SUMMARY OF TEST REPORT NO : **19691910 001** *Dated: 24.09.2015*	*Number of pages in test report: Page 1 to 82*
TEST FORMAT AS PER IS 13252 (Part 1): 2010 + A1: 2013	
Name of Manufacturer	: **Channel Well Technology (Guangzhou) Co., Ltd**
Product	: **AC ADAPTER (Power Adaptors for IT Equipments)**
Model(s)	: **KPL-040F-VI, KPL-060F-VI, KPL-066F, KPL-066F-VI**
4.Model differences provided (if applicable)	: *Yes* ☒ *or No* ☐ *or N/A* ☐
5.Model differences verified as per Deity Guidelines for series formulation	: *Yes* ☒ *or No* ☐ *or N/A* ☐
6.Test Result: See below	

PART A: GENERAL

Sl. No.	TEST REQUIREMENT	CLAUSE	VERDICT	Remarks
1.	Components	1.5	P	
2.	Power Interface	1.6	P	
3.	Markings and Instructions	1.7	P	

PART B: PROTECTION FROM HAZARDS

Sl. No.	TEST REQUIREMENT	CLAUSE	VERDICT	Remarks
1.	Protection from electric shock and energy hazards	2.1	P	
2.	SELV circuits	2.2	P	
3.	TNV circuits	2.3	N/A	
4.	Limited current circuits	2.4	P	
5.	Limited power sources	2.5	P	
6.	Provisions for earthing and bonding	2.6	P	
7.	Overcurrent for earth fault protection in primary circuits	2.7	P	
8.	Safety interlocks	2.8	N/A	
9.	Electrical insulation	2.9	P	
10	Clearances, creepage distances and distances through insulation	2.10	P	

PART C: WIRING, CONNECTIONS AND PHYSICAL REQUIREMENTS

Sl. No.	TEST REQUIREMENT	CLAUSE	VERDICT	Remarks
1	General	3.1	N/A	
2	Connection to a mains supply	3.2	P	
3	Wiring terminals for connection of external conductors	3.3	N/A	
4	Disconnection from the mains supply	3.4	P	
5	Interconnection of equipment	3.5	P	
6	Stability	4.1	N/A	
7	Mechanical strength	4.2	P	
8	Design and construction	4.3	P	
9	Protection against hazardous moving parts	4.4	N/A	
10	Thermal requirements	4.5	P	
11	Openings in enclosures	4.6	N/A	
12	Resistance to fire	4.7	P	

PART D: ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS

Sl. No.	TEST REQUIREMENT	CLAUSE	VERDICT	Remarks
1.	Touch current and protective conductor current	5.1	P	
2.	Electric strength	5.2	P	
3.	Abnormal operating and fault conditions	5.3	P	

PART E: CONNECTION TO TELECOM AND CABLED DISTRIBUTION SYSTEM

Sl. No.	TEST REQUIREMENT	CLAUSE	VERDICT	Remarks
1.	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment	6.1	N/A	
2.	Protection of equipment users from over voltages on telecommunication networks	6.2	N/A	
3.	Protection of the telecommunication wiring system from overheating	6.3	N/A	
4	Connection to cable distribution systems - General	7.1	N/A	
5	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment	7.2	N/A	
6.	Protection of equipment users from overvoltages on the cable distribution system	7.3	N/A	
7	Insulation between primary circuits and cable distribution systems	7.4	N/A	

General Information:

1. The conformity certificates of critical components are verified to ensure complete compliance of apparatus under test and details regarding harmonized IEC standards (where IEC standards are not available) are also provided in the list of critical component.

Abbreviations: P = Pass N/A = Not Applicable

CONCLUSION:

I, hereby, undertake that the verdict stated in the test reports for all the tests matches with the test results.

1. Sample meets all relevant requirements of IS 13252 (Part 1): 2010 + A1: 2013. *Yes* ☒ *or No* ☐
2. Sample fails to meet the following test requirements: *Yes* ☐ *or No* ☒

Date: 24.09.2015

(Signature of Authorized person with Stamp)

TÜVRheinland®

Test Report No.: **19691910 001**		*Page 1 of 82*
		Issue Date: *24.09.2015*

Manufacturer:	**Channel Well Technology (Guangzhou) Co., Ltd** Bld. B, Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P.R. China		
Test item:	**AC ADAPTER (Power Adaptors for IT Equipments)**		
Identification:	**KPL-040F-VI, KPL-060F-VI,** **KPL-066F, KPL-066F-VI**	*Serial No.:*	**KPL-066F:** **13-15074000-00305**
Receipt No.:	**1803093826**	*Date of receipt:*	**14.08.2015**
Testing laboratory and its address:	**TÜV Rheinland (India) Pvt Ltd.** 82/A, West Wing, 3rd Main Road, Electronic City Phase 1, Bangalore – 560 100		
Test specification:	**IS 13252 (Part 1): 2010 + A1: 2013 /** **IEC 60950-1: 2005 + A1: 2009**		
Test Result:	*The test item passed the test specification(s).*		
Other Aspects: - This report consists of 82 pages and the attachment:			

Tested by:	**Approved by / Authorized Signatory:**	**Issued by:**
	TÜV Rheinland (India) Pvt. Ltd. * Bangalore	
Rahul Saraf / Engineer	**Basavaraj Angadi / Senior Manager**	**Basavaraj Angadi / Senior Manager**
Date: 24.09.2015	**Date: 24.09.2015**	**Date: 24.09.2015**

TÜVRheinland®

TEST REPORT

IS 13252 (Part 1): 2010 + A1: 2013 / IEC 60950-1: 2005 + A1: 2009 Information technology equipment – Safety – Part 1: General requirements "Power Adaptors for IT Equipments "

Report Reference No. ..... :	19691910 001
Date of issue ..... :	(see cover page)
Total number of pages	(see cover page)
Testing Laboratory ..... :	**TÜV Rheinland (India) Pvt Ltd.**
Address ..... :	82/A, West Wing, 3rd Main Road, Electronic City Phase 1, Bangalore – 560 100
Manufacturer's name ..... :	**Channel Well Technology (Guangzhou) Co., Ltd**
Address ..... :	Bld. B, Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P.R. China
Test specification:	
Standard ..... :	**IS 13252 (Part 1): 2010 + A1: 2013 / IEC 60950-1: 2005 + A1: 2009**
Test procedure ..... :	Compliance Report
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	BIS_IT/PA_IS13252_V1.2
Test Report Form(s) Originator ..... :	Bureau of Indian Standards
Master TRF ..... :	30/04/2015
Test item description ..... :	AC ADAPTER (Power Adaptors for IT Equipments)
Trade Mark ..... :	CWT
Model/Type reference ..... :	**KPL-040F-VI, KPL-060F-VI, KPL-066F, KPL-066F-VI**
Ratings ..... :	Input: 100-240V~ 50/60Hz 1.7A Output: +12V⎓,5.50A 66W (See model difference) Output: +12V⎓,5.00A 60W (See model difference) Output: +12V⎓,3.33A 40W (See model difference)
Other Documents submitted ..... :	Please refer to Table – List of Attachments at Page No. *07*

Tested by:	**Approved by / Authorized Signatory:**	**Issued by:**
Rahul Saraf / Engineer	**Basavaraj Angadi / Senior Manager**	**Basavaraj Angadi / Senior Manager**
Date: 24.09.2015	**Date: 24.09.2015**	**Date: 24.09.2015**

Test Code	Description	Measurement/ testing	Total No. of tests	Total no. of applicable tests/ Req.	No. of tests/ Req. passed	Page No.
EL 2100	General Requirements	Components (Cl.1.5)	15	08	08	10
EL 2101	General Requirements	Power interface (Cl.1.6)	05	04	04	12
EL 2102	Marking Requirements	Marking & instructions(Cl.1.7)	35	15	15	13
EL 2103	Electrical safety	Protection from electric shock and energy hazards (Cl.2.1)	14	07	07	16
EL 2104	Electrical safety	SELV Circuits (Cl.2.2)	04	04	04	18
EL 2105	Electrical safety	TNV Circuits (Cl.2.3)	10	00	00	19
EL 2106	Electrical safety	Limited current circuits (Cl.2.4)	04	04	04	20
EL 2107	Electrical safety	Limited Power sources (Cl.2.5)	07	00	00	21
EL 2108	Electrical safety	Provisions for earthing and bonding (Cl.2.6)	17	02	02	22
EL 2109	Electrical safety	Overcurrent and earth fault protection in primary circuits (Cl.2.7)	07	05	05	24
EL 2110	Electrical safety	Safety Interlocks (Cl.2.8)	13	00	00	25
EL 2111	Electrical safety	Electrical Insulation (Cl.2.9)	05	05	05	26
EL 2112	Electrical safety	Clearances, Creepage distances and distances through insulation (Cl.2.10)	59	24	24	27
EL 2113	Wiring	Wiring, connections and supply (Cl.3)	11	08	08	31
EL 2114	Wiring	Connection to a main supply (Cl.3.2)	14	05	05	32
EL 2115	Wiring	Wiring terminals for connection of external conductors (Cl.3.3)	09	00	00	34
EL 2116	Wiring	Disconnection for the main supply (Cl.3.4)	11	04	04	35
EL 2117	Wiring	Interconnection of equipment (Cl.3.5)	05	03	03	36
EL 2118	Mechanical properties	Stability (Cl.4.1)	05	01	01	37

EL 2119	Mechanical properties	Mechanical strength (Cl.4.2)	13	08	08	38
EL 2120	Mechanical properties	Design and construction (Cl.4.3)	24	06	06	39
EL 2121	Mechanical properties	Protection against hazardous moving parts (Cl.4.4)	13	00	00	41
EL 2122	Thermal Properties	Thermal requirements (Cl.4.5)	05	05	05	42
EL 2123	Mechanical properties	Openings in Enclosures (Cl.4.6)	17	00	00	43
EL 2124	Fire Safety	Resistance to fire (Cl.4.7)	21	07	07	45
EL 2125	Insulating properties	Electrical requirements and simulated abnormal conditions(Cl.5),5.1	17	06	06	50
EL 2126	Insulating properties	Electric Strength (Cl.5.2)	03	03	03	52
EL 2127	Insulating properties	Abnormal operating and fault conditions (Cl.5.3)	11	07	07	53
EL 2128	Communicating connection	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment(Cl.6.1)	04	00	00	54
EL 2129	Communicating connection	Protection of equipment users from overvoltages on telecommunication networks (Cl.6.2)	06	00	00	55
EL 2130	Communicating connection	Protection of the telecommunication wiring system from overheating (Cl.6.3)	05	00	00	56
EL 2131	Connection to cable distribution systems	Connection to cable distribution systems (Cl.7)	06	00	00	58
EL 2132	Fire safety	Tests for resistance to heat and fire (Annex A)	20	00	00	59
EL 2133	Insulating properties	Motor tests under abnormal conditions (Annex B)	19	00	00	61
EL 2134	Electrical Safety	Transformers (Annex C)	03	03	03	63

EL 2135	Electrical Safety	Table of electrochemical potentials (Annex J)	01	00	00	64
EL 2136	General Requirements	Thermal controls (Annex K)	07	00	00	65
EL 2137	General Requirements	Normal load conditions for some types of electrical business equipment (Annex L)	08	02	02	66
EL 2138	Electrical Safety	Criteria for telephone ringing signals (Annex M)	13	00	00	67
EL 2139	General Requirements	Voltage dependent resistors (VDRs) (Annex Q)	01	00	00	68
EL 2140	Radiation safety	Ultraviolet light conditioning test (Annex Y)	05	00	00	69
EL 2141	Electrical Safety	Evaluation of integrated circuit (IC) current limiters (Annex CC)	03	00	00	70
EL 2142	Electrical Safety	Requirements for the mounting means of rack-mounted equipment (Annex DD)	04	00	00	71

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 105

.....

(Approving Authority)

Copy of marking plate:

Copy of marking label:

KPL-066F:

Serial Number:

Copy of trade mark:

Table – List of Attachments		
Attachment No.	**Attachment Description**	**No. of pages in Attachment**
Attachment – 1	Photo Document	08

General remarks:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

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.....: 14.08.2015

Date(s) of performance of tests.....: 14.08.2015 to 23.09.2015

Laboratory conditions.....:

Ambient Temperature.....: 25°C ± 4°C

Ambient Humidity.....: 45% rh to 70% rh

Test item particulars ..... :	
Equipment mobility ..... :	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains ..... :	☒ pluggable equipment [X] type A [] type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition ..... :	☒ continuous ☐ rated operating / resting time:
Access location ..... :	☒ operator accessible ☐ restricted access location
Over voltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values ..... :	±10%
Class of equipment ..... :	☒ Class I (Class I equipment with Class II construction) ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as a part of the building installation (A) ..... :	16A (for India)
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class ..... :	IPX0
Altitude during operation (m) ..... :	Up to 2000
Altitude of test laboratory (m) ..... :	< 2000
Mass of equipment (kg) ..... :	0.280

Abbreviations that may be used throughout this test report:

PE/PB ..... :	protective earth/protective bonding	Pri ..... :	primary
CB ..... :	circuit breaker	sec ..... :	secondary
(SW)PS ..... :	(switching) power supply	gnd ..... :	ground
HV ..... :	high voltage	I/O ..... :	input/output
PCB ..... :	printed circuit (wiring) board	ii ..... :	installation instruction
TIW ..... :	triple insulated wire	PSU ..... :	Power Supply Unit

B/I ..... : built-in application (compliance shall be guarantee in host equipment)

F/B/S/R : Functional/Basic/Supplementary/Reinforced Insulation

General product information:

1) Application details / Description of the product:

The product tested is a built-in type AC ADAPTER for use in a general office environment.

Max. specified ambient temperature (°C).....: 40°C

All tests are performed at 50Hz, which is a standard system voltage and frequency in India as per National Electrical Code.

2) Differences between the models:

As per the manufacturer declaration the model **KPL-040F-VI, KPL-060F-VI, KPL-066F, KPL-066F-VI** have same transformer, same input voltage, same class of construction and PCB layout, and also all these models form a series as per the BIS grouping guidelilnes.

Model No. tested with-in the family series: KPL-066F

3) Options:

The equipment was tested without any optional accessory installed. Hence, this report does not cover parameters that are influenced by the installation of optional accessory that might affect safety in the meaning of this standard.

Tests relating to General Requirements

EL 2100 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
1.5	Components*	EL 2100-00	Verification of approvals with due correlation between the components used and the approval certificates submitted (Please see the table 1.5.1)	P
1.5.2	Evaluation and testing of components	EL 2100-01	Components, which are certified for IEC and/or national standards, are checked for correct applications and use in accordance with its rating.	P
1.5.3	Thermal controls	EL 2100-02	Certified component is used	N/A
1.5.4	Transformers	EL 2100-03	Adequate protection against overload provided (See Annex C)	P
1.5.5	Interconnecting cables*	EL 2100-04	No interconnecting cables	N/A
1.5.6	Capacitors bridging insulation *	EL 2100-05	X2 type CX1 capacitor used between lines, type Y capacitor CY1 used between primary and secondary, complying with IEC 60384-14.(see appended table 1.5.1)	P
1.5.7	Resistors bridging insulation		See below	P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation*	EL 2100-06	Resistors bridging functional insulation used only	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	EL 2100-07	No such components	N/A
1.5.7.3	Resistors bridging double insulation or reinforced insulation between the a.c. mains supply and circuits connected to an antenna or coaxial cable	EL 2100-08	No such components	N/A
1.5.8	Components in equipment for IT power distribution systems*	EL 2100-09	Not applied for IT power system.	N/A
1.5.9	Surge suppressors		Complies	P
1.5.9.1	General*	EL 2100-10	Approved surge suppressor (MOV1) used between Line and Neutral.	P
1.5.9.2	Protection of VDRs*	EL 2100-11	As above	P
1.5.9.3	Bridging of functional insulation by a VDR*	EL 2100-12	As above	P
1.5.9.4	Bridging of basic insulation by a VDR*	EL 2100-13	No such construction.	N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR*	EL 2100-14	No such construction.	N/A

*- Total number of Requirements to be observed / inspected = 10
Total No of applicable Requirement = 06
No of Requirements for which the sample passed: 06

Total number of tests to be conducted : 05
Total No of applicable Tests = 02
No. of tests for which the sample passed: 02

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Electrical Safety **EL 2101 – V1.2**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
1.6	Power interface*	EL 2101-00	Complies	P
1.6.1	AC power distribution systems*	EL 2101-01	TN-S	P
1.6.2	Input current	EL 2101-02	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment*	EL 2101-03	Not hand-held equipment	N/A
1.6.4	Neutral conductor *	EL 2101-04	Neutral is insulated from earth with basic insulation through the equipment. Components connected between neutral and earth is rated the same as for line to earth.	P

*- Total number of Requirements to be observed / inspected = 04
Total No of applicable Requirement = 03
No of Requirements for which the sample passed: 03

Total number of tests to be conducted : 01
Total No of applicable Tests = 01
No. of tests for which the sample passed: 01

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TUV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Marking Requirements

EL 2102 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
1.7	Marking and instructions*	EL 2102-00	Complies.	P
1.7.1	Power rating and identification markings		See below.	P
1.7.1.1	Power rating marking*	EL 2102-01	The required marking is located on the outside surface of the equipment.	P
	Multiple mains supply connections*.....	EL 2102-02	Single supply connection.	N/A
	Rated voltage(s) or voltage ranges(s) (V)*.....	EL 2102-03	100-240V~	P
	Symbol for nature of supply, for d.c. only*	EL 2102-04	AC supply	P
	Rated frequency or rated frequency range (Hz) *.....	EL 2102-05	50/60 Hz	P
	Rated current (mA or A)*	EL 2102-06	1.7A	P
1.7.1.2	Identification markings*	EL 2102-07	See below	P
	Manufacturer's name or trade-mark or identification mark *	EL 2102-08	Trademark: 	P
	Model identification or type reference *.....	EL 2102-09	KPL-040F-VI, KPL-060F-VI, KPL-066F, KPL-066F-VI	P
	Symbol for Class II equipment only*	EL 2102-10	Class I equipment.	N/A
	Other markings and symbols*	EL 2102-11	None.	N/A
1.7.2	Safety instructions and marking*	EL 2102-12	No precautions are necessary.	N/A
1.7.2.2	Disconnect devices*	EL 2102-13	Appliance inlet used.	N/A
1.7.2.3	Overcurrent protective devices*	EL 2102-14	Appliance inlet used. Pluggable equipment type A.	N/A
1.7.2.4	IT power distribution systems*	EL 2102-15	Equipment not intended for IT power systems.	N/A
1.7.2.5	Operator access with a tool*	EL 2102-16	All areas containing hazard(s) are insccessible to the operator.	P
1.7.2.6	Ozone*	EL 2102-17	The equipment not containing ozone.	N/A
1.7.3	Short duty cycles*	EL 2102-18	Continuous operation.	N/A
1.7.4	Supply voltage adjustment*	EL 2102-19	Single voltage range	N/A
1.7.5	Power outlets on the equipment*	EL 2102-20	No power outlets provided	N/A

Tests relating to Marking Requirements

EL 2102 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) Fuse(s) shall clearly and adequately marked with fuse number and rating*.	EL 2102-21	Fuses are clearly and adequately marked with fuse numbers and ratings. Fuse F1: T4.0AL, 250 Vac	P
1.7.7	Wiring terminals		See below.	P
1.7.7.1	Protective earthing and bonding terminals*	EL 2102-22	Equipment provided with appliance inlet. Marking of the protective earthing terminal is not applicable.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors*	EL 2102-23	Appliance inlet used.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors*	EL 2102-24	No connection to d.c. mains	N/A
1.7.8	Controls and indicators		See below	P
1.7.8.1	Identification, location and marking *:	EL 2102-25	The function of controls affecting safety is obvious with knowledge of language etc.	P
1.7.8.2	Colours*	EL 2102-26	No such construction applied	P
1.7.8.3	Symbols according to IEC 60417*:	EL 2102-27	No symbols are used	N/A
1.7.8.4	Markings using figures* :	EL 2102-28	Not used	N/A
1.7.9	Isolation of multiple power sources*	EL 2102-29	Single supply connection.	N/A
1.7.10	Thermostats and other regulating devices*	EL 2102-30	No such thermostats or the like.	N/A
1.7.11	Durability	EL 2102-31	After test the test the marking is still legible; it is not easily possible to remove the marking sticker and show no curling.	P
1.7.12	Removable parts*	EL 2102-32	No markings placed on removable parts.	N/A
1.7.13	Replaceable batteries*	EL 2102-33	No battery.	N/A
	Language(s)		English	--
1.7.14	Equipment for restricted access locations*	EL 2102-34	Not intended for restricted access location.	N/A

*- Total number of Requirements to be observed / inspected = 34
Total No of applicable Requirement = 13
No of Requirements for which the sample passed: 13

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

Total number of tests to be conducted : 01
Total No of applicable Tests = 01
No. of tests for which the sample passed: 01

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 103

.....
(Approving Authority)

Tests relating to Electrical Safety

EL 2103 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.1	Protection from electric shock and energy hazards*	EL 2103-00	Complies	P
2.1.1	Protection in operator access areas*	EL 2103-01	See below	P
2.1.1.1	Access to energized parts	EL 2103-02	Operator cannot contact any hazardous bare parts or parts with only basic insulation to hazardous voltage.No ELV circuits.	P
	Test by inspection		No openings in enclosure.	P
	Test with test finger (Figure 2A)		As above.	N/A
	Test with test pin (Figure 2B)		As above.	N/A
	Test with test probe (Figure 2C)		No TNV	N/A
2.1.1.2	Battery compartments *	EL 2103-03	No battery compartment.	N/A
2.1.1.3	Access to ELV wiring	EL 2103-04	No ELV circuits	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		As above	—
2.1.1.4	Access to hazardous voltage circuit wiring	EL 2103-05	Not accessible to operator	P
2.1.1.5	Energy hazards :	EL 2103-06	No energy hazards in operator access area.	P
2.1.1.6	Manual controls	EL 2103-07	No manual controls	N/A
2.1.1.7	Discharge of capacitors in equipment		Complies	P
	Measured voltage (V); time-constant (s)	EL 2103-08	38V after 1 sec	P
2.1.1.8	Energy hazards – d.c. mains supply		No d.c. mains supply	N/A
	a) Capacitor connected to the d.c. mains supply	EL 2103-09	As above	N/A
	b) Internal battery connected to the d.c. mains supply	EL 2103-10	As above	N/A
2.1.1.9	Audio amplifiers to be tested according to IEC 60065, cl. 9.1.1.....	EL 2103-11	Not provided	N/A
2.1.2	Protection in service access areas	EL 2103-12	Bare parts carrying hazardous voltage or energy levels are located or guarded properly to avoid	P

Tests relating to Electrical Safety

EL 2103 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
			unintentional contact and bridging.	
2.1.3	Protection in restricted access locations	EL 2103-13	Not intended to be installed in a restricted access location	N/A

*- Total number of Requirements to be observed / inspected = 03
Total No of applicable Requirement = 02
No of Requirements for which the sample passed: 02

Total number of tests to be conducted : 11
Total No of applicable Tests = 05
No. of tests for which the sample passed: 05

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....

(Approving Authority)

Tests relating to Electrical Safety

EL 2104 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.2	SELV circuits*	EL 2104-00	Complies	P
2.2.2	Voltages under normal conditions	EL 2104-01	All accessible voltages are less than 42.4V peak or 60Vdc and are classified as SELV circuits.	P
2.2.3	Voltages under fault conditions	EL 2104-02	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120Vdc were not exceeding.	P
2.2.4	Connection of SELV circuits to other circuits* :	EL 2104-03	SELV circuits are only connected to other SELV and Limited current circuits	P

*- Total number of Requirements to be observed / inspected = 02
Total No of applicable Requirement = 02
No of Requirements for which the sample passed: 02

Total number of tests to be conducted. : 02
Total No of applicable Tests = 02
No. of tests for which the sample passed: 02

Certificate: Itds certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....

(Approving Authority)

Tests relating to Electrical Safety

EL 2105 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.3	TNV circuits*	EL 2105-00	2.3.1 – 2.3.5; No TNV circuits.	N/A
2.3.1	Limits : a)Continuous voltages, combination of AC and DC values, are such that : $\frac{U_{ac}}{71} + \frac{U_{dc}}{120} \leq 1$	EL 2105-01	As above	N/A
	b) Type of TNV circuits: TNV-1/TNV-2/TNV-3	EL 2105-02	As above	N/A
2.3.2	Separation from other circuits and from accessible parts*	EL 2105-03	As above	N/A
2.3.2.2	Protection by basic insulation	EL 2105-04	As above	N/A
2.3.2.3	Protection by earthing	EL 2105-05	As above	N/A
2.3.2.4	Protection by other constructions	EL 2105-06	As above	N/A
2.3.3	Separation from hazardous voltages	EL 2105-07	As above	N/A
2.3.4	Connection of TNV circuits to other circuits	EL 2105-08	As above	N/A
2.3.5	Test for operating voltages generated externally	EL 2105-09	As above	N/A

*- Total number of Requirements to be observed / inspected = 02
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 08
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Electrical Safety

EL 2106 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.4	Limited current circuits *	EL 2106-00	No limited current circuits accessible at the operator access area.	P
2.4.1	General requirements	EL 2106-01	As above	P
2.4.2	Limit values	EL 2106-02	As above, no additional evaluation found necessary	P
2.4.3	Connection of limited current circuits to other circuits*	EL 2106-03	The limited current circuit is supplied from SELV circuits	P

*- Total number of Requirements to be observed / inspected = 02
Total No of applicable Requirement = 02
No of Requirements for which the sample passed: 02

Total number of tests to be conducted : 02
Total No of applicable Tests = 02
No. of tests for which the sample passed: 02

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....

(Approving Authority)

Tests relating to Electrical Safety

EL 2107 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.5	Limited power sources *	EL 2107-00	Complies. See below	P
	a) Inherently limited output	EL 2107-01	Not inherently limited output.	N/A
	b) Impedance limited output	EL 2107-02	Not Impedance limited output	N/A
	c) Regulating network limited output under normal operating and single fault condition Use of integrated circuit (IC) current limiters	EL 2107-03	A regulating network limits the output in compliance with table 2B both under normal operating conditions and after any single fault.	P
	d) Overcurrent protective device limited output	EL 2107-04	No such parts used	N/A
	Max. output voltage (V), Max. output current (A), Max. apparent power (VA)	EL 2107-05	See appended table 2.5	P
	Current rating of overcurrent protective device (A)	EL 2107-06	No such parts used.	N/A

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 01
No of Requirements for which the sample passed: 01

Total number of tests to be conducted : 06
Total No of applicable Tests = 02
No. of tests for which the sample passed: 02

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Electrical Safety

EL 2108 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.6	Provisions for earthing and bonding*	EL 2108-00	Class I equipment with Class II construction. No protective earth.	P
2.6.1	Protective earthing	EL 2108-01	As above	N/A
2.6.2	Functional earthing : The Functional earthing either separated from hazardous voltages by double- or reinforced insulation or safely connected to Protective Bonding Conductor.*	EL 2108-02	Functional earthing is separated from hazardous voltage by reinforced insulation.	P
2.6.3	Protective earthing and protective bonding conductors*		As below.	N/A
2.6.3.2	Size of protective earthing conductors	EL 2108-03	No protective earthing conductors.	N/A
	Rated current (A), cross-sectional area (mm2), AWG.....		As above	—
2.6.3.3	Size of protective bonding conductors	EL 2108-04	Complies	P
	Rated current (A), cross-sectional area (mm2), AWG		1.7A, 0.75mm^2, 18 AWG	P
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	EL 2108-05	As above 2.6.3.2	N/A
2.6.3.5	Colour of insulation*.....	EL 2108-06	As above	N/A
2.6.4	Terminals		As above	N/A
2.6.4.2	Protective earthing and bonding terminals : Rated current(A), Type, Nominal thread diameter (mm)	EL 2108-07	As above	N/A
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors*	EL 2108-08	As above	N/A
2.6.5	Integrity of protective earthing*		As above	N/A
2.6.5.1	Interconnection of equipment*	EL 2108-09	As above	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors*	EL 2108-10	As above	N/A
2.6.5.3	Disconnection of protective earth*	EL 2108-11	As above	N/A
2.6.5.4	Parts that can be removed by an operator*	EL 2108-12	As above	N/A

2.6.5.5	Parts removed during servicing*	EL 2108-13	As above	N/A
2.6.5.6	Corrosion resistance*	EL 2108-14	As above	N/A
2.6.5.7	Screws for protective bonding*	EL 2108-15	As above	N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system*	EL 2108-16	As above	N/A

*- Total number of Requirements to be observed / inspected = 12
Total No of applicable Requirement = 01
No of Requirements for which the sample passed: 01

Total number of tests to be conducted : 05
Total No of applicable Tests = 01
No. of tests for which the sample passed: 01

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560

.....
(Approving Authority)

Tests relating to Electrical Safety **EL 2109 – V1.2**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.7	Overcurrent and earth fault protection in primary circuits*	EL 2109-00	Complies	P
2.7.1	Basic requirements: The built-in device fuse provides overcurrent protection. OR The equipment is protected by the built-in circuit breaker.*	EL 2109-01	The built-in fuse provides overcurrent protection.	P
	Instructions when protection relies on building installation		Neither pluggable equipment type B nor permanent connection.	N/A
2.7.2	Faults not simulated in 5.3.7*	EL 2109-02	See below	P
2.7.3	Short-circuit backup protection	EL 2109-03	Pluggable equipment type A, the building installation is considered as providing short circuit protection.	P
2.7.4	Number and location of protective devices	EL 2109-04	Overcurrent protections by fuse Fuse F1 in primary phase. Earth fault protection by fuse or circuit breaker in the building	P
2.7.5	Protection by several devices*	EL 2109-05	Only one fuse in phase or line	N/A
2.7.6	Warning to service personnel*	EL 2109-06	No unexpected hazard.	N/A

*- Total number of Requirements to be observed / inspected = 05
Total No of applicable Requirement = 03
No of Requirements for which the sample passed: 03

Total number of tests to be conducted : 02
Total No of applicable Tests = 02
No. of tests for which the sample passed: 02

Certificated (Is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....
(Approving Authority)

Tests relating to Electrical Safety

EL 2110 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.8	Safety Interlocks*	EL 2110-00	2.8 – 2.8.8 No safety interlocks used within the EUT	N/A
2.8.1	General principles*	EL 2110-01	As above	N/A
2.8.2	Protection requirements	EL 2110-02	As above	N/A
2.8.3	Inadvertent reactivation	EL 2110-03	As above	N/A
2.8.4	Fail-safe operation	EL 2110-04	As above	N/A
2.8.5	Moving parts	EL 2110-05	As above	N/A
2.8.6	Overriding*	EL 2110-06	As above	N/A
2.8.7	Switches, relays and their related circuits	EL 2110-07	As above	N/A
2.8.7.1	Separation distances for contact gaps and their related circuits	EL 2110-08	As above	N/A
2.8.7.2	Overload test	EL 2110-09	As above	N/A
2.8.7.3	Endurance test	EL 2110-10	As above	N/A
2.8.7.4	Electric strength test	EL 2110-11	As above	N/A
2.8.8	Mechanical actuators	EL 2110-12	As above	N/A

*- Total number of Requirements to be observed / inspected = 03
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 10
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 105

.....

(Approving Authority)

Tests relating to Electrical Safety

EL 2111 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.9	Electrical insulation*	EL 2111-00	Complies	P
2.9.1	Properties of insulating materials*	EL 2111-01	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.9.2	Humidity conditioning	EL 2111-02	Humidity treatment conducted for 48h	P
	Relative Humidity : 93% ±3%, Temperature: t between 20°C to 30°C (t ± 2°C) Duration : 48 hours		93%, 25°C	—
2.9.3	Grade of insulation*	EL 2111-03	Kind of insulation and working voltage considered	P
2.9.4	Separation from hazardous voltages*	EL 2111-04	The adequate level of safety insulation provided and maintained to comply with the requirement of the standard.	P
	Method(s) used		Method1:a	—

*- Total number of Requirements to be observed / inspected = 04
Total No of applicable Requirement = 04
No of Requirements for which the sample passed: 04

Total number of tests to be conducted : 01
Total No of applicable Tests = 01
No. of tests for which the sample passed: 01

Certificated (Ing.) certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....

(Approving Authority)

Tests relating to Electrical Safety

EL 2112 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.10	Clearances, creepage distances and distances through Insulation*	EL 2112-00	Complies	P
2.10.1.1	Frequency *	EL 2112-01	Considered	P
2.10.1.2	Pollution degrees*	EL 2112-02	Pollution degree 2	P
2.10.1.3	Reduced values for functional insulation	EL 2112-03	The functional insulation complied with clause 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	EL 2112-04	No such construction provided	N/A
2.10.1.5	Insulation with varying dimensions	EL 2112-05	Not applied	N/A
2.10.1.6	Special separation requirements	EL 2112-06	No TNV circuits	N/A
2.10.1.7	Insulation in circuits generating starting pulses	EL 2112-07	No such construction used	N/A
2.10.2	Determination of working voltage	EL 2112-08	The r.m.s and peak voltages were measured on all sources of the switching power supply. (see appended table 2.10.2)	P
2.10.2.2	RMS working voltage	EL 2112-09	(see appended table 2.10.2)	P
2.10.2.3	Peak working voltage	EL 2112-10	(see appended table 2.10.2)	P
2.10.3	Clearances	EL 2112-11	Complies	P
2.10.3.2	Mains transient voltages*		Normal transient levels considered	P
	a) AC mains supply *	EL 2112-12	Considered 2500V	P
	b) Earthed d.c. mains supplies* ..	EL 2112-13	No connections to d.c. mains	N/A
	c) Unearthed d.c. mains supplies*	EL 2112-14	No connections to d.c. mains	N/A
	d) Battery operation*	EL 2112-15	No such battery operation	N/A
2.10.3.3	Clearances in primary circuits	EL 2112-16	(see appended table 2.10.3/.4)	P
2.10.3.4	Clearances in secondary circuits	EL 2112-17	Only functional insulation in secondary circuits. Compiled with clause 5.3.4	N/A
2.10.3.5	Clearances in circuits having starting pulses	EL 2112-18	No discharge lamp used	N/A
2.10.3.6	Transients from a.c. mains supply	EL 2112-19	(see cl 2.10.3.4)	N/A
2.10.3.7	Transients from d.c. mains supply	EL 2112-20	No d.c. mains	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems ...	EL 2112-21	No TNV circuits.	N/A

2.10.3.9	Measurement of transient voltage levels		Not measured, Normal transient levels considered	P
	a) Transients from a mains supply	EL 2112-22	As above	N/A
	For an a.c. mains supply		As above	N/A
	For a d.c. mains supply		As above	N/A
	b) Transients from a telecommunication network	EL 2112-23	As above	N/A
2.10.4	Creepage distances*	EL 2112-24	Complies (see appended table 2.10.3/.4)	P
2.10.4.2	Material group and comparative tracking index : CTI tests*	EL 2112-25	Material group IIIb is assumed to be used.	—
2.10.4.3	Minimum creepage distances	EL 2112-26	(see appended table 2.10.3/.4)	P
2.10.5	Solid insulation		Compliance has been checked within the application of the unit	P
2.10.5.2	Distances through insulation	EL 2112-27	As above	P
2.10.5.3	Insulating compound as solid insulation	EL 2112-28	As above	P
2.10.5.4	Semiconductor devices	EL 2112-29	Certified opto-coupler is used	N/A
2.10.5.5.	Cemented joints	EL 2112-30	As above	N/A
2.10.5.6	Thin sheet material – General	EL 2112-31	Considered.	P
2.10.5.7	Separable thin sheet material	EL 2112-32	Used in transformer. 2 layers for reinforced insulation.	P
2.10.5.8	Non-separable thin sheet material	EL 2112-33	No Such material used	N/A
2.10.5.9	Thin sheet material – standard test procedure	EL 2112-34	See cl 2.10.5.10	P
	Electric strength test as per Cl.5.2.2		As above	—
2.10.5.10	Thin sheet material – alternative test procedure	EL 2112-35	Complies	P
	Electric strength test as per Cl.5.2.2		(see appended table 5.2)	—
2.10.5.11	Insulation in wound components	EL 2112-36	Triple insulated wire (TIW) used for in T1	P
2.10.5.12	Wire in wound components		TIW used in transformer T1	P
	If Peak Working voltage >71 V		(see appended table 2.10.3 and 2.10.4)	P
	a) Basic insulation not under stress	EL 2112-37	See below	N/A
	b) Basic, supplementary, reinforced insulation	EL 2112-38	Complies	P

	c) Compliance with Annex U	EL 2112-39	Approved triple insulated wire for reinforced insulation (see appended table 1.5.1)	P
	d) Where two winding wires in contact inside wound component; angle between 45° and 90°	EL 2112-40	Adequate construction. Insulation tape provided	P
2.10.5.13	Wire with solvent-based enamel in wound components		Not used	N/A
	a) Electric strength test (Type test as per Cl.5.2.2)	EL 2112-41	As above	—
	b) Electric Strength test (Routine test as per Cl.5.2.2)	EL 2112-42	As above	N/A
2.10.5.14	Additional insulation in wound components		No such construction applied	N/A
	If Peak Working Voltage >71V		See above cl.2.10.5.14	N/A
	a) Basic insulation not under stress	EL 2112-43	See above cl.2.10.5.14	N/A
	b) Supplementary, reinforced insulation	EL 2112-44	See above cl.2.10.5.14	N/A
2.10.6	Construction of printed boards*		Refer below	P
2.10.6.1	Uncoated printed boards	EL 2112-45	(see appended table 2.10.3/.4)	P
2.10.6.2	Coated printed boards	EL 2112-46	No coated printed boards.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	EL 2112-47	Not used to provide supplementary or double/reinforced insulation	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board*		Not used to provide supplementary or double/reinforced insulation	N/A
	a) Minimum Thickness of insulation: 0.4mm or	EL 2112-48	As above	N/A
	b) Confirm with one of the specification and pass the relevant tests as per Table 2R	EL 2112-49	As above	N/A
2.10.7	Component external terminations	EL 2112-50	No such components	N/A
2.10.8	Tests on coated printed boards and coated components		Coating not provided as part of insulation system	N/A
2.10.8.1	Sample preparation and preliminary inspection*	EL 2112-51	As above	N/A
2.10.8.2	Thermal conditioning	EL 2112-52	As above	N/A
2.10.8.3	Electric strength test	EL 2112-53	As above	N/A
2.10.8.4	Abrasion resistance test	EL 2112-54	As above	N/A
2.10.9	Thermal cycling	EL 2112-55	Certified opto-couplers used	N/A

2.10.10	Test for Pollution Degree 1 environment and insulating compound	EL 2112-56	Annex G not applied	N/A
2.10.11	Tests for semiconductor devices and cemented joints	EL 2112-57	Certified opto-couplers used	N/A
2.10.12	Enclosed and sealed parts	EL 2112-58	No sealed components	N/A

*- Total number of Requirements to be observed / inspected = 10
Total No of applicable Requirement = 05
No of Requirements for which the sample passed: 05

Total number of tests to be conducted : 49
Total No of applicable Tests = 19
No. of tests for which the sample passed: 19

Certificate no. It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....

(Approving Authority)

Tests relating to Wiring

EL 2113 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
3.0	Wiring, connections and supply*	EL 2113-00	Complies	P
3.1.1	Current rating and overcurrent protection	EL 2113-01	Sufficient cross-sectional area of internal wiring	P
3.1.2	Protection against mechanical damage*	EL 2113-02	Wires do not touch sharp edges and heat sinks that could damage the insulation and cause hazard.	P
3.1.3	Securing of internal wiring*	EL 2113-03	Wires are adequately fixed to prevent excessive strain or damage of the conductor's insulation	P
3.1.4	Insulation of conductors	EL 2113-04	The insulation of the individual conductors is suitable for the application and working voltage	P
3.1.5	Beads and ceramic insulators	EL 2113-05	Not used.	N/A
3.1.6	Screws for electrical contact pressure*	EL 2113-06	No screws used for electrical connection.	N/A
3.1.7	Insulating materials in electrical connections*	EL 2113-07	No contact pressure through insulating material.	P
3.1.8	Self-tapping and spaced thread screws*	EL 2113-08	Not used for current carrying electrical connections.	N/A
3.1.9	Termination of conductors : 10 N pull test	EL 2113-09	Conductors suitably terminated, creepage and clearances maintained. Second securing for soldered terminations provided. 10N applied to relevant conductors.	P
3.1.10	Sleeving on wiring*	EL 2113-10	Sleeving used on earth wire and AC wires for supplementary insulation.	P

*- Total number of Requirements to be observed / inspected = 07
Total No of applicable Requirement = 04
No of Requirements for which the sample passed: 04

Total number of tests to be conducted : 04
Total No of applicable Tests = 04
No. of tests for which the sample passed: 04

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Wiring

EL 2114 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
3.2	Connection to a mains supply*	EL 2114-00	Complies	P
3.2.1	Means of connection		Refer below:	P
3.2.1.1	Connection to an a.c. mains supply*	EL 2114-01	Appliance inlet for connecting to a detachable power supply cord set.	P
3.2.1.2	Connection to a d.c. mains supply*	EL 2114-02	Not connected to d.c. mains supply	N/A
3.2.2	Multiple supply connections	EL 2114-03	No multiple supply connection	N/A
3.2.3	Permanently connected equipment	EL 2114-04	Not a permanently connected equipment	N/A
3.2.4	Appliance inlets: complies with IEC 60309 or IEC 60320 and is located at the rear of the unit.	EL 2114-05	The appliance inlet complies with IEC 60230.	P
3.2.5	Power supply cords		See below	P
3.2.5.1	AC power supply cords	EL 2114-06	The power supply cord is provided with this unit	P
	Rated current (A), cross-sectional area (mm²), AWG		Rated: 1.7A, 0.75 mm²	—
3.2.5.2	DC power supply cords*	EL 2114-07	Not connected to d.c. mains supply	N/A
3.2.6	Cord anchorages and strain relief		Appliance inlet used	N/A
	Mass of the equipment: Pull Force (N):	EL 2114-08	As above	—
	b) Longitudinal displacement: 2 mm (Max)	EL 2114-09	As above	—
3.2.7	Protection against mechanical damage	EL 2114-10	No sharp points or cutting edges that may damage the power supply cord	P
3.2.8	Cord guards		Neither hand held nor intended to be moved while in operation	N/A
	a) Diameter or minor dimension D (mm) : Test mass (g) :	EL 2114-11	As above	—
	b) Radius of curvature of cord : 1.5 D (Min)	EL 2114-12	As above	—
3.2.9	Supply wiring space	EL 2114-13	Appliance inlet used	N/A

*- Total number of Requirements to be observed / inspected = 04
Total No of applicable Requirement = 02.
No of Requirements for which the sample passed: 02

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

Total number of tests to be conducted : 10
Total No of applicable Tests = 03
No. of tests for which the sample passed: 03

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....
(Approving Authority)

Tests relating to Wiring

EL_2115 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
3.3	Wiring terminals for connection of external conductors*	EL 2115-00	No terminals, appliance inlet and detachable power supply cord used.	N/A
3.3.1	Wiring terminals*	EL 2115-01	As above	N/A
3.3.2	Connection of non-detachable power supply cords	EL 2115-02	As above	N/A
3.3.3	Screw terminals*	EL 2115-03	As above	N/A
3.3.4	Conductor sizes to be connected	EL 2115-04	As above	—
	Rated current (A), cord/cable type, cross-sectional area (mm2)		As above	N/A
3.3.5	Wiring terminal sizes	EL 2115-05	As above	—
	Rated current (A), type, nominal thread diameter (mm)		As above	N/A
3.3.6	Wiring terminal design	EL 2115-06	As above	N/A
3.3.7	Grouping of wiring terminals*	EL 2115-07	As above	N/A
3.3.8	Stranded wire	EL 2115-08	As above	N/A

*:- Total number of Requirements to be observed / inspected = 04
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 05
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....

(Approving Authority)

Tests relating to Wiring

EL 2116 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
3.4	Disconnection from the mains supply*	EL 2116-00	Complies	P
3.4.2	Disconnect devices*	EL 2116-01	Disconnect device is provided	P
3.4.3	Permanently connected equipment*	EL 2116-02	Pluggable equipment type A	N/A
3.4.4	Parts which remain energized*	EL 2116-03	No parts remain energized	P
3.4.5	Switches in flexible cords*	EL 2116-04	Not provided	N/A
3.4.6	Number of poles - single-phase and d.c. equipment*	EL 2116-05	The appliance inlet disconnects both poles simultaneously	P
3.4.7	Number of poles - three-phase equipment*	EL 2116-06	Single phase equipment	N/A
3.4.8	Switches as disconnect devices*	EL 2116-07	Switch not used	N/A
3.4.9	Plugs as disconnect devices*	EL 2116-08	Appliance inlet used	N/A
3.4.10	Interconnected equipment*	EL 2116-09	No such interconnection	N/A
3.4.11	Multiple power sources*	EL 2116-10	Single supply connection	N/A

*- Total number of Requirements to be observed / inspected = 11
Total No of applicable Requirement = 04
No of Requirements for which the sample passed: 04

Total number of tests to be conducted : 00
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificated that certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 057

.....
(Approving Authority)

Tests relating to Wiring

EL 2117 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
3.5	Interconnection of equipment*	EL 2117-00	Complies	P
3.5.1	General requirements*	EL 2117-01	See below	P
3.5.2	Types of interconnection circuits*	EL 2117-02	SELV	P
3.5.3	ELV circuits as interconnection circuits *	EL 2117-03	No ELV circuits	N/A
3.5.4	Data ports for additional equipment	EL 2117-04	No data ports	N/A

*- Total number of Requirements to be observed / inspected = 04
Total No of applicable Requirement = 03
No of Requirements for which the sample passed: 03

Total number of tests to be conducted : 01
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....
(Approving Authority)

Tests relating to Mechanical Properties

EL 2118 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4	PHYSICAL REQUIREMENTS*	EL 2118-00	Complies	P
4.1	Stability	EL 2118-01	As below	N/A
	a)A unit having a mass of 7 kg or more shall not fall over when tilted to an angle of 10° from its normal upright position.	EL 2118-02	Mass of the EUT is less than 7kg	N/A
	b) A floor-standing unit having a mass of 25 kg or more shall not fall over when a force equal to 20 % of the weight of the unit, but not more than 250 N, is applied in any direction except upwards, at a height not exceeding 2 m from the floor.	EL 2118-03	Not a floor standing unit	N/A
	c) A floor-standing unit shall not fall over when a constant downward force of 800 N is applied at the point of maximum moment to any horizontal surface of at least 125 mm by at least 200 mm, at a height up to 1 m from the floor.	EL 2118-04	Not a floor standing unit.	N/A

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 01
No of Requirements for which the sample passed: 01

Total number of tests to be conducted : 04
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560

.....
(Approving Authority)

Tests relating to Mechanical Properties

EL 2119 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.2	Mechanical Strength	EL 2119-00	Complies	P
4.2.1	General		Outer enclosure shows sufficient strength to withstand expected handling connections	P
	For Rack-mounted equipment	EL 2119-01	Not rack mounted	N/A
4.2.2	Steady force test, 10 N	EL 2119-02	Applied to relevant parts no hazards	P
4.2.3	Steady force test, 30 N	EL 2119-03	No doors or removable covers	N/A
4.2.4	Steady force test, 250 N	EL 2119-04	250N applied to outer enclosure	P
4.2.5	Impact test	EL 2119-05	As below.	P
	a) Fall test as per Fig. 4A	EL 2119-06	No hazard as a result from the steel sphere fall test.	P
	b) Swing test as per Fig. 4A	EL 2119-07	No hazard as result from the swing test.	P
4.2.6	Drop test; height (mm) :	EL 2119-08	Dropped from a height of 750mm. No hazardous parts were accessible after the test. Test was performed on all sides of the enclosure.	P
4.2.7	Stress relief test	EL 2119-09	After 7h at 78.9°C and cooling down to room temperature, no shrinkage, distortion or loosing of enclosure parts was noticeable on the unit.	P
4.2.8	Cathode Ray Tubes	EL 2119-10	No CRT	N/A
4.2.9	High Pressure Lamps*	EL 2119-11	No high pressure lamps used	N/A
4.2.10	Wall or ceiling mounted equipment	EL 2119-12	Not intended for wall or ceiling mount	N/A

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 12
Total No of applicable Tests = 08
No. of tests for which the sample passed: 08

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Mechanical Properties

EL 2120 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.3	Design and Construction*	EL 2120-00	Complies	P
4.3.1	Edges and corners*	EL 2120-01	Smooth edges and corners provided	P
4.3.2	Handles and manual controls; force (N)	EL 2120-02	No handles and manual controls	N/A
4.3.3	Adjustable controls	EL 2120-03	Full range circuit, no voltage adjustment necessary	N/A
4.3.4	Securing of parts	EL 2120-04	Electrical and mechanical connections can be expected to withstand usual mechanical stress. No loosening of parts impairing safety as per relevant requirements of standard.	P
4.3.5	Connections by Plugs and Sockets*	EL 2120-05	In operator and service access areas, mismatching is prevented by incompatible form of location	P
4.3.6	Direct plug-in equipment	EL 2120-06	Not direct plug-in	N/A
4.3.7	Heating elements in earthed equipment*	EL 2120-07	No heating elements	N/A
4.3.8	Batteries		No batteries	N/A
	a) Overcharging of a rechargeable battery	EL 2120-08	As above	N/A
	b) Unintentional charging of a non-rechargeable battery	EL 2120-09	As above	N/A
	c) Reverse charging of a rechargeable battery	EL 2120-10	As above	N/A
	d) Excessive discharging rate for any battery	EL 2120-11	As above	N/A
	e) Electric strength as per Cl.5.3.9.2	EL 2120-12	As above	N/A
4.3.9	Oil & grease*	EL 2120-13	Insulation not in contact with oil or grease	N/A
4.3.10	Dust, powders, liquids and gases	EL 2120-14	Equipment in intended use not considered to be exposed to these.	N/A
4.3.11	Containers for liquids or gases	EL 2120-15	No liquid contained	N/A
4.3.12	Flammable liquids	EL 2120-16	No flammable liquids present	N/A
4.3.13	Radiation		See below	N/A
4.3.13.2	Ionizing radiation	EL 2120-17	No ionizing radiation	N/A
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	EL 2120-18	No ultraviolet (UV) radiation	N/A

4.3.13.4	Human exposure to ultraviolet (UV) radiation	EL 2120-19	As above	N/A
4.3.13.5	Lasers (including laser diodes) and LED's:	EL 2120-20	No laser, No LED.	N/A
4.3.13.5.1	Lasers (including laser diodes) For laser see IEC 60825-1, respective part as applicable.	EL 2120-21	No laser.	N/A
	Laser class		As above	N/A
4.3.13.5.2	Light emitting diodes (LED's)	EL 2120-22	No LED.	N/A
4.3.13.6	Other types*	EL 2120-23	The equipment does not generate other types of radiation.	N/A

*- Total number of Requirements to be observed / inspected = 06
Total No of applicable Requirement = 03
No of Requirements for which the sample passed: 03

Total number of tests to be conducted : 18
Total No of applicable Tests = 01
No. of tests for which the sample passed: 01

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. * Bangalore - 560 000

.....

(Approving Authority)

Tests relating to Mechanical Properties

EL 2121 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.4	Protection against hazardous moving parts	EL 2121-00	No hazardous moving parts within the EUT	N/A
4.4.2	Protection in operator access areas	EL 2121-01	No moving parts	N/A
	Household and home/office document/media shredders		No such parts used.	N/A
4.4.3	Protection in restricted access locations *	EL 2121-02	Not for restricted access locations	N/A
4.4.4	Protection in service access areas*	EL 2121-03	No moving parts	N/A
4.4.5	Protection against moving fan blades	EL 2121-04	As above	N/A
4.4.5.1	General*	EL 2121-05	As above	N/A
	Not considered likely to cause pain or injury. a)……:	EL 2121-06	As above	N/A
	Is considered likely to cause pain, not injury. b)	EL 2121-07	As above	N/A
	Considered likely to cause injury. c)……:	EL 2121-08	As above	N/A
4.4.5.2	Protection for users*	EL 2121-09	As above	N/A
	Use of symbol or warning*	EL 2121-10	As above	N/A
4.4.5.3	Protection for service persons*	EL 2121-11	As above	N/A
	Use of symbol or warning *	EL 2121-12	As above	N/A

*- Total number of Requirements to be observed / inspected = 07
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 06
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certification: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

……
(Approving Authority)

Tests relating to Thermal Properties — **EL 2122 – V1.2**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.5	Thermal Requirements*	EL 2122-00	Complies	P
4.5.2	Temperature tests under normal load condition as per Cl.1.4.5	EL 2122-01	(see appended table 4.5)	P
4.5.3	Temperature limits for materials*	EL 2122-02	(see appended table 4.5)	P
4.5.4	Touch temperature limits*	EL 2122-03	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	EL 2122-04	(see appended table 4.5.5)	P

*- Total number of Requirements to be observed / inspected = 03
Total No of applicable Requirement = 03
No of Requirements for which the sample passed: 03

Total number of tests to be conducted : 02
Total No of applicable Tests = 02
No. of tests for which the sample passed: 02

Certificate (if any) certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Mechanical Properties

EL 2123 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.6	Openings in enclosures*	EL 2123-00	No openings	N/A
4.6.1	Top and side openings	EL 2123-01	As above	N/A
	Dimensions (mm)		As above	—
4.6.2	Bottoms of fire enclosures :	EL 2123-02	No openings in bottom enclosure	N/A
	Construction of the bottom, dimensions (mm) :		As above	—
4.6.3	Doors or covers in fire enclosures*	EL 2123-03	No doors or covers.	N/A
4.6.4	Openings in transportable equipment		Not transportable equipment	N/A
4.6.4.1	Constructional design measures	EL 2123-04	As above	N/A
	Dimensions (mm)		As above	—
4.6.4.2	Evaluation measures for larger openings	EL 2123-05	As above	N/A
4.6.4.3	Use of metallized parts	EL 2123-06	No such construction	N/A
4.6.5	Adhesives for constructional purposes: Compliance is checked by examination of the construction and of the available data. If such data is not available, compliance is checked by the following tests.	EL 2123-07	No such construction	N/A
	a)Temperature Conditioning at : 100 °C ± 2 °C for one week; or 90 °C ± 2 °C for three weeks; or 82 °C ± 2 °C for eight weeks.	EL 2123-08	As above	N/A
	After temperature conditioning b) Leave the sample between 20°C to 30°C for 1 hour	EL 2123-09	As above	N/A
	c) Place the sample at -40°C±2°C for 4 hours	EL 2123-10	As above	N/A
	d) Remove and allow the sample to come to any convenient temperature between 20 °C and 30 °C for 8 h;	EL 2123-11	As above	N/A
	e) Place the sample in a cabinet at 91 % to 95 % relative humidity for 72 h;	EL 2123-12	As above	N/A

	f) Remove the sample and leave it at any convenient temperature between 20 °C and 30 °C for 1 h;	EL 2123-13	As above	N/A
	g) Place the sample in an oven at the temperature used for the temperature conditioning for 4 h;	EL 2123-14	As above	N/A
	h) Remove the sample and allow it to reach any convenient temperature between 20 °C; and 30 °C for 8 h.	EL 2123-15	As above	N/A
	i) The sample is then immediately subjected to the tests of Cl.4.2 as applicable.	EL 2123-16	As above	N/A

*- Total number of Requirements to be observed / inspected = 02
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 15
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

.....
(Approving Authority)

Tests relating to Fire Safety

EL 2124 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.7	Resistance to fire*	EL 2124-00	Complies	P
4.7.1	Reducing the risk of ignition and spread of flame		Materials with required flammability classes are used. Safety relevant components used within their rating. Electrical parts are not likely to ignite nearby materials. For temperatures see 4.5.1	P
	Method 1, selection and application of components wiring and materials OR	EL 2124-01	(see appended table 1.5.1)	P
	Method 2, application of all of simulated fault condition tests	EL 2124-02	Method 1 considered	N/A
4.7.2	Conditions for a fire enclosure*		See below	P
4.7.2.1	Parts requiring a fire enclosure*	EL 2124-03	Components with windings, wiring, semiconductor devices, resistors, capacitors and inductors are located inside a fire enclosure.	P
4.7.2.2	Parts not requiring a fire enclosure	EL 2124-04	The fire enclosure is required for all parts.	N/A
4.7.3	Materials*		See below	P
4.7.3.1	General*		Materials with the required flammability classes are used	P
	a)Class of material used*	EL 2124-05	(see appended table 1.5.1)	P
	b) Where HB40 CLASS MATERIAL, HB75 CLASS MATERIAL or HBF CLASS FOAMED MATERIAL, is required, material passing the glow-wire test at 550 °C according to IEC 60695-2-11 is acceptable as an alternative.	EL 2124-06	No such type of materials used.	N/A
	c) Where it is not practical to protect components against overheating under fault conditions, the components shall be mounted on V-1 CLASS MATERIAL. Additionally, such components shall be separated from material of a class lower than V-1 CLASS MATERIAL by at least 13 mm of air, or by a solid barrier of V-1 CLASS MATERIAL.	EL 2124-07	(see appended table 1.5.1)	P

4.7.3.2	Materials for fire enclosures		(see appended table 1.5.1)	P
	a) For MOVABLE EQUIPMENT having a total mass not exceeding 18 kg, the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of V-1 CLASS MATERIAL or shall pass the test of Clause A.2.	EL 2124-08	As above	P
	b) For MOVABLE EQUIPMENT having a total mass exceeding 18 kg and for all STATIONARY EQUIPMENT, the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of 5VB CLASS MATERIAL or shall pass the test of Clause A.1.	EL 2124-09	Mass of equipment is less than 18kg.	N/A
	c) Materials for components that fill an opening in a FIRE ENCLOSURE, and that are intended to be mounted in this opening shall : be of V-1 CLASS MATERIAL; or pass the tests of Clause A.2; or comply with the flammability requirements of the relevant IEC component standard	EL 2124-10	No such construction	N/A
	d) Plastic materials of a FIRE ENCLOSURE shall be located more than 13 mm through air from arcing parts such as unenclosed commutators and unenclosed switch contacts.	EL 2124-11	No such construction	N/A
4.7.3.3	Materials for components and other parts outside fire enclosures *		No such parts	N/A

	a) Materials shall be of : – HB75 CLASS MATERIAL if the thinnest significant thickness of this material is < 3 mm, or – HB40 CLASS MATERIAL if the thinnest significant thickness of this material is ≥ 3 mm, or – HBF CLASS FOAMED MATERIAL.*	EL 2124-12	As above	N/A
	b) Connectors shall comply with one of the following: – be made of V-2 CLASS MATERIAL; or – pass the tests of Clause A.2; or – comply with the flammability requirements of the relevant IEC component standard; or – be mounted on V-1 CLASS MATERIAL and be of a small size; or – be located in a SECONDARY CIRCUIT supplied by a power source that is limited to a maximum of 15 VA (see 1.4.11) under normal operating conditions and after a single fault in the equipment (see 1.4.14).	EL 2124-13	As above	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		PCB rated V-0. Internal components except small parts were mounted on V-0.	P
	a) Inside FIRE ENCLOSURES, materials for components and other parts shall comply with one of the following: – be of V-2 CLASS MATERIAL or HF-2 CLASS FOAMED MATERIAL; or – pass the flammability test described in Clause A.2; or – meet the flammability requirements of a relevant IEC component standard that includes such requirements.	EL 2124-14	(see appended table 1.5.1)	P

4.7.3.5	Materials for air filter assemblies : Air filter assemblies shall be constructed of V-2 CLASS MATERIAL, or HF-2 CLASS FOAMED MATERIAL.	EL 2124-15	No air filter assemblies	N/A
4.7.3.6	Materials used in high-voltage components		No high voltage components (>4KV Components)	N/A
	a) High-voltage components operating at peak-to-peak voltages exceeding 4 kV shall either be of V-2 CLASS MATERIAL, or HF-2 CLASS FOAMED MATERIAL, or comply with 14.4 of IEC 60065 or pass the needle flame test according to IEC 60695-11-5.	EL 2124-16	As above	N/A
	b) Compliance is checked by inspection of the equipment and material data sheets and, if necessary, by – the tests for V-2 CLASS MATERIAL or HF-2 CLASS FOAMED MATERIAL; or – the test described in 14.4 of IEC 60065; or – the needle flame test according to IEC 60695-11-5.	EL 2124-17.	As above	N/A
	c) In addition to above, the following details apply, referring to clauses of IEC 60695-11-5: Clause 7 - Severities	EL 2124-18	As above	N/A
	Clause 8 - Conditioning	EL 2124-19	As above	N/A
	Clause 11 - Evaluation of test results	EL 2124-20	As above	N/A

*- Total number of Requirements to be observed / inspected = 04
Total No of applicable Requirement = 03
No of Requirements for which the sample passed: 03

Total number of tests to be conducted : 17
Total No of applicable Tests = 04
No. of tests for which the sample passed: 04

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Insulating Properties

EL 2125 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
5.0	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS*	EL 2125-00	Complies	P
5.1	Touch current and protective conductor current*	EL 2125-01	Test conducted in accordance with 5.1.2 to 5.1.7	P
5.1.2	Configuration of equipment under test (EUT)*		See below:	P
5.1.2.1	Single connection to an a.c. mains supply*	EL 2125-02	Single supply, independently tested	P
5.1.2.2	Redundant multiple connections to an a.c. mains supply*	EL 2125-03	Single phase equipment	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	EL 2125-04	No simultaneous multiple connections	N/A
5.1.3	Test circuit	EL 2125-05	As per figure 5A	P
5.1.4	Application of measuring instrument	EL 2125-06	As per Annex D	P
5.1.5	Test procedure	EL 2125-07	Complies	P
5.1.6	Test measurements		See below	P
	a) Value of voltage, U2 measured using the instrument as per Fig. D.1	EL 2125-08	See appended table 5.1.6	P
	b) Measured touch current (mA)	EL 2125-09	See appended table 5.1.6	P
	c) Calculated value of TOUCH CURRENT (A) = U2 / 500	EL 2125-10	See appended table 5.1.6	P
	d) Max. protective conductor current =5% of Input current	EL 2125-11	See cl. 5.1.7 below	N/A
5.1.7	Equipment with touch current exceeding 3.5 mA	EL 2125-12	Touch current does not exceed 3.5mA	N/A
5.1.7.2	Simultaneous multiple connections to the supply	EL 2125-13	Single supply equipment	N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	EL 2125-14	No TNV circuits	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	EL 2125-15	As above	N/A

	Supply voltage (V)		As above	—
	Measured touch current (mA)		As above	—
	Max. allowed touch current (mA)		As above	—
5.1.8.2	Summation of touch currents from telecommunication networks	EL 2125-16	No TNV networks	N/A
	a) EUT with earthed telecommunication ports :		As above	N/A
	b) EUT whose telecommunication ports have no reference to protective earth		As above	N/A

*- Total number of Requirements to be observed / inspected = 04
Total No of applicable Requirement = 03
No of Requirements for which the sample passed: 03

Total number of tests to be conducted : 13
Total No of applicable Tests = 06
No. of tests for which the sample passed: 06

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Insulating Properties

EL 2126 – V1.2

Cl: No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
5.2	Electric strength*	EL 2126-00	Complies	P
5.2.1	General*	EL 2126-01	(see appended table 5.2)	P
5.2.2	Test procedure		Table 5B is used.	P
	a) The test voltages for electric strength for the appropriate grade of insulation [FUNCTIONAL INSULATION if required by 5.3.4 b), BASIC INSULATION, SUPPLEMENTARY INSULATION or REINFORCED INSULATION] are as specified in either: – Table 5B using the PEAK WORKING VOLTAGE (U), as determined in 2.10.2; or – Table 5C using the REQUIRED WITHSTAND VOLTAGE, as determined in G.4.	EL 2126-02	As above.	P

*- Total number of Requirements to be observed / inspected = 02
Total No of applicable Requirement = 02
No of Requirements for which the sample passed: 02

Total number of tests to be conducted : 01
Total No of applicable Tests = 01
No. of tests for which the sample passed: 01

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Insulating Properties

EL 2127 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
5.3	Abnormal operating and fault conditions	EL 2127-00	Complies. (See appended table 5.3)	P
5.3.1	Protection against overload and abnormal operation	EL 2127-01	Complies. (See appended table 5.3)	P
5.3.2	Motors	EL 2127-02	No motors	N/A
5.3.3	Transformers	EL 2127-03	Adequate protection against overload provided (see Annex C)	P
5.3.4	Functional insulation	EL 2127-04	Short circuit tests (See appended table 5.3)	P
5.3.5	Electromechanical components	EL 2127-05	No such components	N/A
5.3.6	Audio amplifiers in ITE	EL 2127-06	Not provided	N/A
5.3.7	Simulation of faults	EL 2127-07	(See appended table 5.3)	P
5.3.8	Unattended equipment	EL 2127-08	No unattended equipment	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions*		Verified and complies, see below	P
5.3.9.1	During the tests	EL 2127-09	No fire propagated beyond the equipment. No molten metal was emitted	P
5.3.9.2	After the tests	EL 2127-10	After test, the EUT still complies with the relevant requirements of this standard.	P

*- Total number of Requirements to be observed / inspected = 00
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 11
Total No of applicable Tests = 07
No. of tests for which the sample passed: 07

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

Tests relating to Communicating Connection

EL 2128 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment	EL 2128-00	No TNV circuits	N/A
6.1.1	Protection from hazardous voltages	EL 2128-01	As above	N/A
6.1.2	Separation of the telecommunication network from earth*		As above	N/A
6.1.2.1	Requirements: a)Supply voltage (V) b)Current in the test circuit (mA)	EL 2128-02	As above	N/A
6.1.2.2	Exclusions	EL 2128-03	As above	N/A

*- Total number of Requirements to be observed / inspected = 00
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 04
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate is hereby certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....

(Approving Authority)

Tests relating to Communicating Connection

EL 2129 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
6.2	Protection of equipment users from overvoltages on telecommunication networks*	EL 2129-00	No TNV circuits	N/A
6.2.1	Separation requirements	EL 2129-01	As above	N/A
6.2.2	Electric strength test procedure	EL 2129-02	As above	N/A
6.2.2.1	Impulse test	EL 2129-03	As above	N/A
6.2.2.2	Steady-state test	EL 2129-04	As above	N/A
6.2.2.3	Compliance criteria	EL 2129-05	As above	N/A

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 05
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....

(Approving Authority)

Tests relating to Communicating Connection

EL 2130 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
6.3	Protection of the telecommunication wiring system from overheating	EL 2130-00	No TNV circuits	N/A
	a)If current limiting is due to the inherent impedance of the power source, the output current into any resistive load, including a short-circuit, is measured. The current limit shall not be exceeded after 60 s of test. Max. output current (A)	EL 2130-01	As above	N/A
	b) If current limiting is provided by an overcurrent protective device having a specified time/current characteristic: – the time/current characteristic shall show that a current equal to 110 % of the current limit will be interrupted within 60 min; and	EL 2130-02	No TNV circuits	N/A
	c) the output current into any resistive load, including a short-circuit, with the overcurrent protective device bypassed, measured after 60 s of test, shall not exceed 1 000/U, where U is the output voltage measured in accordance with 1.4.5 with all load circuits disconnected.	EL 2130-03	As above	N/A

	d) If current limiting is provided by an overcurrent protective device that does not have a specified time/current characteristic: – the output current into any resistive load, including a short-circuit, shall not exceed the current limit after 60 s of test; and – the output current into any resistive load, including a short-circuit, with the overcurrent protective device bypassed, measured after 60 s of test, shall not exceed 1 000/U, where U is the output voltage measured in accordance with 1.4.5 with all load circuits disconnected.	EL 2130-04	No TNV circuits	N/A

*- Total number of Requirements to be observed / inspected = 00
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 05
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificated/(Inspected) that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 105

.....

(Approving Authority)

Tests relating to Connection to cable distribution system **EL 2131 – V1.2**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
7	Connection to cable distribution systems*	EL 2131-00	Not connected to cable distribution system.	N/A
7.1	General requirements*	EL 2131-01	As above	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment	EL 2131-02	As above	N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system	EL 2131-03	As above	N/A
7.4	Insulation between primary circuits and cable distribution systems		As above	N/A
7.4.2	Voltage surge test	EL 2131-04	As above	N/A
7.4.3	Impulse test	EL 2131-05	As above	N/A

*- Total number of Requirements to be observed / inspected = 02
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 04
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....

(Approving Authority)

Tests relating to Fire Safety

EL 2132 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE	EL 2132-00	Flammability data were taken from available literature.	N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)	EL 2132-01	See above A.	N/A
A.1.1	Samples	EL 2132-02	See above A.	—
	Wall thickness (mm)		See above A.	—
A.1.2	Conditioning of samples; temperature (°C)	EL 2132-03	See above A.	
A.1.3	Mounting of samples	EL 2132-04	See above A.	
A.1.4	Test flame (see IEC 60695-11-3)	EL 2132-05	See above A.	
	Flame A, B, C or D		See above A.	—
A.1.5	Test procedure	EL 2132-06	See above A.	
A.1.6	Compliance criteria	EL 2132-07	See above A.	
	Sample 1 burning time (s)		See above A.	—
	Sample 2 burning time (s)		See above A.	—
	Sample 3 burning time (s)		See above A.	—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)	EL 2132-08	See above A.	N/A
A.2.1	Samples, material	EL 2132-09	See above A.	—
	Wall thickness (mm)		See above A.	—
A.2.2	Conditioning of samples; temperature (°C)	EL 2132-10	See above A.	N/A
A.2.3	Mounting of samples	EL 2132-11	See above A.	N/A
A.2.4	Test flame (see IEC 60695-11-4)	EL 2132-12	See above A.	N/A
	Flame A, B or C		See above A.	—
A.2.5	Test procedure	EL 2132-13	See above A.	N/A
A.2.6	Compliance criteria	EL 2132-14	See above A.	N/A

Tests relating to Fire Safety

EL 2132 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
	Sample 1 burning time (s)		See above A.	—
	Sample 2 burning time (s)		See above A.	—
	Sample 3 burning time (s)		See above A.	—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9	EL 2132-15	See above A.	
	Sample 1 burning time (s)		See above A.	—
	Sample 2 burning time (s)		See above A.	—
	Sample 3 burning time (s)		See above A.	—
A.3	Hot flaming oil test (see 4.6.2)	EL 2132-16	See above A.	
A.3.1	Mounting of samples	EL 2132-17	See above A.	
A.3.2	Test procedure	EL 2132-18	See above A.	
A.3.3	Compliance criterion	EL 2132-19	See above A.	

*- Total number of Requirements to be observed / inspected = 00
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 20
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....

(Approving Authority)

Tests relating to Insulation Properties

EL 2133 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)	EL 2133-00	No motors provided	N/A
B.1	General requirements	EL 2133-01	As above	N/A
	Position		As above	—
	Manufacturer		As above	—
	Type		As above	—
	Rated values		As above	—
B.2	Test conditions	EL 2133-02	As above	N/A
B.3	Maximum temperatures	EL 2133-03	As above	N/A
B.4	Running overload test	EL 2133-04	As above	N/A
B.5	Locked-rotor overload test	EL 2133-05	As above	N/A
	Test duration (days)		As above	—
	Electric strength test: test voltage (V)		As above	—
B.6	Running overload test for d.c. motors in secondary circuits	EL 2133-06	As above	N/A
B.6.1	General	EL 2133-07	As above	N/A
B.6.2	Test procedure	EL 2133-08	As above	N/A
B.6.3	Alternative test procedure	EL 2133-09	As above	N/A
B.6.4	Electric strength test; test voltage (V)	EL 2133-10	As above	N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits	EL 2133-11	As above	N/A
B.7.1	General	EL 2133-12	As above	N/A
B.7.2	Test procedure	EL 2133-13	As above	N/A
B.7.3	Alternative test procedure	EL 2133-14	As above	N/A
B.7.4	Electric strength test; test voltage (V)	EL 2133-15	As above	N/A
B.8	Test for motors with capacitors	EL 2133-16	As above	N/A
B.9	Test for three-phase motors	EL 2133-17	As above	N/A
B.10	Test for series motors	EL 2133-18	As above	N/A
	Operating voltage (V)		As above	—

*- Total number of Requirements to be observed / inspected = 00
Total No of applicable Requirement = 00
No.of Requirements for which the sample passed: 00

Total number of tests to be conducted : 19
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....
(Approving Authority)

Tests relating to Electrical Safety

EL 2134 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)*	EL 2134-00	Complies	P
	Position		Pri – Sec trasnformer:T1	—
	Manufacturer		(See appended table 1.5.1)	—
	Type		(See appended table 1.5.1)	—
	Rated values		(See appended table 1.5.1)	—
	Method of protection		By protection circuits.	—
C.1	Overload test	EL 2134-01	(See appended table 5.3)	P
C.2	Insulation	EL 2134-02	Approved Triple Insulated Wire used	P
	Protection from displacement of windings.....		Adequate construction; for further details, see appended table 2.10.3/.4	P

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 01
No of Requirements for which the sample passed: 01

Total number of tests to be conducted : 02
Total No of applicable Tests = 02
No. of tests for which the sample passed: 02

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....

(Approving Authority)

Tests relating to Electrical Safety

EL 2135 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)*	EL 2135-00	No relevant parts present	N/A
	Metal(s) used		As above	—

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 00
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate(s) is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....
(Approving Authority)

Tests relating to General Requirement

EL 2136 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)*	EL 2136-00	No such component is used	N/A
K.1	Making and breaking capacity.	EL 2136-01	As above	N/A
K.2	Thermostat reliability; operating voltage (V)	EL 2136-02	As above	N/A
K.3	Thermostat endurance test; operating voltage (V)	EL 2136-03	As above	N/A
K.4	Temperature limiter endurance; operating voltage (V)	EL 2136-04	As above	N/A
K.5	Thermal cut-out reliability	EL 2136-05	As above	N/A
K.6	Stability of operation	EL 2136-06	As above	N/A

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 06
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....

(Approving Authority)

Tests relating to General Requirement

EL 2137 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)*	EL 2137-00	Complies See below	P
L.1	Typewriters*	EL 2137-01	Not a typewriter	N/A
L.2	Adding machines and cash registers*	EL 2137-02	Neither an adding machine nor a cash register	N/A
L.3	Erasers*	EL 2137-03	Not an eraser	N/A
L.4	Pencil sharpeners*	EL 2137-04	Not pencil sharpener	N/A
L.5	Duplicators and copy machines*	EL 2137-05	Not a duplicator nor a copy machine	N/A
L.6	Motor-operated files*	EL 2137-06	Not motor operated files	N/A
L.7	Other business equipment*	EL 2137-07	AC ADAPTER (Power Adaptors for IT Equipments)	P

*- Total number of Requirements to be observed / inspected = 08
Total No of applicable Requirement = 02
No of Requirements for which the sample passed: 02

Total number of tests to be conducted : 00
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 076

.....
(Approving Authority)

Tests relating to Electrical Safety

EL 2138 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)	EL 2138-00	No TNV circuits	N/A
M.1	Introduction*	EL 2138-01	As above	N/A
M.2	Method A	EL 2138-02	As above	N/A
M.3	Method B	EL 2138-03	As above	N/A
M.3.1	Ringing signal	EL 2138-04	As above	N/A
M.3.1.1	Frequency (Hz)	EL 2138-05	As above	—
M.3.1.2	Voltage (V)	EL 2138-06	As above	—
M.3.1.3	Cadence; time (s), voltage (V) ...	EL 2138-07	As above	—
M.3.1.4	Single fault current (mA)	EL 2138-08	As above	—
M.3.2	Tripping device and monitoring voltage	EL 2138-09	As above	N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage	EL 2138-10	As above	N/A
M.3.2.2	Tripping device	EL 2138-11	As above	N/A
M.3.2.3	Monitoring voltage (V)	EL 2138-12	As above	N/A

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 12
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560

.....
(Approving Authority)

Tests relating to General Requirements

EL 2139 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)	EL 2139-00	Approved VDR's used.	P
	a) Preferred climatic categories		As above	P
	b) Maximum continuous voltage		As above	P
	c) Pulse current		As above	P

*- Total number of Requirements to be observed / inspected = 00
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 01
Total No of applicable Tests = 01
No. of tests for which the sample passed: 01

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore

.....

(Approving Authority)

Tests relating to Radiation Safety

EL 2140 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)	EL 2140-00	No Ultra violet light source	N/A
Y.1	Test apparatus	EL 2140-01	As above Y	N/A
Y.2	Mounting of test samples	EL 2140-02	As above Y	N/A
Y.3	Carbon-arc light-exposure apparatus	EL 2140-03	As above Y	N/A
Y.4	Xenon-arc light exposure apparatus	EL 2140-04	As above Y	N/A

*- Total number of Requirements to be observed / inspected = 00
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 05
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 001

.....

(Approving Authority)

Tests relating to Electrical Safety

EL 2141 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
CC.1	Evaluation of integrated circuit (IC) current limiters*	EL 2141-00	No such construction	N/A
CC.2	Test program 1.....:	EL 2141-01	As above	N/A
CC.3	Test program 2.....:	EL 2141-02	As above	N/A

*- Total number of Requirements to be observed / inspected = 01
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 02
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore ACB 180

.....

(Approving Authority)

Tests relating to Mechanical Properties

EL 2142 – V1.2

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
DD	Requirements for the mounting means of rack-mounted equipment*	EL 2142-00	Not a rack mount	N/A
DD.2	Mechanical strength test, variable N.....:	EL 2142-01	As above	N/A
DD.3	Mechanical strength test, 250N, including end stops.....:	EL 2142-02	As above	N/A
DD.4	Compliance*.....:	EL 2142-03	As above	N/A

*- Total number of Requirements to be observed / inspected = 02
Total No of applicable Requirement = 00
No of Requirements for which the sample passed: 00

Total number of tests to be conducted : 02
Total No of applicable Tests = 00
No. of tests for which the sample passed: 00

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

TÜV Rheinland (India) Pvt. Ltd. Bangalore - 560 100

.....
(Approving Authority)

1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity
Plastic enclosure	SABIC Innovative Plastics Japan LLC	SE1X	V-1 or better, 105 °C, thickness 1.5mm min.	UL94 (Flammable test equivalent to IEC 60695-11-10)	UL E45329
(Alternate)	Teijin Chemicals Plastic Compounds Shanghai Ltd	LN-1250G	V-0 or better, 115 °C, thickness 1.5mm min.	UL94 (Flammable test equivalent to IEC 60695-11-10)	UL E244324
(Alternate)	SABIC Innovative Plastics Japan LLC	940	V-0 or better, 120°C, thickness 1.5 mm min.	UL94 (Flammable test equivalent to IEC 60695-11-10)	UL E207780
PCB	Walex Electronic (Wuxi) Co Ltd	T4	V-0, min. 130°C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E154355
(Alternate)	Kingboard Laminates Holdings Ltd.	KB-5150	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E123995
(Alternate)	Huizhou Times Dragon Technology Co., Ltd.	SDJL-1, SDJL-2	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E351376
(Alternate)	Huizhou Hosond PCB Co., Ltd.	HSD-DS, HSD-ML	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E256286
(Alternate)	NIPPON (BOLUO) Electronics Co., Ltd.	D2	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E256286
(Alternate)	Dong Guan New Energy Printed Circuit Board Co., Ltd.	NE1000, NE2000, NE4000, NE5000, NE5000A	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E206420
(Alternate)	Guangdong Chaohua Technology Co., Ltd.	C-104	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E231151

(Alternate)	Suichuan The Speed of Light Electronics Co., Ltd	GS-001, GS-002	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E355337
(Alternate)	Meizhou Taihua Printed Circuit Board Co., Ltd.	TH-1, TH-2	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E338047
(Alternate)	Huizhou APL Electronic Co., Ltd.	APL-1, APL-2	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E357818
(Alternate)	Dongguan City Top Star Circuit Co., Ltd	TS-01, TS-02	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E341686
(Alternate)	Cheung Hung Technology International Ltd	CH-D, CH-M	V-0, min. 130 °C	UL 94, UL 796 (Flammable test equivalent to IEC 60695-11-10)	UL E310726
Appliance Inlet (CON1)	Tecx-Unions Technology Corporation	TU-301-SP	10 A, 250 Vac, 70 °C	IEC 60320-1	VDE 40025582
(Alternate)	Tecx-Unions Technology Corporation	TU-333	2.5 A, 250 Vac, 70 °C	IEC 60320-1	VDE 40005430
(Alternate)	Rong Feng Industrial Co., Ltd.	RF-190	2.5 A, 250 Vac, 70 °C	IEC 60320-1	VDE 40030379
(Alternate)	Rong Feng Industrial Co., Ltd	SS-120	10 A, 250 Vac, 70 °C	IEC 60320-1	VDE 40028101
(Alternate)	Rich Bay Co., Ltd.	R-30790	2.5 A, 250 Vac, 70 °C	IEC 60320-1	VDE 40030381
(Alternate)	Rich Bay Co., Ltd.	R-301SN	10 A, 250 Vac, 70 °C	IEC 60320-1	VDE 40030228
(Alternate)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-003J	10 A, 250 Vac, 70 °C	IEC 60320-1	VDE 40013388
(Alternate)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A04-002	2.5 A, 250 Vac, 70 °C	IEC 60320-1	VDE 40016045

Fuse (F1) (Optional)	XC Electronics (Shenzhen) Corp. Ltd.	4T	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40029295
(Alternate)	XC Electronics (Shenzhen) Corp.Ltd.	5TE	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40029550
(Alternate)	Ever Island Electric Co., Ltd. and Walter Electric	2010	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40018781
(Alternate)	Conquer Electronics Co., Ltd.	PTU	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40001462
(Alternate)	Conquer Electronics Co., Ltd.	MST	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40017118
(Alternate)	Littelfuse, Inc. Wickmann-Werke	392	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 126983
(Alternate)	Walter Electronic Co. Ltd.	ICP	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40012824
Fuse (F2)	XC Electronics (Shenzhen) Corp. Ltd.	4T	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40029295
(Alternate)	XC Electronics (Shenzhen) Corp.Ltd.	5TE	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40029550
(Alternate)	Ever Island Electric Co., Ltd. and Walter Electric	2010	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40018781
(Alternate)	Conquer Electronics Co., Ltd.	PTU	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40001462
(Alternate)	Conquer Electronics Co., Ltd.	MST	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40017118

(Alternate)	Littelfuse, Inc. Wickmann-Werke	392	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 126983
(Alternate)	Walter Electronic Co. Ltd.	ICP	T6.3AL, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40012824
Varistor (TVS1) (Optional)	Thinking Electronic Industrial Co., Ltd.	TVR14471, TVR14561, TVR14681	Rated 300 Vac, 470 Vdc, Max. 4500 A, 85 °C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 005944
(Alternate)	Nanjing Jocol Electronics Technology Co., Ltd.	TUR14D471K, TUR14D561, TUR14D681	Rated 300 Vac, 470 Vdc, Max. 4500 A, 85 °C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 50056768
(Alternate)	Success Electronics Co., Ltd.	SVR14D471K, SVR14D561K, SVR14D681K	Rated 300 Vac, 470 Vdc, Max. 4500 A, 85 °C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 123677
XCapacitor (CX1) (X1 or X2 type) (Optional)	Jenn Fu Electronics Corporation	MPX	275 Vac, 100 °C	IEC 60384-14	VDE 40023085
(Alternate)	Europtronic (Taiwan) Ind. Corp.	MPX2	275 Vac, 100 °C	IEC 60384-14	VDE 40025981
(Alternate)	Ultra Tech Xiphi Enterprise Co., Ltd.	HQX	275 Vac, 100 °C	IEC 60384-14	VDE 40015608
(Alternate)	Hua Jung Components Co.,Ltd.	MKP	275 Vac, 100 °C	IEC 60384-14	CB by Intertek Ref. Cert. No: SE-72662
(Alternate)	Arcotronics Italia S.P.A	R.46	275 Vac, 100 °C	IEC 60384-14	CQC No.: CQC1300110 1266

Capacitor (CY1) (Y1 type) (Optional)	TDK Corporation	CD	250 Vac, 125 °C	IEC 60384-14	VDE 124321
(Alternate)	Walsin Technology Corp.	AH	250 Vac, 125 °C	IEC 60384-14	VDE 40001804
(Alternate)	Success Electronics Co., Ltd.	SB	250 Vac, 125 °C	IEC 60384-14	VDE 40016621
(Alternate)	Success Electronics Co., Ltd.	SE	250 Vac, 125 °C	IEC 60384-14	VDE 122995
(Alternate)	Xiangtai Electronic (Shenzhen) Co., Ltd.	YO	400 Vac, 125 °C	IEC 60384-14	VDE 40036880
(Alternate)	JYA-NAY Co., Ltd.	JN	250 Vac, 125 °C	IEC 60384-14	VDE 40001831
Transformer (T1)	Channel Well Technology Co., Ltd.	PQ-2620-12-VI	Class B (GH-130)	IS 13252 (Part 1) : 2010 + A1: 2013	Evaluated together with unit
Bobbin	Chang Chun Plastics Co Ltd.	T375J	V-0, 150℃	UL94 (Flammable test equivalent to IEC 60695-11-10)	UL E59481
Triple insulation wire	Great Leoflon Industrial Co., Ltd.	TRW(B)	130°C	IEC 60950-1 EN 60950-1/A12: 2011	VDE 136581
Winding	Shenzhen Chengwei Industry Co Ltd	2UEW	130°C	UL 1446 (Insulation classification is equivalent to IEC 60885)	UL E227475
(Alternate)	Pacific Electric Wire & Cable Co Ltd	DD-NYU	130°C	UL 1446 (Insulation classification is equivalent to IEC 60885)	UL E227475

Optocoupler (IC1)	Lite-On Technology Corporation	LTV-817	Dti ≥ 0.4 mm, Int. cr > 4.0 mm, Ext. cr = 8.0mm, 110 °C	DIN EN 60747- 5-2, IEC/EN 60950-1,	VDE 40015248
(Alternate)	Cosmo Electronics Corporation	K1010	Dti = 0.5 mm, Int. cr = 5.3 mm, Ext. cr = 8.0mm, 110 °C	DIN EN 60747- 5-2, IEC/EN 60950-1	VDE 101347
(Alternate)	Toshiba Corp. Semiconductor	TLP781/ TL781F	Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7mm, 110 °C	DIN EN 60747- 5-2, IEC/EN 60950-1	VDE 40021173
(Alternate)	Everlight Electronics Co Ltd	EL817	Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7mm, 110 °C	DIN EN 60747- 5-2, IEC/EN 60950-1	VDE 132249
(Alternate)	Fairchild Semiconductor	FOD817	Dti ≥ 0.4 mm, Int. cr ≥ 5.0 mm, Ext. cr ≥ 7.0mm, 110 °C	DIN EN 60747- 5-2, IEC/EN 60950-1	VDE 40026857
(Alternate)	Sharp Corp Electronic Components And Devices Group	PC817	Dti = 0,7 mm, Int. cr = 5,0 mm, Ext. cr =8,0mm.	DIN EN 60747- 5-2, IEC/EN 60950-1	VDE 40008087
(Alternate)	Sharp Corp Electronic Components And Devices Group	PC123	Dti = 0,7 mm, Int. cr = 5,0 mm, Ext. cr =8,0mm. 110	DIN EN 60747- 5-2, IEC/EN 60950-1	VDE 40008087
AC Power Supply Cord	Linetek	3 Core PVC Sheathed	1100V, 3 x0.75mm2	IS 694: 1990	CM/L: 4013534
AC Plug	Linetek	PE361L	10A, 250V AC	IS 1293:2005	ICM/L: 4013635
Appliance Coupler	Linetek	LS-60	10A, 250V AC	IEC 60799	VDE 40018230
Supplementary information:					

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
100	1.225	1.7	65.4	--	--	Maximum normal load
240	0.713	1.7	63.6	--	--	Maximum normal load
Supplementary information:						

2.5	TABLE: Limited power source measurement		P
	Limits	Measured	Verdict
Measured Uoc (V): 12.08			
current (in A)	< 8	6.40	P
apparent power (in VA)	< 100	76.8	P
Supplementary information:			

2.10.2	Table: Working voltage measurement		P
Location	RMS voltage (V)	Peak voltage (V)	Comments
Line – Neutral	239.66	348	--
Transformer T1 Pin (1 – 8, 9)	171.45	340	--
Transformer T1 Pin (1 – 11, 12)	170.69	340	--
Transformer T1 Pin (3 – 8, 9)	170.55	360	--
Transformer T1 Pin (3 – 11, 12)	172.45	340	--
Transformer T1 Pin (4 – 8, 9)	180.30	361	--
Transformer T1 Pin (4 –11, 12)	178.51	360	--
Transformer T1 Pin (6 – 8, 9)	171.16	348	--
Transformer T1 Pin (6 – 11, 12)	170.96	340	--
Across Y Capacitor CY1	170.86	340	--
Optocoupler IC1 Pin(1 – 3)	182.27	348	--
Optocoupler IC1 Pin(1 – 4)	177.20	340	--
Optocoupler IC1 Pin(2 – 3)	181.93	348	--
Optocoupler IC1 Pin(2 – 4)	182.31	348	--
Supplementary information:			

2.10.3 and 2.10.4	TABLE: Clearance and Creepage distance measurements					P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Functional:						
Line to neutral	<420	<250	2.22*)	11.57	2.8	11.57
Reinforced:						
T1(Pri-sec)	<420	<250	5.92*)	15.94	5.92**)	15.94

Capacitor CY1	<420	<250	5.92*)	7.65	5.92**)	7.65
Optocoupler	<420	<250	5.92*)	8.08	5.92**)	8.08

Supplementary information: *) Equipment used in vehicles, ships or aircrafts, in tropical countries or at elevation < 5000m, so the clearance is multiplied by the altitude correction factor (1.48 linear interpolation used), specified in table A.2 of IEC 60664-1.

**)Due to creepage should equal to or greater than clearance, creepage adjusted accordingly.

2.10.5	TABLE: Distance through insulation measurements				P
Distance through insulation (DTI) at/of:	U peak (V)	U r.m.s. (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Enclosure	<420	<250	3000	0.4	2.2
Supplementary information:					

4.5	TABLE: Temperature rise measurements	P

Temperatures were measured according cl. 1.4.5. Test in condition A and B at continuous normal operation as for power input measurements of table 1.6 resulted in highest temperature values.
Temperatures are calculated according cl. 1.4.12.3 with regard to the maximum ambient operation temperature of 40°C (T_{ma}), as specified by the manufacturer.

test voltage(s) (V):		A: 90 Vac, 50 Hz	B: 264 Vac, 50 Hz
t_{amb1} (°C):	A:24.1 B: 23.5	t_{amb2} (°C):	A:24.5 B: 24.3

Temperature of part/at: (measured with thermocouples)	Measured temperature at T_{amb}		Calculated temperature at T_{ma}		Allowed T_{max} (°C)
	A T (°C)	B T (°C)	A T (°C)	B T (°C)	
PCB Near Fuse F1	40.0	36.6	55.5	52.3	130
Appliance Inlet	41.9	38.3	57.4	54.0	70
Inductor LF1	67.6	54.2	83.1	69.9	120
Inductor LF2	58.8	49.6	74.3	65.3	120
Capacitor C2	62.3	56.1	77.8	71.8	105
Transformer T1 Winding	68.8	72.1	84.3	87.8	110
Transformer T1 Bobbin	62.6	65.6	78.1	81.3	150
Capacitor C6	63.1	66.6	78.6	82.3	105
Capacitor CY1	65.9	67.9	81.4	83.6	125
Adapter Top Plastic Enclosure	53.4	51.4	68.9	67.1	95
Adapter Bottom Plastic Enclosure	41.9	40.2	57.4	55.9	95
Supplementary information:					

4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm) ..... :	≤ 2 mm	—

Part	Test temperature (°C)	Impression diameter (mm)
Enclosure	125	1.2
Transformer T1 Bobbin	125	1.3
Supplementary information:		

5.1.6	TABLE: Touch current and protective conductor current measurement		P
	Test voltage (V)..... :	AC 264V, 50 Hz	—

Measurement location	Polarity (normal) [mA]	Polarity (reverse) [mA]	Limit (mA)	Comments
(Terminal A connected.to...)	Switch: ON	Switch: ON		
Plastic enclosure ("e" = close)	0.04	0.03	0.25	--
Supplementary information:				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
Primary to Earth		AC	1500	No
Reinforced:				
Primary to Plastic Enclosure		AC	3000	No
Insulation tape transformer T1		AC	3000	No
Supplementary information:				

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C) ..... :			(See below)		—
	Power source for EUT: Manufacturer, model/type, output rating ..... :			See appended table 1.5.1		—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Output	Overload	264	3hrs	-	-	EUT works normally. Stabilization current-5.76A, cut-off current-6.4A. Transformer T1= 120.6°C Ambient=24.6°C

12V output	Short	264	1 hrs 20mins	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 23.7°C
Transformer Pin (1-8)	Short	264	2 hrs 20 mins	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 23.5°C
Transformer Pin (1-11)	Short	264	2 hrs 10mins	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 24.1°C
Transformer Pin (3-8)	Short	264	1 hrs 10mins	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 23.9°C
Transformer Pin (3-11)	Short	264	1hr 15min	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 25.0°C
Transformer Pin (4 – 8)	Short	264	1hr 30min	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 25.2°C
Transformer Pin (4-11)	Short	264	1hr 30min	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 24.1°C
Transformer Pin (8 – 11)	Short	264	1hr 30min	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 24.7°C

IC1 pin (1-2)	Short	264	1hr	-	-	No output observed, EUT shutdown. No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient= 25.6°C
IC1 pin (3-4)	Short	264	1hr 40min	-	-	EUT works normally No abnormal rise in temperature. No hazards found. After the removal of fault EUT continues to operate normally. Ambient=24.3°C
DB1 Pin(1-2)	Short	264	<1sec	-	-	Fuse blown off immediately. No abnormal rise in temperature. No hazards found. This test is repeated for 5 times to check that fuse opened repeatedly. Ambient=24.8°C
C2	Short	264	<1sec	-	-	Fuse blown off immediately. No abnormal rise in temperature. No hazards found. This test is repeated for 5 times to check that fuse opened repeatedly. Ambient=23.9°C
Supplementary information:						

*****END OF TEST REPORT*****

TÜVRheinland®

Attachment – 01

PHOTO DOCUMENTATION

Channel Well Technology (Guangzhou) Co., Ltd

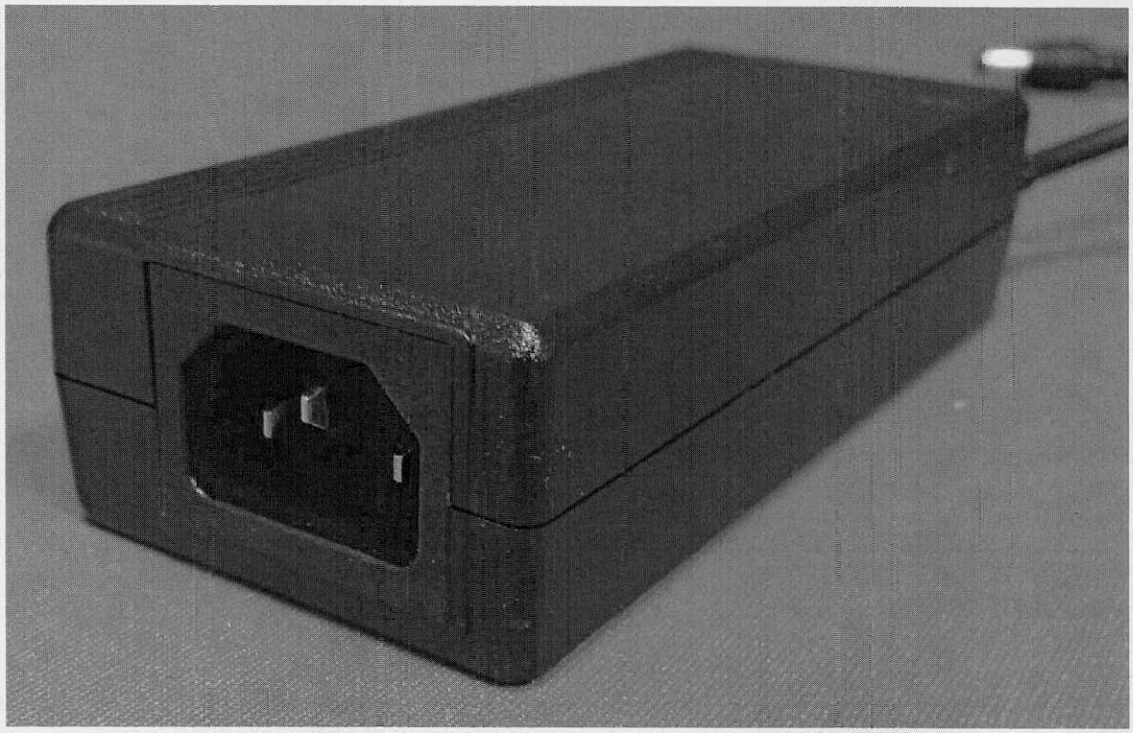
for

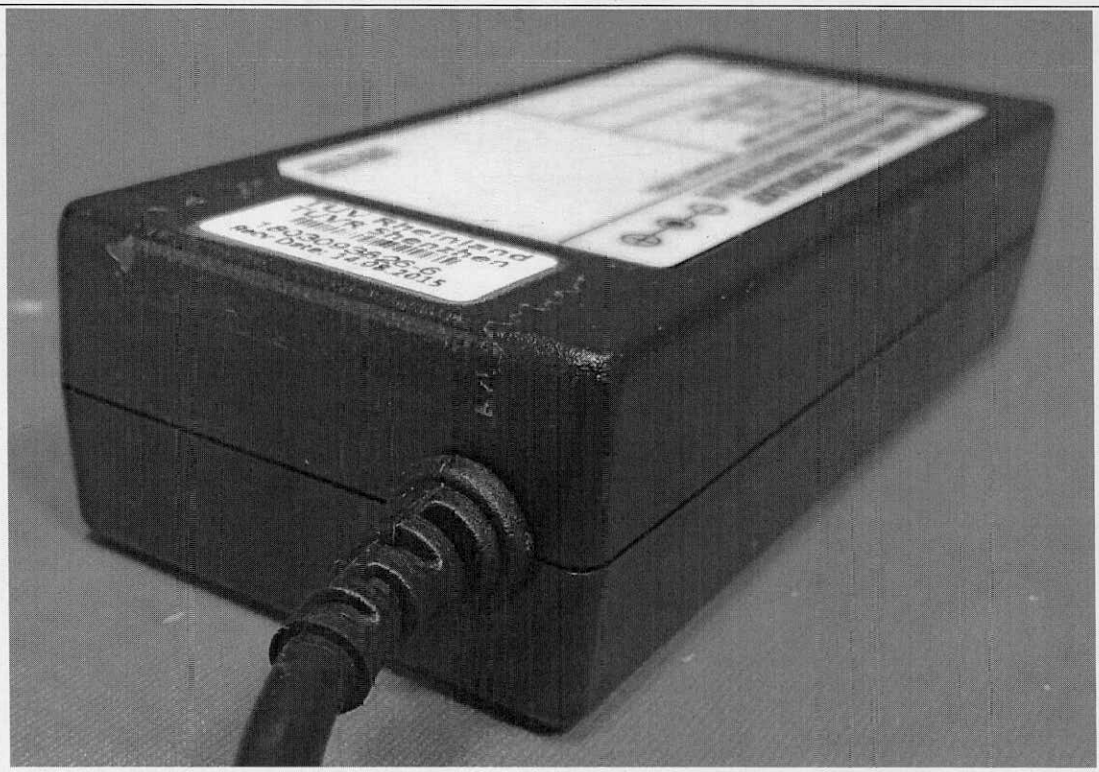
AC ADAPTER (Power Adaptors for IT Equipments)

KPL-040F-VI, KPL-060F-VI, KPL-066F, KPL-066F-VI

This documentation consists of 07 pages (excluding this cover page).

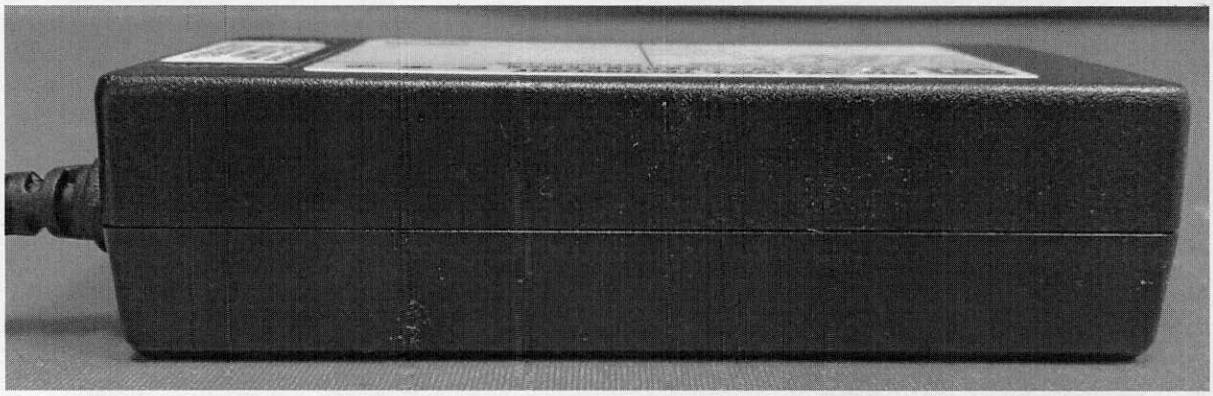
TÜV Rheinland India Pvt. Ltd.,
Products
Approved
TÜV Rheinland India Pvt. Ltd. Bangalore - 560 100



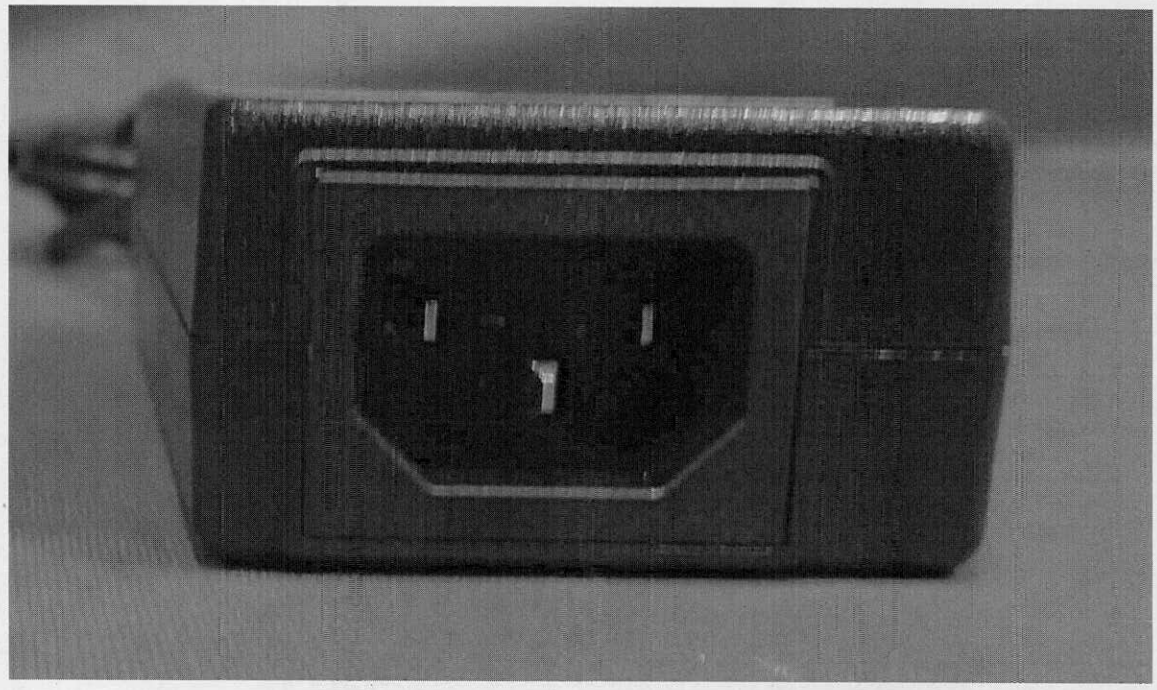


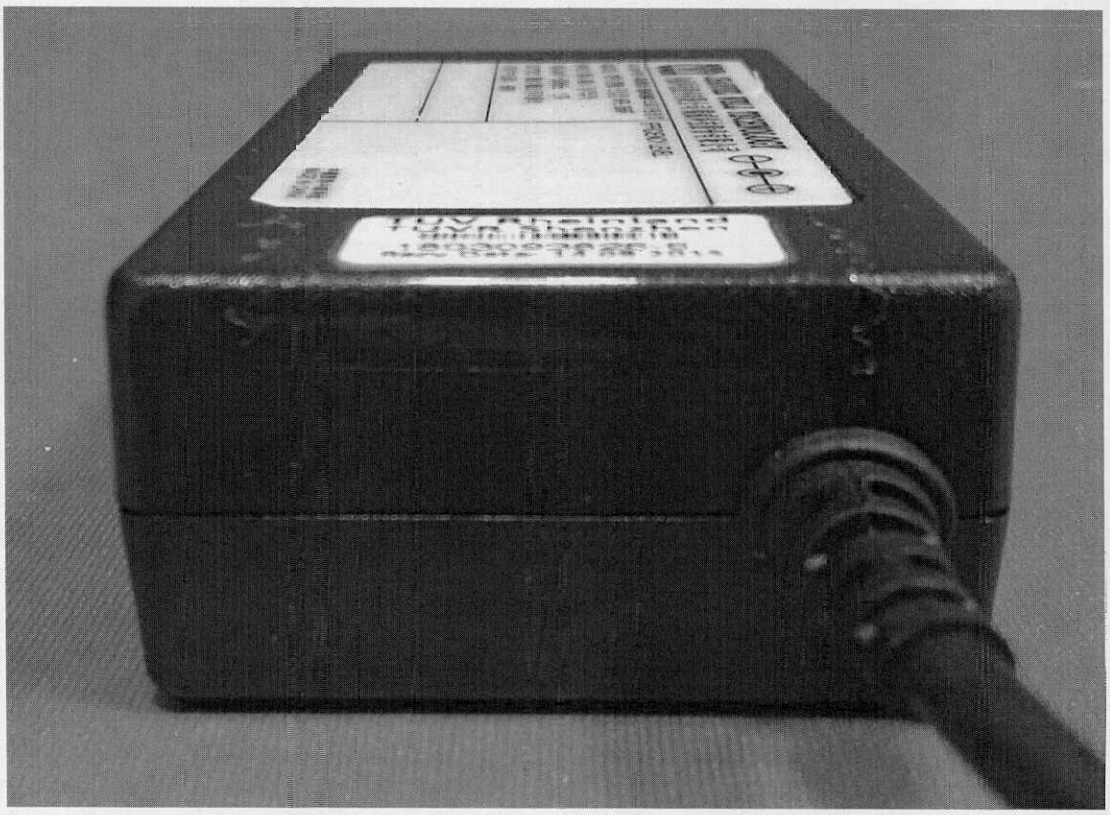
Overall view

TÜVRheinland®



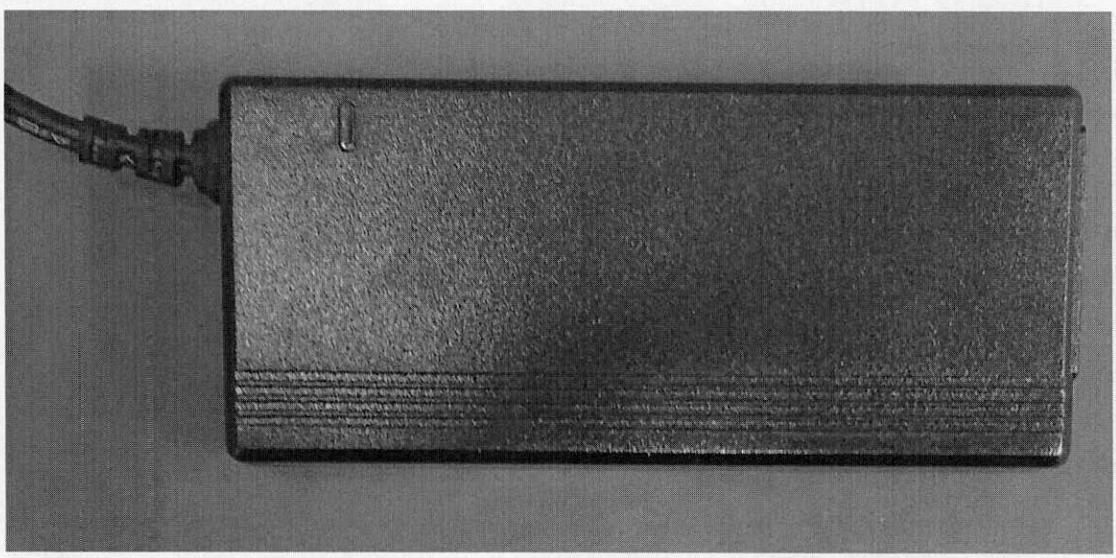
Side View



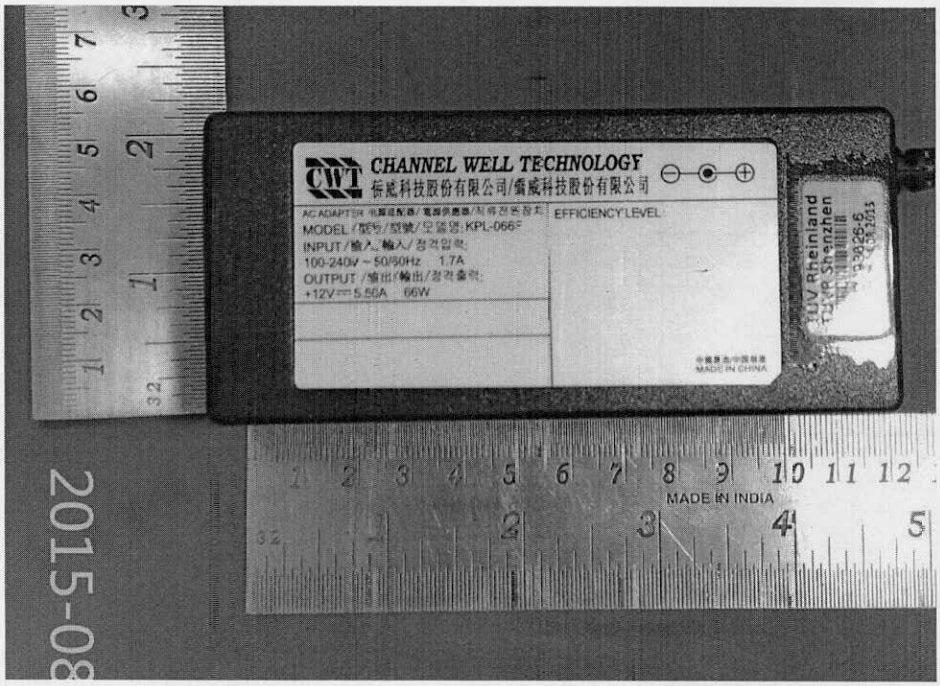


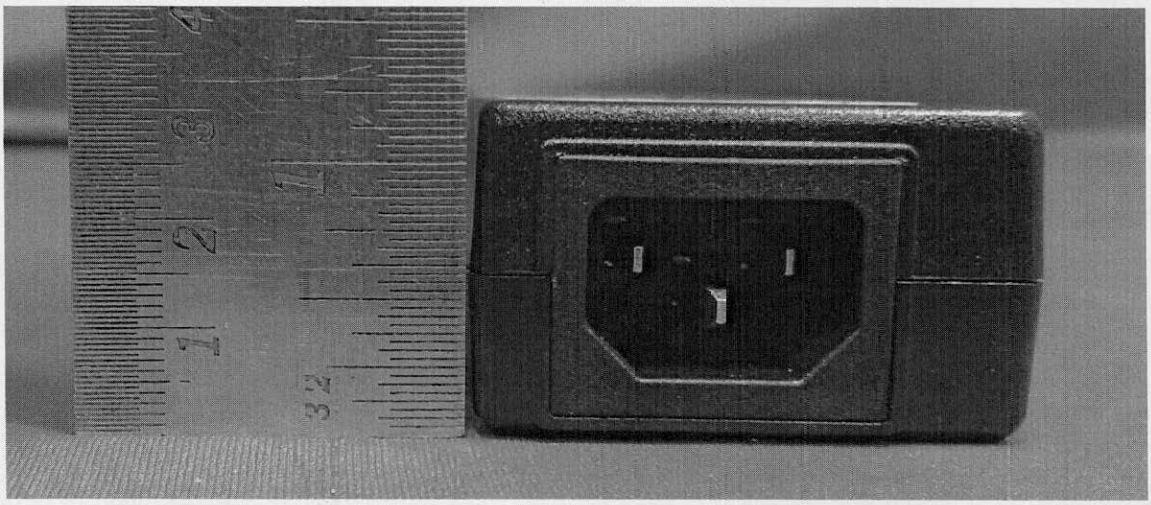
Side View

Top view

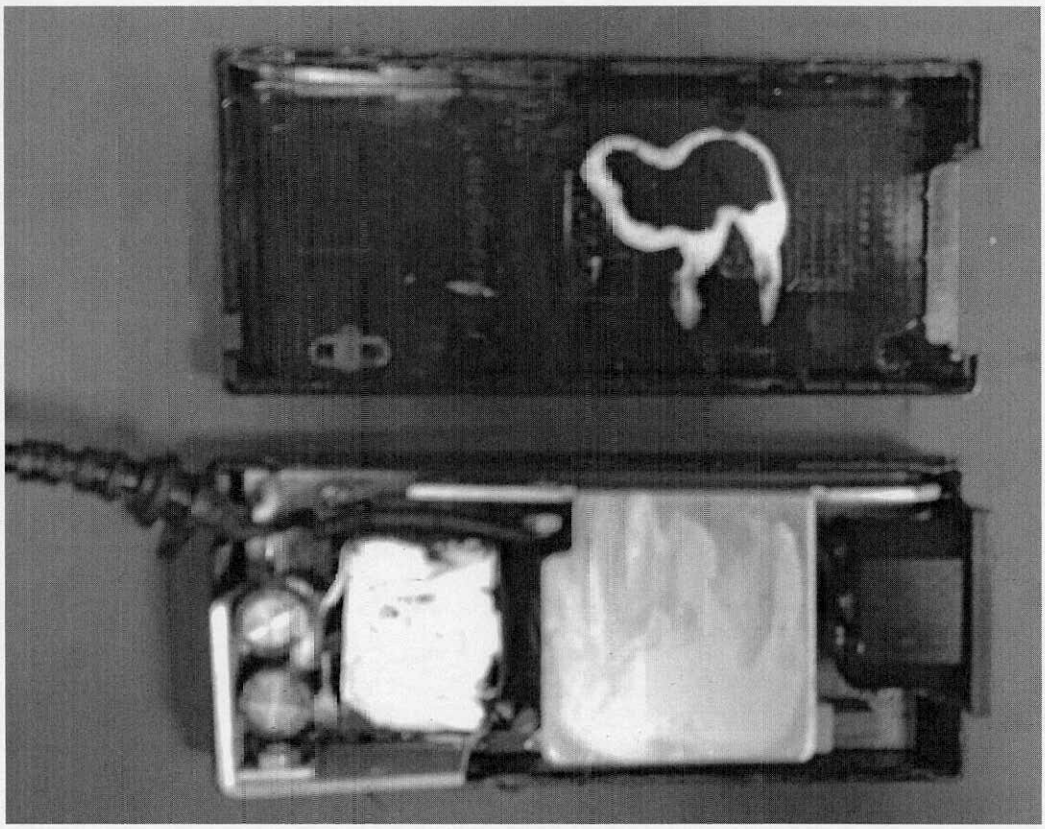


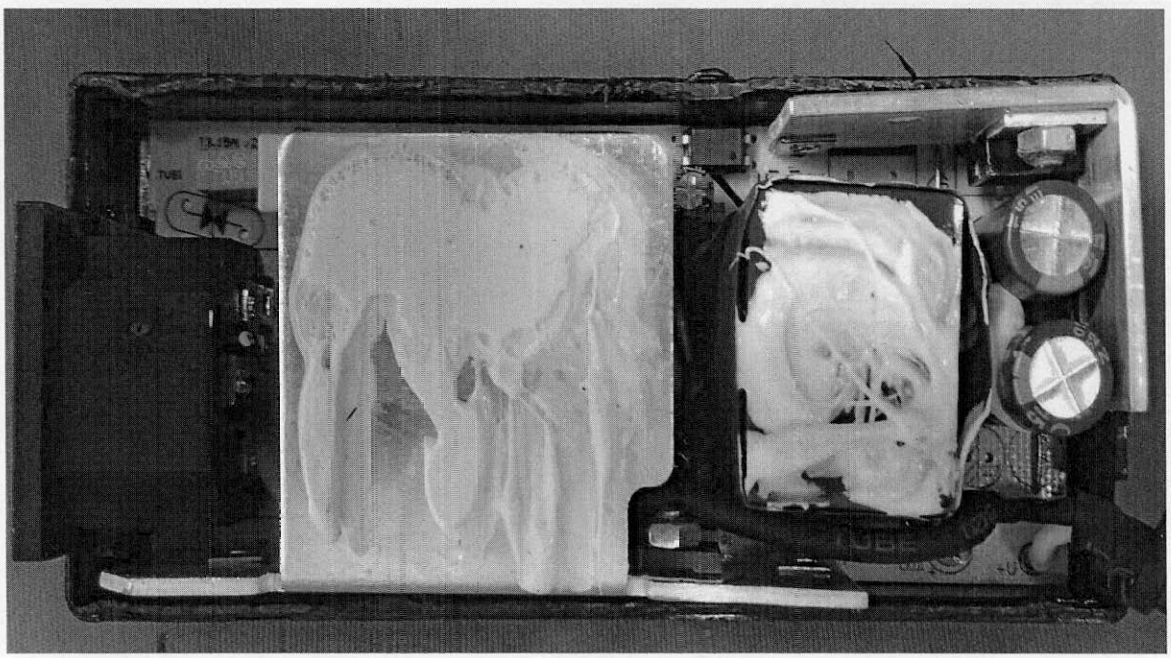
Bottom view



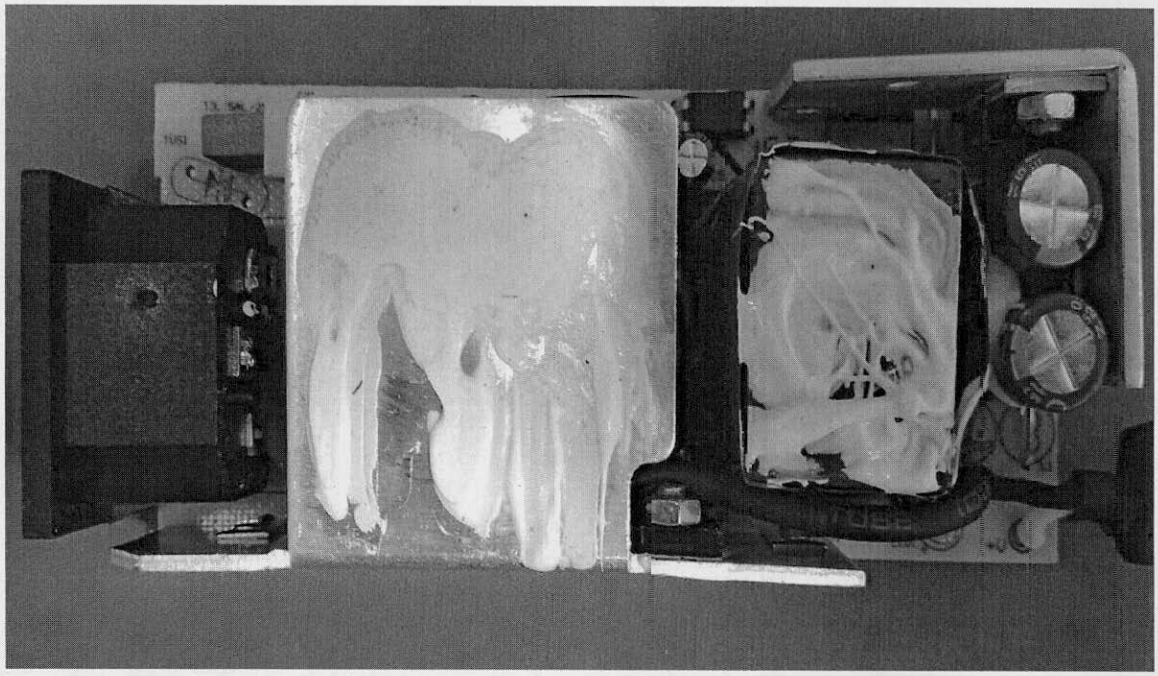


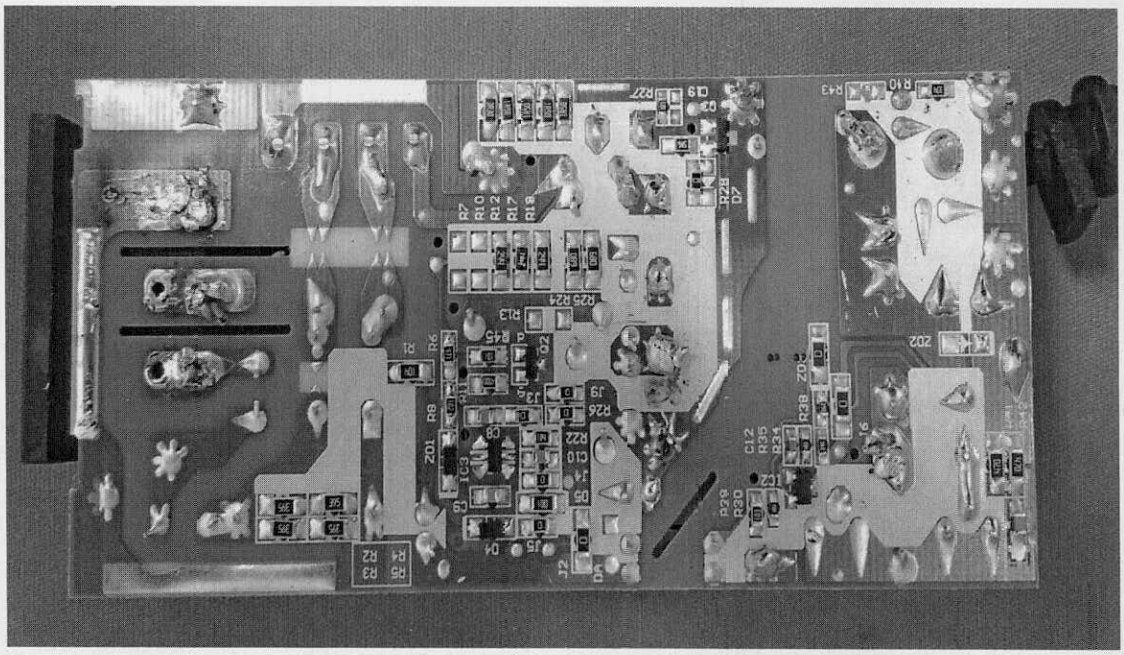
Dimensional view





Innternal Construction





PCB Constructionview

END OF REPORT