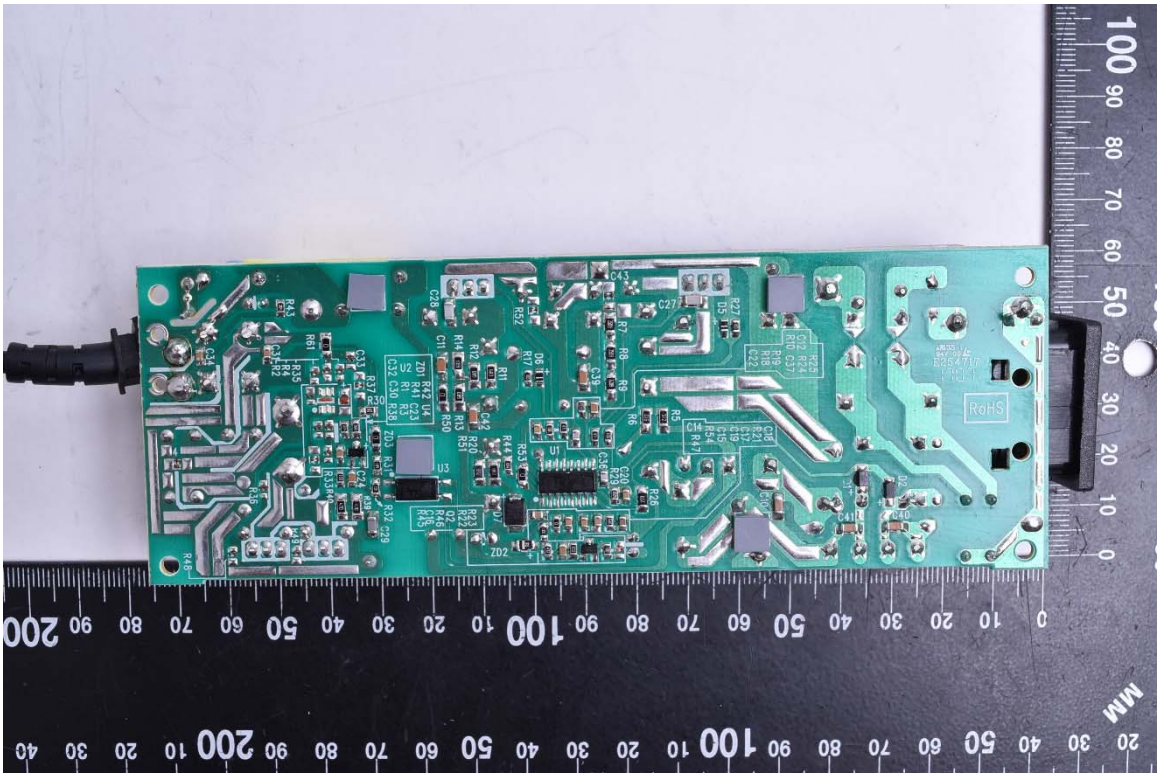
PHOTO

Non-Provided C153



KTPS120-12090-VI, KTPS120-15080-VI, KTPS120-16075-VI,
KTPS120-18066-VI, KTPS120-19063-VI, KTPS120-20060-VI

PHOTO



KTPS120-24050-VI, KTPS120-30040-VI, KTPS120-48025-VI, KTPS120-560214-VI