TEST REPORT

SUMMARY OF TEST REPORT

TEST REPORT NO: ATH1080052019 DATE: 02/05/2019
ULR: TC550819200000361P

(Number of Pages in Test Report: Page No. 1 to 102)

TEST FORMAT AS PER IS 13252 (Part 1): 2010 + A1: 2013 + A2: 2015/ IEC 60950-1: 2005 + A1:2009 + A2: 2013

1. **Name of the Manufacturer:** VIVOTEK INC.(CHUNG-HO PLANT)
2. **Product:** Network Camera (CCTV Camera)
3. **Model:** IB9387-HT
4. **Model differences provided (if applicable):** N/A
5. **Model differences verified as per MEITY Guidelines for series formulation:** N/A
6. **Test Results:** Refer below

PART A: GENERAL

SL. NO.	TEST REQUIREMENT	TEST CODE	CLAUSE	VERDICT
1.	Components	EL 2100	1.5	P
2.	Power interface	EL 2101	1.6	P
3.	Markings and instructions	EL 2102	1.7	P

PART B: PROTECTION FROM HAZARDS

SL. NO.	TEST REQUIREMENT	TEST CODE	CLAUSE	VERDICT
1.	Protection from electric shock and energy hazards	EL 2103	2.1	P
2.	SELV circuits	EL 2104	2.2	P
3.	TNV circuits	EL 2105	2.3	N/A
4.	Limited current circuits	EL 2106	2.4	N/A
5.	Limited power source	EL 2107	2.5	N/A
6.	Provisions for earthing and bonding	EL 2108	2.6	N/A
7.	Overcurrent and earth fault protection in primary circuits	EL 2109	2.7	N/A
8.	Safety interlocks	EL 2110	2.8	N/A
9.	Electrical insulation	EL 2111	2.9	P
10.	Clearances, creepage distance and distances through insulation	EL 2112	2.10	P

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PART C: WIRING, CONNECTIONS AND PHYSICAL REQUIREMENTS

SL. NO	TEST REQUIREMENT	TEST CODE	CLAUSE	VERDICT
1.	Wiring, connections and supply	EL 2113	3	P
2.	Connection to a mains supply	EL 2114	3.2	N/A
3.	Wiring terminals for connection of external conductors	EL 2115	3.3	N/A
4.	Disconnections from the main supply	EL 2116	3.4	N/A
5.	Interconnection of equipment	EL 2117	3.5	P
6.	Stability	EL 2118	4.1	N/A
7.	Mechanical strength	EL 2119	4.2	P
8.	Design and construction	EL 2120	4.3	P
9.	Protection against hazardous moving parts	EL 2121	4.4	N/A
10.	Thermal requirements	EL 2122	4.5	P
11.	Openings in enclosures	EL 2123	4.6	N/A
12.	Resistance to fire	EL 2124	4.7	P

PART D: ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS

SL. NO.	TEST REQUIREMENT	TEST CODE	CLAUSE	VERDICT
1.	Touch current and protective conductor current	EL 2125	5.1	N/A
2.	Electric strength	EL 2126	5.2	N/A
3.	Abnormal operating and fault conditions	EL 2127	5.3	P

PART E: CONNECTION TO TELECOMMUNICATION NETWORK AND CABLE DISTRIBUTION SYSTEM

SL. NO.	TEST REQUIREMENT	TEST CODE	CLAUSE	VERDICT
1.	Protection of telecommunication network service persons and users of other equipment connected to the network, from hazards in the equipment	EL 2128	6.1	N/A
2.	Protection of equipment users from overvoltages on telecommunication networks	EL 2129	6.2	N/A
3.	Protection of the telecommunication wiring system from overheating	EL 2130	6.3	N/A
4.	Connection to cable distribution systems	EL 2131	7	N/A

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GENERAL INFORMATION:

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

CONCLUSION:

1. Sample meets all relevant requirements of IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015/ IEC 60950-1: 2005 + A1:2009 + A2 : 2013
2. ~~Sample fails to meet the following test requirements.~~

I, hereby undertake that the verdict stated in the test reports for all the test matches with the test results. The sample meets all relevant requirements of IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015/ IEC 60950-1: 2005 + A1:2009 + A2 : 2013/ ~~does not meet the requirements~~. If any deviation found, suitable punitive action may be taken by BIS

Date: 02/05/2019

(Signature of Authorized person with Stamp)

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TEST REPORT

Report No :	**ATH1080052019**	**Issue Date :**	02/05/2019
ULR :	**TC550819200000361P**	**Page 1 of 102**	
Manufacturer :	**VIVOTEK INC.(CHUNG-HO PLANT)** 5F., 5F.-1, 5F.-2, NO.168, LIANCHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN(R.O.C.)		
Test Item :	Network Camera (CCTV Camera)		
Identification :	IB9387-HT	**Serial No. :**	NIL
Receipt No. :	831043397	**Date :**	18/04/2019
Testing Laboratory :	**ALPHA TEST HOUSE (UNIT - 4)** K-28,Udyog Nagar Industrial Area, Peeragarhi, New Delhi -110087 (India)		
Test Specification :	IS 13252 (Part 1): 2010 + A1: 2013+ A2:2015 / IEC 60950-1: 2005 + A1: 2009 +A2:2013		
Test Result :	The test item Passed the test specification		
Other Aspects :	This report consists of 102 pages.		

Tested By	Approved By / Authorized Signatory	Issued By
Test Engineer : MR. PRINSH KUMAR SINGH	**Technical Manager :** MD. SHAHBAZ	**IA :** MR.KAUSHAL KUMAR
Date : 02/05/2019	**Date :** 02/05/2019	**Date :** 02/05/2019

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Report No :	**ATH1080052019**	**Issue Date :** 02/05/2019
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TEST REPORT

IS 13252 (Part 1): 2010 + A1: 2013+ A2: 2015 /
IEC 60950-1: 2005 + A1: 2009 + A2: 2013
Information technology equipment – Safety –
Part 1: General requirements
"CCTV Cameras/CCTV Recorders"

Report Number :	**ATH1080052019**
Date of Issue :	02/05/2019
Total Pages :	102
Manufacturer :	**VIVOTEK INC.(CHUNG-HO PLANT)**
Address :	5F., 5F.-1, 5F.-2, NO.168, LIANCHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN(R.O.C.)
Test Specification :	
Standard :	IS 13252 (Part 1): 2010 + A1: 2013+ A2:2015 / IEC 60950-1: 2005 + A1: 2009 +A2:2013
Test procedure :	Compliance Report
Non standard test method :	N/A
Test Report Form No. :	**BIS_ CCTVC/CCTVR_IS13252_V1.0**
Test Report Form(s) Originator :	Bureau Of Indian Standards
Master TRF :	23/11/2017
Test Item description :	**Network Camera (CCTV Camera)**
Trade Mark :	VIVOTEK
Manufacturer :	VIVOTEK INC.(CHUNG-HO PLANT)
Model/Type reference :	IB9387-HT
Ratings :	Input:12VDC, 0.83A PoE 37-57VDC, 0.33-0.21A
Other Documents submitted :	Please refer to Table - List of Attachment at Page No. 8

Tested By	Approved By / Authorized Signatory	Issued By
Test Engineer : MR. PRINSH KUMAR SINGH	**Technical Manager :** MD. SHAHBAZ	**IA :** MR.KAUSHAL KUMAR
Date : 02/05/2019	**Date :** 02/05/2019	**Date :** 02/05/2019

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

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)	18	04	04	11-12
EL 2101	General Requirements	Power interface (Cl.1.6)	05	02	02	13
EL 2102	Marking Requirements	Marking & instructions(Cl.1.7)	39	16	16	14-16
EL 2103	Electrical safety	Protection from electric shock and energy hazards (Cl.2.1)	14	04	04	17-18
EL 2104	Electrical safety	SELV Circuits (Cl.2.2)	04	04	04	19
EL 2105	Electrical safety	TNV Circuits (Cl.2.3)	12	00	N/A	20
EL 2106	Electrical safety	Limited current circuits (Cl.2.4)	04	00	N/A	21
EL 2107	Electrical safety	Limited Power sources (Cl.2.5)	07	00	N/A	22
EL 2108	Electrical safety	Provisions for earthing and bonding (Cl.2.6)	19	00	N/A	23-24
EL 2109	Electrical safety	Overcurrent and earth fault protection in primary circuits (Cl.2.7)	07	00	N/A	25
EL 2110	Electrical safety	Safety Interlocks (Cl.2.8)	13	00	N/A	26
EL 2111	Electrical safety	Electrical Insulation (Cl.2.9)	05	03	03	27
EL 2112	Electrical safety	Clearances, Creepage distances and distances through insulation (Cl.2.10)	63	04	04	28-31
EL 2113	Wiring	Wiring, connections and supply (Cl.3)	11	05	05	32
EL 2114	Wiring	Connection to a main supply (Cl.3.2)	14	00	N/A	33-34
EL 2115	Wiring	Wiring terminals for connection of external conductors (Cl.3.3)	09	00	N/A	35
EL 2116	Wiring	Disconnection for the main supply (Cl.3.4)	12	00	N/A	36
EL 2117	Wiring	Interconnection of equipment (Cl.3.5)	05	03	03	37
EL 2118	Mechanical properties	Stability (Cl.4.1)	05	00	N/A	38

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EL 2119	Mechanical properties	Mechanical strength (Cl.4.2)	13	04	04	39
EL 2120	Mechanical properties	Design and construction (Cl.4.3)	25	04	04	40-41
EL 2121	Mechanical properties	Protection against hazardous moving parts (Cl.4.4)	14	00	N/A	42
EL 2122	Thermal Properties	Thermal requirements (Cl.4.5)	06	05	05	43
EL 2123	Mechanical properties	Openings in Enclosures (Cl.4.6)	18	00	N/A	44-45
EL 2124	Fire Safety	Resistance to fire (Cl.4.7)	25	08	08	46-50
EL 2125	Insulating properties	Electrical requirements and simulated abnormal conditions(Cl.5),5.1	20	01	01	51-52
EL 2126	Insulating properties	Electric Strength (Cl.5.2)	03	00	N/A	53
EL 2127	Insulating properties	Abnormal operating and fault conditions (Cl.5.3)	11	05	05	54
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	N/A	55-56
EL 2129	Communicating connection	Protection of equipment users from overvoltages on telecommunication networks (Cl.6.2)	06	00	N/A	57
EL 2130	Communicating connection	Protection of the telecommunication wiring system from overheating (Cl.6.3)	05	00	N/A	58-59

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EL 2131	Connection to cable distribution systems	Connection to cable distribution systems (Cl.7)	08	00	N/A	60
EL 2132	Fire safety	Tests for resistance to heat and fire (Annex A)	20	02	02	61-62
EL 2133	Insulating properties	Motor tests under abnormal conditions (Annex B)	19	00	N/A	63-64
EL 2134	Electrical Safety	Transformers (Annex C)	03	00	N/A	65
EL 2135	Insulating properties	Measuring Instruments For Touch-Current Tests (Annex D)	03	00	N/A	66
EL 2136	Thermal Properties	Temperature Rise Of A Winding(Annex E)	01	00	N/A	67
EL 2137	Electrical safety	Measurement Of Clearances And Creepage Distances(Annex F)	01	00	N/A	68
EL 2138	Electrical safety	Alternative Method For Determining Minimum Clearances(Annex G)	17	00	N/A	69-70
EL 2139	Radiation Safety	Ionizing Radiation(Annex H)	01	00	N/A	71
EL 2140	Electrical Safety	Table of electrochemical potentials (Annex J)	01	00	N/A	72
EL 2141	General Requirements	Thermal controls (Annex K)	07	00	N/A	73
EL 2142	General Requirements	Normal load conditions for some types of electrical business equipment (Annex L)	08	02	02	74
EL 2143	Electrical Safety	Criteria for telephone ringing signals (Annex M)	13	00	N/A	75
EL 2144	Electrical safety	Impulse Test Generators(Annex N)	03	00	N/A	76
EL 2145	General Requirements	Normative References(Annex P)	01	00	N/A	77
EL 2146	General Requirements	Voltage dependent resistors (VDRs) (Annex Q)	03	00	N/A	78

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EL 2147	General Requirements	Examples Of Requirements For Quality Control Programmes(Annex R)	03	00	N/A	79
EL 2148	General Requirements	Procedure For Impulse Testing (Annex S)	04	00	N/A	80
EL 2149	Protection against Ingress of water	Guidance On Protection Against Ingress Of Water (Annex T)	01	01	01	81
EL 2150	Wiring	Insulated Winding Wires For Use Without Interleaved Insulation (Annex U)	17	00	N/A	82
EL 2151	Electrical Safety	Ac Power Distribution Systems(Annex V)	05	00	N/A	83
EL 2152	Electrical Safety	Summation Of Touch Currents (Annex W)	08	00	N/A	84
EL 2153	Electrical Safety	Maximum Heating Effect In Transformer Tests(Annex X)	03	00	N/A	85
EL 2154	Radiation safety	Ultraviolet light conditioning test (Annex Y)	05	00	N/A	86
EL 2155	Electrical Safety	Overvoltage Categories (Annex Z)	01	00	N/A	87
EL 2156	Mechanical properties	Mandrel Test(Annex AA)	01	00	N/A	88
EL 2158	Electrical Safety	Evaluation Of Integrated Circuit (IC) Current Limiters (Annex CC)	06	00	N/A	89
EL 2159	Mechanical properties	Requirements For The Mounting Means Of Rack-Mounted Equipment (Annex DD)	04	00	N/A	90
EL 2160	Electrical Safety	Household And Home/Office Document/Media Shredders (Annex EE)	06	00	N/A	91

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

.....

(Approving Authority)

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Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

VIVOTEK

TRADE MARK

COPY OF MARKING PLATE

TEST REPORT

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Discipline: Electronics		Group: IT Equipment

Table – List of Attachments

Attachment No.	Attachment Description	No. of pages in Attachment
Attachment	Photo Document	101-102

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 .....: 18/04/2019

Date(s) of performance of tests .....: 18/04/2019 to 01/05/2019

Laboratory conditions .....:

Ambient Temperature .....: (25±3)°C

Ambient Humidity .....: <70% RH

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Discipline: Electronics		Group: IT Equipment

Test item particulars :	**Network Camera (CCTV Camera)**
Equipment mobility :	☐ movable ☐ hand-held ☐ transportable ☒ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains :	☐ pluggable equipment ☐ 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:SELV
Mains supply tolerance (%) or absolute mains supply values :	N/A
Class of equipment :	☐ Class I ☐ Class II ☒ Class III ☐ Not classified
Considered current rating of protective device as a part of the building installation (A) :	N/A
Pollution degree (PD) :	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class :	IP66
Altitude during operation (m) :	Up to 2000
Altitude of test laboratory (m) :	< 1000
Mass of equipment (kg) :	1.201 kg

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

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Discipline: Electronics		Group: IT Equipment

General product information:

1) Application details / Description of the product:

The Equipment under test is **Network Camera (CCTV Camera)**,

Model Name : **IB9387-HT**

having Input:12V⎓0.83A

PoE 37-57V⎓0.33-0.21A

The manufacturer has declared that the Network Camera (CCTV Camera) is connected to 12Vdc source provided through adapter output and 37Vdc & 57Vdc provided through POE switch or POE Power Adapter. Therefore, The Laboratory has tested the sample by providing corresponding equivalent DC source available in the laboratory to simulate the source.

Max. specified ambient temperature (°C) .....:	50°C
2)Similarities.....:	N/A
3) Differences between the models:	N/A
Model No. tested with-in the family series..:	N/A

4) 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.

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Discipline: Electronics		Group: IT Equipment

Tests relating to General Requirements **EL 2100– V1.0**

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 (See table 1.5.1)	P
1.5.1	General:	EL 2100-01	See below	P
	Components shall be complying with IEC 60950-1 or relevant component standard.		Complied	P
	Components and subassemblies approved for IEC 62368-1 can be considered as complying with this standard			N/A
1.5.2	Evaluation and testing of components	EL 2100-02	Component certified to IEC standards and/or their harmonized standards are used within their ratings (See table 1.5.1)	P
1.5.3	Thermal controls	EL 2100-03	No thermal control used	N/A
1.5.4	Transformers	EL 2100-04	No transformer used	N/A
1.5.5	Interconnecting cables*	EL 2100-05	Suitable internal wires used	P
1.5.6	Capacitors bridging insulation *	EL 2100-06	No such insulation bridged	N/A
1.5.7	Resistors bridging insulation	EL 2100-07	No such insulation bridged	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation*	EL 2100-08	No such insulation bridged	N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	EL 2100-09	No such insulation bridged	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 2100-10	No such circuit	N/A
1.5.8	Components in equipment for IT power distribution systems*	EL 2100-11	Not for IT power distribution system	N/A
1.5.9	Surge suppressors	EL 2100-12	No surge suppressors used	N/A

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Discipline: Electronics		Group: IT Equipment

Tests relating to General Requirements **EL 2100– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
1.5.9.1	General*	EL 2100-13	See above Cl. No.1.5.9	N/A
1.5.9.2	Protection of VDRs*	EL 2100-14	See above Cl. No.1.5.9	N/A
1.5.9.3	Bridging of functional insulation by a VDR*	EL 2100-15	See above Cl. No.1.5.9	N/A
1.5.9.4	Bridging of basic insulation by a VDR*	EL 2100-16	See above Cl. No.1.5.9	N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR*	EL 2100-17	See above Cl. No.1.5.9	N/A

*-Total number of Requirements to be observed / inspected =10

Total No of applicable Requirement = 02

No of Requirements for which the sample passed = 02

Total number of tests to be conducted =08

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/ failing in the requirement tested

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

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Tests relating to Electrical Safety **EL 2101– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
1.6	Power interface*	EL 2101-00	See below	P
1.6.1	AC power distribution systems*	EL 2101-01	Equipment not directly connected to mains	N/A
1.6.2	Input current	EL 2101-02	See table 1.6.2	P
1.6.3	Voltage limit of hand-held equipment*	EL 2101-03	Not a hand held equipment	N/A
1.6.4	Neutral conductor *	EL 2101-04	Class III equipment	N/A

*-Total number of Requirements to be observed / inspected =04

Total No of applicable Requirement =01

No of Requirements for which the sample passed =01

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/ failing in the requirement tested

.....

(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

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Discipline: Electronics		Group: IT Equipment

Tests relating to Marking Requirements **EL 2102– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
1.7	Marking and instructions*	EL 2102-00		P
1.7.1	Power rating and identification markings		See below	P
1.7.1.1	Power rating marking*	EL 2102-01	See below	P
	Rated voltage(s) or voltage ranges(s) (V)*.	EL 2102-02	12V ⎓ 37 - 57V ⎓ (PoE)	P
	Multiple mains supply connections*.	EL 2102-03	Not connected to mains supply	N/A
	Symbol for nature of supply, for d.c. only*:	EL 2102-04	DC symbol ⎓ used	P
	Rated frequency or rated frequency range (Hz) *:	EL 2102-05	DC supply used	N/A
	Rated current (mA or A)*:	EL 2102-06	0.83A (For 12V ⎓) 0.33 - 0.21A (For PoE 37 - 57V ⎓)	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	VIVOTEK	P
	Model identification or type reference *:	EL 2102-09	**IB9387-HT**	P
	Symbol for Class II equipment only* :	EL 2102-10	Class III equipment	N/A
	Other markings and symbols*:	EL 2102-11	Other markings and symbols do not give rise to misunderstandings	P
1.7.1.3	Use of graphical symbols*	EL 2102-12	Graphical symbol used	P
1.7.2	Safety instructions and marking*	EL 2102-13	Instructions manual provided	P
1.7.2.1	General	EL 2102-14	See above	P
1.7.2.2	Disconnect devices*	EL 2102-15	Not directly connected to mains	N/A
1.7.2.3	Overcurrent protective devices*	EL 2102-16	Not directly connected to mains	N/A
1.7.2.4	IT power distribution systems*	EL 2102-17	Not for IT power distribution systems	N/A
1.7.2.5	Operator access with a tool*	EL 2102-18	No tools required	N/A

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Tests relating to Marking Requirements

EL 2102– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
1.7.2.6	Ozone*	EL 2102-19	Equipment does not produce ozone	N/A
1.7.3	Short duty cycles*	EL 2102-20	Equipment intended for Continuous operation	N/A
1.7.4	Supply voltage adjustment*	EL 2102-21	No supply voltage adjustment	N/A
1.7.5	Power outlets on the equipment*	EL 2102-22	No such power outlets	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) Fuse(s) shall clearly and adequately marked with fuse number and rating*.	EL 2102-23		N/A
1.7.7	Wiring terminals	EL 2102-24	See below Cl. No. 1.7.7.1 to 1.7.7.3	N/A
1.7.7.1	Protective earthing and bonding terminals*	EL 2102-25	Not directly connected to mains	N/A
1.7.7.2	Terminals for a.c. mains supply conductors*	EL 2102-26	Not directly connected to mains	N/A
1.7.7.3	Terminals for d.c. mains supply conductors*	EL 2102-27	No DC mains supply	N/A
1.7.8	Controls and indicators	EL 2102-28	See below Cl. No. 1.7.8.1 to 1.7.8.4	P
1.7.8.1	Identification, location and marking *:	EL 2102-29	Functions of controls affecting safety are obvious regardless of language	P
1.7.8.2	Colours*	EL 2102-30	Only functional indication is colored	P
1.7.8.3	Symbols according to IEC 60417*:	EL 2102-31	No such symbol used	N/A
1.7.8.4	Markings using figures* :	EL 2102-32	No figures used	N/A
1.7.9	Isolation of multiple power sources*	EL 2102-33	No multiple power sources	N/A
1.7.10	Thermostats and other regulating devices*	EL 2102-34	No such components	N/A
1.7.11	Durability	EL 2102-35	After the test marking were legible	P
1.7.12	Removable parts*	EL 2102-36	No such removable parts	N/A
1.7.13	Replaceable batteries*	EL 2102-37	Battery not used in equipment	N/A

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Tests relating to Marking Requirements **EL 2102– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
	Language(s)		See above Cl. No. 1.7.13	N/A
1.7.14	Equipment for restricted access locations*	EL 2102-38	Not for restricted access locations	N/A

*-Total number of Requirements to be observed / inspected =35

Total No of applicable Requirement = 13

No of Requirements for which the sample passed = 13

Total number of tests to be conducted =04

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/ failing in the requirement tested

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(Approving Authority)

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Tests relating to Electrical Safety

EL 2103– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.1	Protection from electric shock and energy hazards*	EL 2103-00	See below	P
2.1.1	Protection in operator access areas*	EL 2103-01	Equipment powered by SELV only	P
2.1.1.1	Access to energized parts	EL 2103-02	See above Cl. No. 2.1.1	P
	Test by inspection :		See above Cl. No. 2.1.1	P
	Test with test finger (Figure 2A)		See above Cl. No. 2.1.1	N/A
	Test with test pin (Figure 2B):		See above Cl. No. 2.1.1	N/A
	Test with test probe (Figure 2C)		No TNV circuit	N/A
2.1.1.2	Battery compartments *	EL 2103-03	No any battery compartment	N/A
2.1.1.3	Access to ELV wiring	EL 2103-04	No ELV wiring	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		No ELV wiring	N/A
2.1.1.4	Access to hazardous voltage circuit wiring	EL 2103-05	No hazardous voltage circuit wiring	N/A
2.1.1.5	Energy hazards :	EL 2103-06	Powered by SELV only	P
2.1.1.6	Manual controls	EL 2103-07	No manual controls	N/A
2.1.1.7	Discharge of capacitors in equipment		Class III equipment	N/A
	Measured voltage (V); time-constant (s):	EL 2103-08	See above Cl. No. 2.1.1.7	N/A
2.1.1.8	Energy hazards – d.c. mains supply		No dc mains supply	N/A
	a) Capacitor connected to the d.c. mains supply :	EL 2103-09	See above Cl. No. 2.1.1.8	N/A
	b) Internal battery connected to the d.c. mains supply :	EL 2103-10	See above Cl. No. 2.1.1.8	N/A
2.1.1.9	Audio amplifiers to be tested according to IEC 60065, cl. 9.1.1.:	EL 2103-11	No audio amplifier	N/A
2.1.2	Protection in service access areas	EL 2103-12	Class III equipment	N/A
2.1.3	Protection in restricted access locations	EL 2103-13	Not for restricted access locations	N/A

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*-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	=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/ failing in the requirement tested

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Tests relating to Electrical Safety **EL 2104– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.2	SELV circuits*	EL 2104-00	Class III equipment supplied by SELV only	P
2.2.2	Voltages under normal conditions	EL 2104-01	See above Cl. No. 2.2	P
2.2.3	Voltages under fault conditions	EL 2104-02	See above Cl. No. 2.2	P
2.2.4	Connection of SELV circuits to other circuits* :	EL 2104-03	See above Cl. No. 2.2	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/ failing in the requirement tested

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Tests relating to Electrical Safety **EL 2105– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.3	TNV circuits*	EL 2105-00	No TNV circuits	N/A
2.3.1	Type of TNV circuits: TNV-1 / TNV-2 / TNV-3	EL 2105-01	See above Cl. No. 2.3	N/A
	a) Limits of TNV-1:	EL 2105-02	See above Cl. No. 2.3	N/A
	b) Limits of TNV-2 or TNV-3: Continuous voltages, combination of AC and DC values, are such that : $\frac{U_{ac}}{71} + \frac{U_{dc}}{120} \leq 1$	EL 2105-03	See above Cl. No. 2.3	N/A
2.3.2	Separation from other circuits and from accessible parts*	EL 2105-04	See above Cl. No. 2.3	N/A
2.3.2.1	General Requirements	EL 2105-05	See above Cl. No. 2.3	N/A
2.3.2.2	Protection by basic insulation	EL 2105-06	See above Cl. No. 2.3	N/A
2.3.2.3	Protection by earthing	EL 2105-07	See above Cl. No. 2.3	N/A
2.3.2.4	Protection by other constructions :	EL 2105-08	See above Cl. No. 2.3	N/A
2.3.3	Separation from hazardous voltages	EL 2105-09	See above Cl. No. 2.3	N/A
2.3.4	Connection of TNV circuits to other circuits	EL 2105-10	See above Cl. No. 2.3	N/A
2.3.5	Test for operating voltages generated externally	EL 2105-11	See above Cl. No. 2.3	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 =N/A

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

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

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Tests relating to Electrical Safety **EL 2106– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.4	Limited current circuits *	EL 2106-00	No limited current circuit	N/A
2.4.1	General requirements *	EL 2106-01	See above Cl. No. 2.4	N/A
2.4.2	Limit values	EL 2106-02	See above Cl. No. 2.4	N/A
2.4.3	Connection of limited current circuits to other circuits*	EL 2106-03	See above Cl. No. 2.4	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 =N/A

Total number of tests to be conducted =01

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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Tests relating to Electrical Safety **EL 2107– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.5	Limited power sources *	EL 2107-00	No limited power source	N/A
	a) Inherently limited output	EL 2107-01	See above Cl. No. 2.5	N/A
	b) Impedance limited output	EL 2107-02	See above Cl. No. 2.5	N/A
	c) Regulating network limited output under normal operating and single fault condition Use of integrated circuit (IC) current limiters	EL 2107-03	See above Cl. No. 2.5	N/A
	d) Overcurrent protective device limited output	EL 2107-04	See above Cl. No. 2.5	N/A
	Max. output voltage (V), Max. output current (A), Max. apparent power (VA)	EL 2107-05	See above Cl. No. 2.5	N/A
	Current rating of overcurrent protective device (A)	EL 2107-06	See above Cl. No. 2.5	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 =N/A

Total number of tests to be conducted =06

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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Tests relating to Electrical Safety **EL 2108– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.6	Provisions for earthing and bonding*	EL 2108-00	Class III equipment	N/A
2.6.1	Protective earthing	EL 2108-01	See above Cl. No. 2.6	N/A
2.6.2	Functional earthing : The Functional earthing either separated from hazardous voltages by double or reinforced insulation or by protectively earthed screen or conductive part separated by at least basic insulation, or safely connected to Protective Bonding Conductor.*	EL 2108-02	See above Cl. No. 2.6	N/A
	Use of symbol for functional earthing:*	EL 2108-03	See above Cl. No. 2.6	N/A
2.6.3	Protective earthing and protective bonding conductors*	EL 2108-04	See above Cl. No. 2.6	N/A
2.6.3.2	Size of protective earthing conductors	EL 2108-05	See above Cl. No. 2.6	N/A
	Rated current (A), cross-sectional area (mm2),		See above Cl. No. 2.6	N/A
2.6.3.3	Size of protective bonding conductors	EL 2108-06	See above Cl. No. 2.6	N/A
	Protective current Rating (A), cross-sectional area (mm2)		See above Cl. No. 2.6	N/A
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min):	EL 2108-07	See above Cl. No. 2.6	N/A
2.6.3.5	Colour of insulation*:	EL 2108-08	See above Cl. No. 2.6	N/A
2.6.4	Terminals		See above Cl. No. 2.6	N/A
2.6.4.2	Protective earthing and bonding terminals : Rated current(A), Type, Nominal thread diameter (mm)	EL 2108-09	See above Cl. No. 2.6	N/A
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors*	EL 2108-10	See above Cl. No. 2.6	N/A
2.6.5	Integrity of protective earthing*		See above Cl. No. 2.6	N/A

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2.6.5.1	Interconnection of equipment*	EL 2108-11	See above Cl. No. 2.6	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors*	EL 2108-12	See above Cl. No. 2.6	N/A
2.6.5.3	Disconnection of protective earth*	EL 2108-13	See above Cl. No. 2.6	N/A
2.6.5.4	Parts that can be removed by an operator*	EL 2108-14	See above Cl. No. 2.6	N/A
2.6.5.5	Parts removed during servicing*	EL 2108-15	See above Cl. No. 2.6	N/A
2.6.5.6	Corrosion resistance*	EL 2108-16	See above Cl. No. 2.6	N/A
2.6.5.7	Screws for protective bonding*	EL 2108-17	See above Cl. No. 2.6	N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system*	EL 2108-18	See above Cl. No. 2.6	N/A

*-Total number of Requirements to be observed / inspected =14

Total No of applicable Requirement =00

No of Requirements for which the sample passed =N/A

Total number of tests to be conducted =05

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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Tests relating to Electrical Safety **EL 2109– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.7	Overcurrent and earth fault protection in primary circuits*	EL 2109-00	Class III equipment	N/A
2.7.1	Basic requirements: Protection in primary circuits against overcurrents, short-circuits and earth faults shall be provided, either as an integral part of the equipment or as part of building installation.	EL 2109-01	See above Cl. No. 2.7	N/A
	If pluggable equipment Type B or permanently connected equipment relies on protective device external to the equipment for protection, the equipment installation Instructions shall so state and shall also specify the requirements for short-circuit protection or overcurrent protection or, where necessary, for both.		See above Cl. No. 2.7	N/A
2.7.2	Faults not simulated in 5.3.7* need not be fitted as an integral part of the equipment	EL 2109-02	See above Cl. No. 2.7	N/A
2.7.3	Short-circuit backup protection	EL 2109-03	See above Cl. No. 2.7	N/A
2.7.4	Number and location of protective devices :	EL 2109-04	See above Cl. No. 2.7	N/A
2.7.5	Protection by several devices*	EL 2109-05	See above Cl. No. 2.7	N/A
2.7.6	Warning to service personnel* :	EL 2109-06	See above Cl. No. 2.7	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 =N/A

Total number of tests to be conducted =03
Total No of applicable Tests =00
No. of tests for which the sample passed =N/A

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

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(Approving Authority)

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Tests relating to Electrical Safety **EL 2110– V1.0**

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

Total number of tests to be conducted =10

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

.....

(Approving Authority)

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Tests relating to Electrical Safety **EL 2111– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.9	Electrical insulation*	EL 2111-00	See below	P
2.9.1	Properties of insulating materials*	EL 2111-01	Only functional insulation is part of equipment and complied with Cl. No. 5.3.4c)	P
2.9.2	Humidity conditioning	EL 2111-02	Class III equipment	N/A
	Relative Humidity : 93 ±3 %, Temperature: t at 40 ± 2°C Duration : 120 hours		Class III equipment	N/A
2.9.3	Grade of insulation*	EL 2111-03	Adequate grade of insulation used	P
2.9.4	Separation from hazardous voltages*	EL 2111-04	No hazardous voltage	N/A
	Method(s) used		No hazardous voltage	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 =N/A

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

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(Approving Authority)

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Tests relating to Electrical Safety **EL 2112– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
2.10	Clearances, creepage distances and distances through Insulation*	EL 2112-00	See below	P
2.10.1.1	Frequency *	EL 2112-01		N/A
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	Functional insulation complies with the requirements of Cl. No. 5.3.4(c)	P
2.10.1.4	Intervening unconnected conductive parts	EL 2112-04	No such parts	N/A
2.10.1.5	Insulation with varying dimensions	EL 2112-05	No such insulation	N/A
2.10.1.6	Special separation requirements	EL 2112-06	No such requirements	N/A
2.10.1.7	Insulation in circuits generating starting pulses	EL 2112-07	No such circuits	N/A
2.10.2	Determination of working voltage	EL 2112-08	Class III equipment	N/A
2.10.2.2	RMS working voltage	EL 2112-09	See above Cl. No. 2.10.2	N/A
2.10.2.3	Peak working voltage	EL 2112-10	See above Cl. No. 2.10.2	N/A
2.10.3	Clearances	EL 2112-11	Class III equipment, only functional insulation is part of EUT and complied with Cl. No. 5.3.4c)	N/A
2.10.3.1	General	EL 2112-12		N/A
2.10.3.2	Mains transient voltages*		See below	N/A
	a) AC mains supply * :	EL 2112-13	No directly connected to mains	N/A
	b) Earthed d.c. mains supplies*	EL 2112-14	No dc mains supply	N/A
	c) Unearthed d.c. mains supplies* :	EL 2112-15	No dc mains supply	N/A
	d) Battery operation* :	EL 2112-16	No such battery operation	N/A
2.10.3.3	Clearances in primary circuits	EL 2112-17	Class III equipment	N/A
2.10.3.4	Clearances in secondary circuits	EL 2112-18	See above Cl. No. 2.10.3.3	N/A
2.10.3.5	Clearances in circuits having starting pulses	EL 2112-19	No such circuits	N/A
2.10.3.6	Transients from a.c. mains supply :	EL 2112-20	No directly connected to mains	N/A
2.10.3.7	Transients from d.c. mains supply :	EL 2112-21	No dc mains supply	N/A

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2.10.3.8	Transients from telecommunication networks and cable distribution systems	EL 2112-22	Not telecommunication networks and cable distribution systems	N/A
2.10.3.9	Measurement of transient voltages		Not directly connected to mains	N/A
	a) Transients from a mains supply	EL 2112-23	Not directly connected to mains	N/A
	For an a.c. mains supply		Not directly connected to mains	N/A
	For a d.c. mains supply		Not directly connected to mains	N/A
	b) Transients from a telecommunication network	EL 2112-24	No telecommunication network	N/A
2.10.4	Creepage distances*	EL 2112-25	Class III equipment, only functional insulation is part of EUT and complied with Cl. No. 5.3.4c)	N/A
2.10.4.1	General	EL 2112-26	See above Cl. No. 2.10.4	N/A
2.10.4.2	Material group and comparative tracking index : CTI tests*	EL 2112-27	See above Cl. No. 2.10.4	N/A
2.10.4.3	Minimum creepage distances	EL 2112-28	See above Cl. No. 2.10.4	N/A
2.10.5	Solid insulation	EL 2112-29	No such insulations	N/A
2.10.5.1	General	EL 2112-30	No such insulations	N/A
2.10.5.2	Distances through insulation	EL 2112-31	No such insulations	N/A
2.10.5.3	Insulating compound as solid insulation	EL 2112-32	No such insulations	N/A
2.10.5.4	Semiconductor devices	EL 2112-33		N/A
2.10.5.5.	Cemented joints	EL 2112-34	No cemented joints	N/A
2.10.5.6	Thin sheet material – General	EL 2112-35	No thin sheet material used	N/A
2.10.5.7	Separable thin sheet material	EL 2112-36	See above Cl. No. 2.10.5.6	N/A
2.10.5.8	Non-separable thin sheet material	EL 2112-37	See above Cl. No. 2.10.5.6	N/A
2.10.5.9	Thin sheet material – standard test procedure	EL 2112-38	See above Cl. No. 2.10.5.6	N/A
	Electric strength test as per Cl.5.2.2		See above Cl. No. 2.10.5.6	N/A
2.10.5.10	Thin sheet material – alternative test procedure	EL 2112-39	See above Cl. No. 2.10.5.6	N/A
	Electric strength test as per Cl.5.2.2		See above Cl. No. 2.10.5.6	N/A
2.10.5.11	Insulation in wound components	EL 2112-40	No wound components	N/A
2.10.5.12	Wire in wound components		See above Cl. No. 2.10.5.11	N/A

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	If Peak Working voltage >71 V		See above Cl. No. 2.10.5.11	N/A
	a) Basic insulation not under stress	EL 2112-41	See above Cl. No. 2.10.5.11	N/A
	b) Basic, supplementary, reinforced insulation	EL 2112-42	See above Cl. No. 2.10.5.11	N/A
	c) Compliance with Annex U	EL 2112-43		N/A
	d) Where two winding wires in contact inside wound component; angle between 45° and 90°	EL 2112-44	See above Cl. No. 2.10.5.11	N/A
2.10.5.13	Wire with solvent-based enamel in wound components		See above Cl. No. 2.10.5.11	N/A
	a) Electric strength test (Type test as per Cl.5.2.2)	EL 2112-45	See above Cl. No. 2.10.5.11	N/A
	b) Electric Strength test (Routine test as per Cl.5.2.2)	EL 2112-46	See above Cl. No. 2.10.5.11	N/A
2.10.5.14	Additional insulation in wound components		See above Cl. No. 2.10.5.11	N/A
	If Peak Working Voltage >71V		See above Cl. No. 2.10.5.11	N/A
	a) Basic insulation not under stress	EL 2112-47	See above Cl. No. 2.10.5.11	N/A
	b) Supplementary, reinforced insulation	EL 2112-48	See above Cl. No. 2.10.5.11	N/A
2.10.6	Construction of printed boards*		See below	P
2.10.6.1	Uncoated printed boards	EL 2112-49	Certified Uncoated printed boards used	P
2.10.6.2	Coated printed boards	EL 2112-50	Not used	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	EL 2112-51	No such construction	N/A
2.10.6.4	Insulation between conductors on different surfaces of a printed board*		See above Cl. No. 2.10.6.3	N/A
	a) Minimum Thickness of insulation: 0.4mm or	EL 2112-52	See above Cl. No. 2.10.6.3	N/A
	b) Confirm with one of the specification and pass the relevant tests as per Table 2R	EL 2112-53	See above Cl. No. 2.10.6.3	N/A
2.10.7	Component external terminations	EL 2112-54	No such construction	N/A

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2.10.8	Tests on coated printed boards and coated components		Uncoated printed boards used	N/A
2.10.8.1	Sample preparation and preliminary inspection*	EL 2112-55	See above Cl. No. 2.10.8	N/A
2.10.8.2	Thermal conditioning	EL 2112-56	See above Cl. No. 2.10.8	N/A
2.10.8.3	Electric strength test	EL 2112-57	See above Cl. No. 2.10.8	N/A
2.10.8.4	Abrasion resistance test	EL 2112-58	See above Cl. No. 2.10.8	N/A
2.10.9	Thermal cycling	EL 2112-59	Class III equipment	N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	EL 2112-60	Pollution degree 2	N/A
2.10.11	Tests for semiconductor devices and cemented joints	EL 2112-61		N/A
2.10.12	Enclosed and sealed parts	EL 2112-62	No such parts	N/A

*-Total number of Requirements to be observed / inspected =10

Total No of applicable Requirement =02

No of Requirements for which the sample passed =02

Total number of tests to be conducted =53

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/ failing in the requirement tested

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Tests relating to Wiring **EL 2113– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
3.0	Wiring, connections and supply*	EL 2113-00	See below	P
3.1.1	Current rating and overcurrent protection	EL 2113-01	Adequate cross sectional area used for internal wires and interconnecting cables	P
3.1.2	Protection against mechanical damage*	EL 2113-02	Wire ways are smooth and free from sharp edges	P
3.1.3	Securing of internal wiring*	EL 2113-03	Internal wirings are well secured by proper means	P
3.1.4	Insulation of conductors	EL 2113-04		P
3.1.5	Beads and ceramic insulators	EL 2113-05	Beads and ceramic insulators are not used	N/A
3.1.6	Screws for electrical contact pressure*	EL 2113-06	No such screws used	N/A
3.1.7	Insulating materials in electrical connections*	EL 2113-07	No insulating material in electrical connection	N/A
3.1.8	Self-tapping and spaced thread screws*	EL 2113-08	No such screws used	N/A
3.1.9	Termination of conductors ; 10 N pull test	EL 2113-09		N/A
3.1.10	Sleeving on wiring*	EL 2113-10	No sleeving used	N/A

*-Total number of Requirements to be observed / inspected =07
Total No of applicable Requirement =03
No of Requirements for which the sample passed =03

Total number of tests to be conducted =04
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/ failing in the requirement tested

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Tests relating to Wiring **EL 2114– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
3.2	Connection to a mains supply*	EL 2114-00		N/A
3.2.1	Means of connection		See below	N/A
3.2.1.1	Connection to an a.c. mains supply*	EL 2114-01	Equipment not directly connected to mains	N/A
	As per IS 13252 (Part 1): 2010 Cl.No.3.2.1.1, Note: It is a legal requirement to provide a plug that complies with the national wiring rules			N/A
3.2.1.2	Connection to a d.c. mains supply*	EL 2114-02	No dc mains supply	N/A
3.2.2	Multiple supply connections	EL 2114-03	No multiple supply connections	N/A
3.2.3	Permanently connected equipment	EL 2114-04	Not a permanently connected equipment	N/A
3.2.4	Appliance inlets: Are so Located that parts at hazardous voltage are not accessible during insertion or removal of the connector, connector can be inserted without difficulty and after insertion of the connector, the equipment is not supported by the connector for any position of normal use on a flat surface (appliance inlets complying with IEC 60309 or IEC 60320 considered to comply with this requirement.	EL 2114-05	Appliance inlets not used	N/A
3.2.5	Power supply cords		Power supply cords not used	N/A
3.2.5.1	AC power supply cords*	EL 2114-06		N/A
	Rated current (A), cross-sectional area (mm²), AWG			N/A
3.2.5.2	DC power supply cords*	EL 2114-07	See above Cl. No. 3.2.5	N/A
3.2.6	Cord anchorages and strain relief		See above Cl. No. 3.2.5	N/A

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	Mass of the equipment: Pull Force (N):	EL 2114-08	See above Cl. No. 3.2.5	N/A
	b) Longitudinal displacement: 2 mm (Max)	EL 2114-09	See above Cl. No. 3.2.5	N/A
3.2.7	Protection against mechanical damage	EL 2114-10	See above Cl. No. 3.2.5	N/A
3.2.8	Cord guards		See above Cl. No. 3.2.5	N/A
	a) Diameter or minor dimension D (mm) : Test mass (g) :	EL 2114-11	See above Cl. No. 3.2.5	N/A
	b) Radius of curvature of cord : 1.5 D (Min)	EL 2114-12	See above Cl. No. 3.2.5	N/A
3.2.9	Supply wiring space	EL 2114-13	See above Cl. No. 3.2.5	N/A

*-Total number of Requirements to be observed / inspected =05

Total No of applicable Requirement =00

No of Requirements for which the sample passed =N/A

Total number of tests to be conducted =09

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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Tests relating to Wiring **EL 2115– V1.0**

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

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

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

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Tests relating to Wiring **EL 2116– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
3.4	Disconnection from the mains supply*	EL 2116-00	Not directly connected to mains	N/A
3.4.1	General Requirement A disconnect device or devices shall be provided to disconnect the equipment from the mains supply for servicing.	EL 2116-01	See above Cl. No. 3.4	N/A
3.4.2	Disconnect devices*	EL 2116-02	See above Cl. No. 3.4	N/A
3.4.3	Permanently connected equipment*	EL 2116-03	See above Cl. No. 3.4	N/A
3.4.4	Parts which remain energized*	EL 2116-04	See above Cl. No. 3.4	N/A
3.4.5	Switches in flexible cords*	EL 2116-05	See above Cl. No. 3.4	N/A
3.4.6	Number of poles - single-phase and d.c. equipment*	EL 2116-06	See above Cl. No. 3.4	N/A
3.4.7	Number of poles - three-phase equipment*	EL 2116-07	See above Cl. No. 3.4	N/A
3.4.8	Switches as disconnect devices*	EL 2116-08	See above Cl. No. 3.4	N/A
3.4.9	Plugs as disconnect devices*	EL 2116-09	See above Cl. No. 3.4	N/A
3.4.10	Interconnected equipment*	EL 2116-10	See above Cl. No. 3.4	N/A
3.4.11	Multiple power sources*	EL 2116-11	See above Cl. No. 3.4	N/A

*-Total number of Requirements to be observed / inspected =11
Total No of applicable Requirement =00
No of Requirements for which the sample passed =N/A

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

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

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Tests relating to Wiring **EL 2117– V1.0**

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

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

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Tests relating to Mechanical Properties

EL 2118– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4	PHYSICAL REQUIREMENTS*	EL 2118-00		P
4.1	Stability	EL 2118-01	See 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. Alternatively, the unit is placed in its intended position of use on a plane, inclined at an angle of 10° to the horizontal, and then rotated slowly through an angle of 360° about its normal vertical axis.	EL 2118-02	Mass<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 equipment	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 equipment	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 =N/A

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

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Tests relating to Mechanical Properties

EL 2119– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.2	Mechanical Strength	EL 2119-00		P
4.2.1	General	EL 2119-01	See below	P
4.2.2	Steady force test, 10 N	EL 2119-02	No such parts	N/A
4.2.3	Steady force test, 30 N	EL 2119-03	No such parts	N/A
4.2.4	Steady force test, 250 N	EL 2119-04	Force applied on the enclosure. No safety relevant damage occurred	P
4.2.5	Impact test	EL 2119-05	No such equipment	N/A
	a) Fall test as per Fig. 4A	EL 2119-06	See above Cl. No. 4.2.5	N/A
	b) Swing test as per Fig. 4A	EL 2119-07	See above Cl. No. 4.2.5	N/A
4.2.6	Drop test; height (mm) :	EL 2119-08	No such equipment	N/A
4.2.7	Stress relief test	EL 2119-09	Metal enclosure used	N/A
4.2.8	Cathode Ray Tubes	EL 2119-10		N/A
4.2.9	High Pressure Lamps*	EL 2119-11	No such lamps used	N/A
4.2.10	Wall or ceiling mounted equipment; force(N)	EL 2119-12	After test no any damage occurred to equipment and mounting plate	P

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

Total number of tests to be conducted =12
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/ failing in the requirement tested

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Tests relating to Mechanical Properties

EL 2120– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.3	Design and Construction*	EL 2120-00	See below	P
4.3.1	Edges and corners*	EL 2120-01	All edges or corners accessible to operators are rounded and smoothed	P
4.3.2	Handles and manual controls; force (N)	EL 2120-02	Handles and manual controls are not used	N/A
4.3.3	Adjustable controls	EL 2120-03	No such controls used	N/A
4.3.4	Securing of parts	EL 2120-04	Parts are well secured against mechanical stress occurring in normal use	P
4.3.5	Connections by Plugs and Sockets*	EL 2120-05	Plugs and sockets not used	N/A
4.3.6	Direct plug-in equipment	EL 2120-06	No direct plug in equipment	N/A
	Torque	EL 2120-07	See above Cl. No. 4.3.6	N/A
	Compliance with the relevant mains plug standard	EL 2120-08	See above Cl. No. 4.3.6	N/A
4.3.7	Heating elements in earthed equipment*	EL 2120-09	No heating elements	N/A
4.3.8	Batteries Portable secondary sealed cells and batteries (other than button) containing alkaline or other non-acid electrolyte shall comply with IEC 62133			N/A
	a) Overcharging of a rechargeable battery	EL 2120-10		N/A
	b) Unintentional charging of a non-rechargeable battery	EL 2120-11		N/A
	c) Reverse charging of a rechargeable battery	EL 2120-12		N/A
	d) Excessive discharging rate for any battery	EL 2120-13		N/A
	e) Electric strength as per Cl.5.3.9.2	EL 2120-14		N/A
4.3.9	Oil & grease*	EL 2120-15	Oil and grease not used	N/A
4.3.10	Dust, powders, liquids and gases	EL 2120-16	Equipment neither use nor produce them	N/A

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4.3.11	Containers for liquids or gases	EL 2120-17	No liquid or gases	N/A
4.3.12	Flammable liquids	EL 2120-18		N/A
4.3.13	Radiation		See below Cl. No.4.3.13.5.1 to 4.3.13.5.2	P
4.3.13.2	Ionizing radiation	EL 2120-19		N/A
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	EL 2120-20		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	EL 2120-21		N/A
4.3.13.5	Lasers (including laser diodes) and LED's:		See below Cl.No.4.3.13.5.2	P
4.3.13.5.1	Lasers (including laser diodes) For laser see IEC 60825-1, respective part as applicable.	EL 2120-22	Lasers not used	N/A
	Laser class		See above Cl. No. 4.3.13.5.1	N/A
4.3.13.5.2	Light emitting diodes (LED's)	EL 2120-23	Low power LED's are used as indicator	P
4.3.13.6	Other types*	EL 2120-24	No other radiation	N/A

*-Total number of Requirements to be observed / inspected =06

Total No of applicable Requirement =02

No of Requirements for which the sample passed =02

Total number of tests to be conducted =19

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/ failing in the requirement tested

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(Approving Authority)

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Tests relating to Mechanical Properties

EL 2121– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.4	Protection against hazardous moving parts	EL 2121-00	No moving parts	N/A
4.4.1	General	EL 2121-01	See above Cl. No. 4.4	N/A
4.4.2	Protection in operator access areas	EL 2121-02	See above Cl. No. 4.4	N/A
4.4.3	Protection in restricted access locations *	EL 2121-03	See above Cl. No. 4.4	N/A
4.4.4	Protection in service access areas*	EL 2121-04	See above Cl. No. 4.4	N/A
4.4.5	Protection against moving fan blades	EL 2121-05	See above Cl. No. 4.4	N/A
4.4.5.1	General*	EL 2121-06	See above Cl. No. 4.4	N/A
	Not considered likely to cause pain or injury. a)……:	EL 2121-07	See above Cl. No. 4.4	N/A
	Is considered likely to cause pain, not injury. b)	EL 2121-08	See above Cl. No. 4.4	N/A
	Considered likely to cause injury. c)……:	EL 2121-09	See above Cl. No. 4.4	N/A
4.4.5.2	Protection for users*	EL 2121-10	See above Cl. No. 4.4	N/A
	Use of symbol or warning*	EL 2121-11	See above Cl. No. 4.4	N/A
4.4.5.3	Protection for service persons*	EL 2121-12	See above Cl. No. 4.4	N/A
	Use of symbol or warning *	EL 2121-13	See above Cl. No. 4.4	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 =N/A

Total number of tests to be conducted =07
Total No of applicable Tests =00
No. of tests for which the sample passed =N/A

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

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Tests relating to Thermal Properties **EL 2122– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.5	Thermal Requirements*	EL 2122-00	See table 4.5	P
4.5.1	General	EL 2122-01	See table 4.5	P
4.5.2	Temperature tests	EL 2122-02	See table 4.5	P
4.5.3	Temperature limits for materials*	EL 2122-03	See table 4.5	P
4.5.4	Touch temperature limits*	EL 2122-04	See table 4.5	P
4.5.5	Resistance to abnormal heat	EL 2122-05	No thermoplastic parts at hazardous voltages	N/A

*-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 =03
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/ failing in the requirement tested

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Tests relating to Mechanical Properties **EL 2123– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.6	Openings in enclosures*	EL 2123-00	See below	N/A
4.6.1	Top and side openings	EL 2123-01	No any opening in enclosure	N/A
	Dimensions (mm) :		See above	N/A
4.6.2	Bottoms of fire enclosures :	EL 2123-02		N/A
	Construction of the bottom, dimensions (mm) :			N/A
4.6.3	Doors or covers in fire enclosures*	EL 2123-03	Doors and covers not used	N/A
4.6.4	Openings in transportable equipment	EL 2123-04	No such openings	N/A
4.6.4.1	Constructional design measures	EL 2123-05	No such openings	N/A
	Dimensions (mm)		No such openings	N/A
4.6.4.2	Evaluation measures for larger openings	EL 2123-06	No such openings	N/A
4.6.4.3	Use of metallized parts	EL 2123-07		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 2123-08	No adhesives used	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 2123-09	See above Cl. No. 4.6.5	N/A
	After temperature conditioning b) Leave the sample between 20°C to 30°C for 1 hour	EL 2123-10	See above Cl. No. 4.6.5	N/A
	c) Place the sample at - 40°C±2°C for 4 hours	EL 2123-11	See above Cl. No. 4.6.5	N/A

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	d) Remove and allow the sample to come to any convenient temperature between 20 °C and 30 °C for 8 h;	EL 2123-12	See above Cl. No. 4.6.5	N/A
	e) Place the sample in a cabinet at 91 % to 95 % relative humidity for 72 h;	EL 2123-13	See above Cl. No. 4.6.5	N/A
	f) Remove the sample and leave it at any convenient temperature between 20 °C and 30 °C for 1 h;	EL 2123-14	See above Cl. No. 4.6.5	N/A
	g) Place the sample in an oven at the temperature used for the temperature conditioning for 4 h;	EL 2123-15	See above Cl. No. 4.6.5	N/A
	h) Remove the sample and allow it to reach any convenient temperature between 20 °C; and 30 °C for 8 h.	EL 2123-16	See above Cl. No. 4.6.5	N/A
	i) The sample is then immediately subjected to the tests of Cl.4.2 as applicable.	EL 2123-17	See above Cl. No. 4.6.5	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 =N/A

Total number of tests to be conducted =16
Total No of applicable Tests =00
No. of tests for which the sample passed =N/A

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

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Tests relating to Fire Safety

EL 2124– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
4.7	Resistance to fire*	EL 2124-00		P
4.7.1	Reducing the risk of ignition and spread of flame		See below	P
	Method 1, selection and application of components wiring and materials OR	EL 2124-01	Method 1 used (See table 1.5.1)	P
	Method 2, application of all of simulated fault condition tests	EL 2124-02	Method 2 not used	N/A
4.7.2	Conditions for a fire enclosure*		Certified materials used (See table 1.5.1)	P
4.7.2.1	Parts requiring a fire enclosure*	EL 2124-03	Class III equipment powered by SELV only	P
4.7.2.2	Parts not requiring a fire enclosure	EL 2124-04		N/A
4.7.3	Materials*	EL 2124-05	See below Cl. No. 4.7.3.1	P
4.7.3.1	General*	EL 2124-06	Certified materials used (See table 1.5.1)	P
	a)Class of material used*	EL 2124-07	Certified materials used (See 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 2124-08	No such class of material 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 2124-09	certified material used (see table 1.5.1)	P
4.7.3.2	Materials for fire enclosures			N/A

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	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 2124-10		N/A
	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 2124-11		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 2124-12		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 2124-13		N/A

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	e)Plastic materials of a FIRE ENCLOSURE located less than 13mm through air from non-arcing parts which, under any condition of normal or abnormal operation,could attain a temperature sufficient to ignite the material, shall be capable of passing the test of IEC 60695-2-20. The average time to ignition of the samples shall be not less than 15sec. If the sample melts through without igniting, the time at which this occurs is not considered to be the time to ignition.	EL 2124-14		N/A
4.7.3.3	Materials for components and other parts outside fire enclosures *		No such construction and other parts outside fire enclosure	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 2124-15	See above Cl. No. 4.7.3.3	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 2124-16	See above Cl. No. 4.7.3.3	N/A

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4.7.3.4	Materials for components and other parts inside fire enclosures		See below	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 2124-17	Certified materials used (See table 1.5.1)	P
	Requirements for voltage dependent resistors (VDR's) are in Annex Q.*	EL 2124-18	No VDR used	N/A
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 2124-19	Air filter assemblies not used	N/A
4.7.3.6	Materials used in high-voltage components		No such components used	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 2124-20	See above Cl. No. 4.7.3.6	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 2124-21	See above Cl. No. 4.7.3.6	N/A

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	c) In addition to above, the following details apply, referring to clauses of IEC 60695-11-5: Clause 7 - Severities	EL 2124-22	See above Cl. No. 4.7.3.6	N/A
	Clause 8 - Conditioning	EL 2124-23	See above Cl. No. 4.7.3.6	N/A
	Clause 11 - Evaluation of test results	EL 2124-24	See above Cl. No. 4.7.3.6	N/A

*-Total number of Requirements to be observed / inspected =07

Total No of applicable Requirement =05

No of Requirements for which the sample passed =05

Total number of tests to be conducted =18

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/ failing in the requirement tested

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Tests relating to Insulating Properties

EL 2125– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
5.0	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS*	EL 2125-00		P
5.1	Touch current and protective conductor current*	EL 2125-01	Class III equipment	N/A
5.1.2	Configuration of equipment under test (EUT)*	EL 2125-02	See above Cl. No. 5.1	N/A
5.1.2.1	Single connection to an a.c. mains supply*	EL 2125-03	See above Cl. No. 5.1	N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply*	EL 2125-04	See above Cl. No. 5.1	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	EL 2125-05	See above Cl. No. 5.1	N/A
5.1.3	Test circuit	EL 2125-06	See above Cl. No. 5.1	N/A
5.1.4	Application of measuring instrument	EL 2125-07	See above Cl. No. 5.1	N/A
5.1.5	Test procedure	EL 2125-08	See above Cl. No. 5.1	N/A
5.1.6	Test measurements		See above Cl. No. 5.1	N/A
	a) r.m.s value of voltage, U2 measured using the instrument as per Fig. D.1 or r.m.s value of current measured using the instrument as per Fig. D.2 Alternatively, peak value of voltage, U2, is measured using the measuring instrument described in Clause D.1	EL 2125-09	See above Cl. No. 5.1	N/A
	b) Measured touch current (mA):	EL 2125-10	See above Cl. No. 5.1	N/A
	c) Calculated value of TOUCH CURRENT (mA) = U2 / 500	EL 2125-11	See above Cl. No. 5.1	N/A
	d) Measured protective conductor current(mA)	EL 2125-12	See above Cl. No. 5.1	N/A
	e) Max. protective conductor current =5% of Input current	EL 2125-13	See above Cl. No. 5.1	N/A
5.1.7	Equipment with touch current exceeding 3.5 mA	EL 2125-14	See above Cl. No. 5.1	N/A
5.1.7.1	General	EL 2125-15	See above Cl. No. 5.1	N/A

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5.1.7.2	Simultaneous multiple connections to the supply	EL 2125-16	See above Cl. No. 5.1	N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	EL 2125-17	See above Cl. No. 5.1	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	EL 2125-18	See above Cl. No. 5.1	N/A
	Supply voltage (V)		See above Cl. No. 5.1	N/A
	Measured touch current (mA)		See above Cl. No. 5.1	N/A
	Max. allowed touch current (mA)		See above Cl. No. 5.1	N/A
5.1.8.2	Summation of touch currents from telecommunication networks	EL 2125-19	See above Cl. No. 5.1	N/A
	a) EUT with earthed telecommunication ports ;		See above Cl. No. 5.1	N/A
	b) EUT whose telecommunication ports have no reference to protective earth		See above Cl. No. 5.1	N/A

*-Total number of Requirements to be observed / inspected =05
Total No of applicable Requirement =01
No of Requirements for which the sample passed =01

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

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

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Tests relating to Insulating Properties

EL 2126– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
5.2	Electric strength*	EL 2126-00	Class III equipment	N/A
5.2.1	General*	EL 2126-01	See above Cl. No. 5.2	N/A
5.2.2	Test procedure		See above Cl. No. 5.2	N/A
	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	See above Cl. No. 5.2	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 = N/A

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

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

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Tests relating to Insulating Properties

EL 2127– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
5.3	Abnormal operating and fault conditions	EL 2127-00	See below	P
5.3.1	Protection against overload and abnormal operation	EL 2127-01	See table 5.3	P
5.3.2	Motors	EL 2127-02	No motors used	N/A
5.3.3	Transformers	EL 2127-03		N/A
5.3.4	Functional insulation:	EL 2127-04	Complies with the requirement of Cl. No. 5.3.4(c)	P
5.3.5	Electromechanical components	EL 2127-05	No electromechanical components	N/A
5.3.6	Audio amplifiers in ITE :	EL 2127-06	No audio amplifiers	N/A
5.3.7	Simulation of faults	EL 2127-07	See 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*		See table 5.3	P
5.3.9.1	During the tests	EL 2127-09	No fire occurred, no molten metal emitted and no distortion of enclosure	P
5.3.9.2	After the tests	EL 2127-10	No test required	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 =N/A

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/ failing in the requirement tested

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Tests relating to Communicating Connection

EL 2128– V1.0

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	Not for connection to telecommunication network	N/A
6.1.1	Protection from hazardous voltages	EL 2128-01	See above Cl. No. 6.1	N/A
6.1.2	Separation of the telecommunication network from earth*		See above Cl. No. 6.1	N/A
6.1.2.1	Requirements: - Surge suppressors that bridge the insulation shall have a minimum rated operating voltage Uop of Uop =Upeak + ΔUsp + ΔUsa Where Upeak is 360V or 180V ΔUsp is the maximum increase of the rated operating voltage due to variations in component production(If not specified by the manufacturer, shall be taken as 10% of the rated operating voltage of the component) ΔUsa is the maximum increase of the rated operating voltage due to the component ageing over the expected life of the equipment(If not specified by the manufacturer, shall be taken as 10% of the rated operating voltage of the component) -Insulation is subjected to electric strength test according to 5.2.2. The a.c test voltage is 1.5kV or 1.0kV - Components bridging the insulation that are left in place during electric strength testing shall not be damaged. There shall be no breakdown of insulation during electric strength testing.	EL 2128-02	See above Cl. No. 6.1	N/A
6.1.2.2	Exclusions	EL 2128-03	See above Cl. No. 6.1	N/A

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*-Total number of Requirements to be observed / inspected	=00
Total No of applicable Requirement	=00
No of Requirements for which the sample passed	=N/A
Total number of tests to be conducted	=04
Total No of applicable Tests	=00
No. of tests for which the sample passed	=N/A

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

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Tests relating to Communicating Connection **EL 2129– V1.0**

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	Not for connection to telecommunication network	N/A
6.2.1	Separation requirements	EL 2129-01	See above Cl. No. 6.2	N/A
6.2.2	Electric strength test procedure	EL 2129-02	See above Cl. No. 6.2	N/A
6.2.2.1	Impulse test	EL 2129-03	See above Cl. No. 6.2	N/A
6.2.2.2	Steady-state test	EL 2129-04	See above Cl. No. 6.2	N/A
6.2.2.3	Compliance criteria	EL 2129-05	See above Cl. No. 6.2	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 =N/A

Total number of tests to be conducted =05

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

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Tests relating to Communicating Connection **EL 2130– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
6.3	Protection of the telecommunication wiring system from overheating	EL 2130-00	Not for connection to telecommunication wiring system	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	See above Cl. No. 6.3	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	See above Cl. No. 6.3	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	See above Cl. No. 6.3	N/A

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	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	See above Cl. No. 6.3	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	=N/A
Total number of tests to be conducted	=05
Total No of applicable Tests	=00
No. of tests for which the sample passed	=N/A

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

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Tests relating to Connection to cable distribution system **EL 2131– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
7	Connection to cable distribution systems*	EL 2131-00	Not for connection to cable distribution systems	N/A
7.1	General requirements*	EL 2131-01	See above Cl. No. 7	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	See above Cl. No. 7	N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system	EL 2131-03	See above Cl. No. 7	N/A
7.4	Insulation between primary circuits and cable distribution systems	EL 2131-04	See above Cl. No. 7	N/A
7.4.1	General	EL 2131-05	See above Cl. No. 7	N/A
7.4.2	Voltage surge test	EL 2131-06	See above Cl. No. 7	N/A
7.4.3	Impulse test	EL 2131-07	See above Cl. No. 7	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 =N/A

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

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

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(Approving Authority)

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Tests relating to Fire Safety

EL 2132– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE	EL 2132-00		P
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	No such equipment	N/A
A.1.1	Samples:	EL 2132-02	See above Cl. No. A.1	N/A
	Wall thickness (mm):		See above Cl. No. A.1	N/A
A.1.2	Conditioning of samples; temperature (°C) :	EL 2132-03	See above Cl. No. A.1	N/A
A.1.3	Mounting of samples :	EL 2132-04	See above Cl. No. A.1	N/A
A.1.4	Test flame (see IEC 60695-11-3)	EL 2132-05	See above Cl. No. A.1	N/A
	Flame A, B, C or D :		See above Cl. No. A.1	N/A
A.1.5	Test procedure	EL 2132-06	See above Cl. No. A.1	N/A
A.1.6	Compliance criteria	EL 2132-07	See above Cl. No. A.1	N/A
	Sample 1 burning time (s):		See above Cl. No. A.1	N/A
	Sample 2 burning time (s):		See above Cl. No. A.1	N/A
	Sample 3 burning time (s):		See above Cl. No. A.1	N/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	Certified material used (See table 1.5.1)	P
A.2.1	Samples, material:	EL 2132-09	See above Cl. No. A.2	N/A
	Wall thickness (mm):		See above Cl. No. A.2	N/A
A.2.2	Conditioning of samples; temperature (°C) :	EL 2132-10	See above Cl. No. A.2	N/A

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Tests relating to Fire Safety

EL 2132– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
A.2.3	Mounting of samples :	EL 2132-11	See above Cl. No. A.2	N/A
A.2.4	Test flame (see IEC 60695-11-4)	EL 2132-12	See above Cl. No. A.2	N/A
	Flame A, B or C :		See above Cl. No. A.2	N/A
A.2.5	Test procedure	EL 2132-13	See above Cl. No. A.2	N/A
A.2.6	Compliance criteria	EL 2132-14	See above Cl. No. A.2	N/A
	Sample 1 burning time (s):		See above Cl. No. A.2	N/A
	Sample 2 burning time (s):		See above Cl. No. A.2	N/A
	Sample 3 burning time (s):		See above Cl. No. A.2	N/A
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9	EL 2132-15	See above Cl. No. A.2	N/A
	Sample 1 burning time (s):		See above Cl. No. A.2	N/A
	Sample 2 burning time (s):		See above Cl. No. A.2	N/A
	Sample 3 burning time (s):		See above Cl. No. A.2	N/A
A.3	Hot flaming oil test (see 4.6.2)	EL 2132-16		N/A
A.3.1	Mounting of samples	EL 2132-17		N/A
A.3.2	Test procedure	EL 2132-18		N/A
A.3.3	Compliance criterion	EL 2132-19		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 =N/A

Total number of tests to be conducted =20
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/ failing in the requirement tested

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Tests relating to Insulating Properties

EL 2133– V1.0

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 motor used	N/A
B.1	General requirements	EL 2133-01	See above Cl. No. B	N/A
	Position :		See above Cl. No. B	N/A
	Manufacturer :		See above Cl. No. B	N/A
	Type :		See above Cl. No. B	N/A
	Rated values :		See above Cl. No. B	N/A
B.2	Test conditions	EL 2133-02	See above Cl. No. B	N/A
B.3	Maximum temperatures	EL 2133-03	See above Cl. No. B	N/A
B.4	Running overload test	EL 2133-04	See above Cl. No. B	N/A
B.5	Locked-rotor overload test	EL 2133-05	See above Cl. No. B	N/A
	Test duration (days):		See above Cl. No. B	N/A
	Electric strength test: test voltage (V) :		See above Cl. No. B	N/A
B.6	Running overload test for d.c. motors in secondary circuits	EL 2133-06	See above Cl. No. B	N/A
B.6.1	General	EL 2133-07	See above Cl. No. B	N/A
B.6.2	Test procedure	EL 2133-08	See above Cl. No. B	N/A
B.6.3	Alternative test procedure	EL 2133-09	See above Cl. No. B	N/A
B.6.4	Electric strength test; test voltage (V):	EL 2133-10	See above Cl. No. B	N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits	EL 2133-11	See above Cl. No. B	N/A
B.7.1	General	EL 2133-12	See above Cl. No. B	N/A
B.7.2	Test procedure	EL 2133-13	See above Cl. No. B	N/A
B.7.3	Alternative test procedure	EL 2133-14	See above Cl. No. B	N/A
B.7.4	Electric strength test; test voltage (V) :	EL 2133-15	See above Cl. No. B	N/A

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Tests relating to Insulating Properties

EL 2133– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
B.8	Test for motors with capacitors	EL 2133-16	See above Cl. No. B	N/A
B.9	Test for three-phase motors	EL 2133-17	See above Cl. No. B	N/A
B.10	Test for series motors	EL 2133-18	See above Cl. No. B	N/A
	Operating voltage (V) :		See above Cl. No. B	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 =N/A

Total number of tests to be conducted =19

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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Tests relating to Electrical Safety **EL 2134– V1.0**

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		N/A
	Position :			N/A
	Manufacturer :			N/A
	Type :			N/A
	Rated values :			N/A
	Method of protection:			N/A
C.1	Overload test	EL 2134-01		N/A
C.2	Insulation	EL 2134-02		N/A
	Protection from displacement of windings:			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 =N/A

Total number of tests to be conducted =02

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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Tests relating to Insulating Properties **EL 2135– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)	EL 2135-00	Class III equipment	N/A
D.1	Measuring instrument	EL 2135-01	See above Cl. No. D	N/A
D.2	Alternative measuring instrument	EL 2135-02	See above Cl. No. D	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 =N/A

Total number of tests to be conducted =03

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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Tests relating to Thermal Properties **EL 2136– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)	EL2136-00	Class III equipment	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 =N/A

Total number of tests to be conducted =01

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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Tests relating to Electrical Safety **EL 2137– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)	EL2137-00	Class III equipment	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 =N/A

Total number of tests to be conducted =01

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

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Tests relating to Electrical safety **EL 2138– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES	EL 2138-00	Alternative method not used	N/A
G.1	Clearances	EL 2138-01	See above Cl. No. G	N/A
G.1.1	General	EL 2138-02	See above Cl. No. G	N/A
G.1.2	Summary of the procedure for determining minimum clearances	EL 2138-03	See above Cl. No. G	N/A
G.2	Determination of mains transient voltage (V)	EL 2138-04	See above Cl. No. G	N/A
G.2.1	AC Mains supply	EL 2138-05	See above Cl. No. G	N/A
G.2.2	Earthed d.c. mains supplies	EL 2138-06	See above Cl. No. G	N/A
G.2.3	Unearthed d.c. mains supplies	EL 2138-07	See above Cl. No. G	N/A
G.2.4	Battery operation	EL 2138-08	See above Cl. No. G	N/A
G.3	Determination of telecommunication network transient voltage (V)	EL 2138-09	See above Cl. No. G	N/A
G.4	Determination of required withstand voltage (V)	EL 2138-10	See above Cl. No. G	N/A
G.4.1	Mains transients and internal repetitive peaks	EL 2138-11	See above Cl. No. G	N/A
G.4.2	Transients from telecommunication networks:	EL 2138-12	See above Cl. No. G	N/A
G.4.3	Combination of transients	EL 2138-13	See above Cl. No. G	N/A
G.4.4	Transients from cable distribution systems	EL 2138-14	See above Cl. No. G	N/A
G.5	Measurement of transient voltages (V)	EL 2138-15	See above Cl. No. G	N/A
	a) Transients from a mains supply		See above Cl. No. G	N/A
	For an a.c. mains supply		See above Cl. No. G	N/A
	For a d.c. mains supply		See above Cl. No. G	N/A

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Tests relating to Electrical safety **EL 2138– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
	b) Transients from a telecommunication network		See above Cl. No. G	N/A
G.6	Determination of minimum clearances	EL 2138-16	See above Cl. No. G	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 =N/A

Total number of tests to be conducted =17

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

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Tests relating to Radiation Safety **EL 2139– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
H	ANNEX H, IONIZING RADIATION (see 4.3.13)	EL 2139-00		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	=N/A
Total number of tests to be conducted	=01
Total No of applicable Tests	=00
No. of tests for which the sample passed	=N/A

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

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Tests relating to Electrical Safety **EL 2140– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)*	EL 2140-00	No earthing and bonding terminals	N/A
	Metal(s) used :		See above Cl. No. J	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 =N/A

Total number of tests to be conducted =00

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

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Tests relating to General Requirement **EL 2141– V1.0**

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 2141-00	No thermal controls used	N/A
K.1	Making and breaking capacity	EL 2141-01	See above Cl. No. K	N/A
K.2	Thermostat reliability; operating voltage (V) :	EL 2141-02	See above Cl. No. K	N/A
K.3	Thermostat endurance test; operating voltage (V) :	EL 2141-03	See above Cl. No. K	N/A
K.4	Temperature limiter endurance; operating voltage (V) :	EL 2141-04	See above Cl. No. K	N/A
K.5	Thermal cut-out reliability	EL 2141-05	See above Cl. No. K	N/A
K.6	Stability of operation	EL 2141-06	See above Cl. No. K	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 =N/A

Total number of tests to be conducted =06

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

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Tests relating to General Requirement **EL 2142– V1.0**

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 2142-00	See below	P
L.1	Typewriters*	EL 2142-01	See below Cl. No. L.7	N/A
L.2	Adding machines and cash registers*	EL 2142-02	See below Cl. No. L.7	N/A
L.3	Erasers*	EL 2142-03	See below Cl. No. L.7	N/A
L.4	Pencil sharpeners*	EL 2142-04	See below Cl. No. L.7	N/A
L.5	Duplicators and copy machines*	EL 2142-05	See below Cl. No. L.7	N/A
L.6	Motor-operated files*	EL 2142-06	See below Cl. No. L.7	N/A
L.7	Other business equipment*	EL 2142-07	See table 1.6.2	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 =N/A

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

.....

(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Electrical Safety **EL 2143– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)	EL 2143-00	No telephone ringing signals	N/A
M.1	Introduction*	EL 2143-01	See above Cl. No. M	N/A
M.2	Method A	EL 2143-02	See above Cl. No. M	N/A
M.3	Method B	EL 2143-03	See above Cl. No. M	N/A
M.3.1	Ringing signal	EL 2143-04	See above Cl. No. M	N/A
M.3.1.1	Frequency (Hz)	EL 2143-05	See above Cl. No. M	N/A
M.3.1.2	Voltage (V)	EL 2143-06	See above Cl. No. M	N/A
M.3.1.3	Cadence; time (s), voltage (V) ...	EL 2143-07	See above Cl. No. M	N/A
M.3.1.4	Single fault current (mA)	EL 2143-08	See above Cl. No. M	N/A
M.3.2	Tripping device and monitoring voltage	EL 2143-09	See above Cl. No. M	N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage	EL 2143-10	See above Cl. No. M	N/A
M.3.2.2	Tripping device	EL 2143-11	See above Cl. No. M	N/A
M.3.2.3	Monitoring voltage (V)	EL 2143-12	See above Cl. No. M	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 =N/A

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

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Electrical safety **EL 2144– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)	EL 2144-00	Class III equipment	N/A
N.1	ITU-T impulse test generators	EL 2144-01	See above Cl. No. N	N/A
N.2	IEC 60065 impulse test generator	EL 2144-02	See above Cl. No. N	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 = N/A

Total number of tests to be conducted =03

Total No of applicable Tests = 00

No. of tests for which the sample passed = N/A

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to General Requirements **EL 2145– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
P	ANNEX P, NORMATIVE REFERENCES	EL 2145-00		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 =N/A

Total number of tests to be conducted =01

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to General Requirements **EL 2146– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)	EL 2146-00	VDR not used	N/A
	A VDR shall comply with iec 61051-2, whether a fire enclosure is provided or not, taking into account all of the following:		See above Cl. No. Q	N/A
	a) Preferred climatic categories Lower category temperature: -10ºC Upper category temperature: +85ºC Duration of damp Test, steady state test:21 days		See above Cl. No. Q	N/A
	b) Maximum continuous voltage: Atleast 1,25 times the rated voltage of the equipment or Atleast 1,25 times the upper voltage of the rated voltage range		See above Cl. No. Q	N/A
	c) Combination pulse :	EL 2146-01	See above Cl. No. Q	N/A
	d) Body of the VDR shall comply with Needle flame test according to IEC 60695-11-5 with the following test severities: duration of application of the test flame: 10 s after flame time: 5s [This test is not required if VDR complies with V-1 CLASS MATERIAL]	EL 2146-02	See above Cl. No. Q	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 =N/A

Total number of tests to be conducted =03
Total No of applicable Tests =00
No. of tests for which the sample passed =N/A

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to General Requirement **EL 2147– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES*	EL 2147-00	No such requirements	N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)*	EL 2147-01	See above Cl. No. R	N/A
R.2	Reduced clearances (see 2.10.3)*	EL 2147-02	See above Cl. No. R	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 =N/A

Total number of tests to be conducted =00

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to General Requirement **EL 2148– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)*	EL 2148-00	Class III equipment	N/A
S.1	Test equipment*	EL 2148-01	See above Cl. No. S	N/A
S.2	Test procedure*	EL 2148-02	See above Cl. No. S	N/A
S.3	Examples of waveforms during impulse testing*	EL 2148-03	See above Cl. No. S	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 =N/A

Total number of tests to be conducted =00

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
ULR: TC550819200000361P	IEC 60950-1: 2005 + A1:2009 + A2 : 2013	Page 81 of 102
Discipline: Electronics		Group: IT Equipment

Tests relating to Protection against Ingress of water **EL 2149– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)	EL 2149-00	Water projected in powerful jets against the enclosure from any direction ,no harmful effects occured	P

*-Total number of Requirements to be observed / inspected =00

Total No of applicable Requirement =00

No of Requirements for which the sample passed =N/A

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/ failing in the requirement tested

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Wiring

EL 2150– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)	EL2150-00		N/A
U.1	General	EL2150-01		N/A
U.2	Type tests	EL2150-02		N/A
U.2.1	General	EL2150-03		N/A
U.2.2	Electric strength	EL2150-04		N/A
U.2.2.1	Solid round winding wire and stranded winding wires	EL2150-05		N/A
U.2.2.1.1	Wires with nominal conductor diameter upto and including 0.100mm	EL2150-06		N/A
U.2.2.1.2	Wires with nominal conductor diameter over 0.100mm and including 2.500mm	EL2150-07		N/A
U.2.2.1.3	Wires with nominal conductor diameter over 2.500mm	EL2150-08		N/A
U.2.2.2	Square or rectangular wires	EL2150-09		N/A
U.2.3	Flexibility and adherence	EL2150-10		N/A
U.2.4	Heat shock	EL2150-11		N/A
U.2.5	Retention of electric strength after bending	EL2150-12		N/A
U.3	Testing during manufacturing	EL2150-13		N/A
U.3.1	General	EL2150-14		N/A
U.3.2	Routine tests	EL2150-15		N/A
U.3.3	Sampling test	EL2150-16		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 =N/A

Total number of tests to be conducted =17
Total No of applicable Tests =00
No. of tests for which the sample passed =N/A

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

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TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Electrical Safety **EL 2151– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)*	EL 2151-00	Not directly connected to mains	N/A
V.1	Introduction*	EL 2151-01	See above Cl. No. V	N/A
V.2	TN power distribution systems	EL 2151-02	See above Cl. No. V	N/A
V.3	TT Power Distribution systems	EL 2151-03	See above Cl. No. V	N/A
V.4	IT Power Distribution systems	EL 2151-04	See above Cl. No. V	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 =N/A

Total number of tests to be conducted =03

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

.....

(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Electrical Safety

EL 2152– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
W	ANNEX W, SUMMATION OF TOUCH CURRENTS *	EL 2152-00	Class III equipment	N/A
W.1	Touch current from electronic circuits*	EL 2152-01	See above Cl. No. W	N/A
W.1.1	Floating circuits*	EL 2152-02	See above Cl. No. W	N/A
W.1.2	Earthed circuits*	EL 2152-03	See above Cl. No. W	N/A
W.2	Interconnection of several equipments*	EL 2152-04	See above Cl. No. W	N/A
W.2.1	Isolation*	EL 2152-05	See above Cl. No. W	N/A
W.2.2	Common return, isolated from earth*	EL 2152-06	See above Cl. No. W	N/A
W.2.3	Common return, connected to protective earth*	EL 2152-07	See above Cl. No. W	N/A

*-Total number of Requirements to be observed / inspected =08

Total No of applicable Requirement =00

No of Requirements for which the sample passed =N/A

Total number of tests to be conducted =00

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

.....

(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Electrical Safety

EL 2153– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)*	EL 2153-00	Class III equipment	N/A
X.1	Determination of maximum input current*	EL 2153-01	See above Cl. No. X	N/A
X.2	Overload test procedure*	EL 2153-02	See above Cl. No. X	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 =N/A

Total number of tests to be conducted =00

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Radiation Safety

EL 2154– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)	EL 2154-00		N/A
Y.1	Test apparatus	EL 2154-01		N/A
Y.2	Mounting of test samples	EL 2154-02		N/A
Y.3	Carbon-arc light-exposure apparatus	EL 2154-03		N/A
Y.4	Xenon-arc light exposure apparatus	EL 2154-04		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 =N/A

Total number of tests to be conducted =05

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Electrical Safety **EL 2155– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)*	EL 2155-00	Class III equipment	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 =N/A

Total number of tests to be conducted =00

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Mechanical Properties

EL 2156– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)	EL 2156-00	Class III equipment	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 =N/A

Total number of tests to be conducted =01

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Electrical Safety **EL 2158– V1.0**

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
CC	Evaluation of integrated circuit (IC) current limiters*	EL 2158-00	No IC as current limiters used	N/A
CC.1	Integrated circuit (IC) current limiters*	EL 2158-01	See above Cl. No. CC	N/A
CC.2	Test program 1	EL 2158-02	See above Cl. No. CC	N/A
CC.3	Test program 2	EL 2158-03	See above Cl. No. CC	N/A
CC.4	Test program 3	EL 2158-04	See above Cl. No. CC	N/A
CC.5	Compliance	EL 2158-05	See above Cl. No. CC	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 =N/A

Total number of tests to be conducted =04

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
ULR: TC550819200000361P	IEC 60950-1: 2005 + A1:2009 + A2 : 2013	Page 90 of 102
Discipline: Electronics		Group: IT Equipment

Tests relating to Mechanical Properties

EL 2159– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
DD	Requirements for the mounting means of rack-mounted equipment*	EL 2159-00	Not a rack mounted equipment	N/A
DD.1	General		See above Cl. No.DD	N/A
DD.2	Mechanical strength test, variable N.....:	EL 2159-01	See above Cl. No.DD	N/A
DD.3	Mechanical strength test, 250N, including end stops.....:	EL 2159-02	See above Cl. No.DD	N/A
DD.4	Compliance*.....:	EL 2159-03	See above Cl. No. DD	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 =N/A

Total number of tests to be conducted =02

Total No of applicable Tests =00

No. of tests for which the sample passed =N/A

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

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(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

TEST REPORT

Report No. ATH1080052019	IS 13252 (Part 1): 2010 + A1: 2013 + A2 : 2015 /	Dated: 02/05/2019
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Discipline: Electronics		Group: IT Equipment

Tests relating to Mechanical Properties

EL 2160– V1.0

Cl. No.	Test / Requirement name	Test Code	Test result/ observation	Verdict
EE	ANNEX EE, Household and home/office document/media shredders	EL 2160-00		N/A
EE.1	General			N/A
EE.2	Markings and instructions*	EL 2160-01		N/A
	Use of markings or symbols*..... :			N/A
	Information of user instructions, maintenance and/or servicing instructions*..... .....:			N/A
EE.3	Inadvertent reactivation test.....:	EL 2160-02		N/A
EE.4	Disconnection of power to hazardous moving parts*	EL 2160-03		N/A
	Use of markings or symbols*.....:			N/A
EE.5	Protection against hazardous moving parts			N/A
	Test with test finger (Figure 2A) .....:	EL 2160-04		N/A
	Test with wedge probe (Figure EE1 and EE2) .....:	EL 2160-05		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 =N/A

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

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

.....
(Approving Authority)

TRF No. BIS_ CCTVC/CCTVR_IS13252_V1.0

1.5.1	TABLE: List of components				P
Object/part no.	**Manufacturer/ trademark**	**Type/model**	**Technical data**	**Standard**	**Mark(s) of conformity[1]**
PCB	EVERLAST WIN ELECTRONICS CO LTD	V0-7	V-0, 130°C	UL94 (Flammability test equivalent to IEC 60695-11-10) UL 796 (No equivalent IEC standard)	UL E216522
Alternate	UNIMICRON TECHNOLOGY CORP	7MV-2	V-0, 105°C	UL94 (Flammability test equivalent to IEC 60695-11-10) UL 796 (No equivalent IEC standard)	UL E49068
Internal Wire	KUNSHAN XINGHONGMENG ELECTRONIC CO LTD	1571	80°C, 30Vac	UL 758(No equivalent IEC standard)	UL E315421

Supplementary information:

[1]. Evidences provided by the manufacturer for the listed components are verified by us and the evidences are conforming to the requirements of the relevant standard

[2]. Metal enclosure used.

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1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
12.0Vdc	0.34	0.83	4.08	--	--	Maximum normal load
37 Vdc (PoE)	0.2	0.33	7.4	--	--	
57Vdc (PoE)	0.1	0.21	5.7	--	--	
Supplementary information:						

2.1.1.5	TABLE: Energy hazard measurement				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
--	--	--	--	--	
Supplementary information: Powered by SELV only					

2.1.1.7	TABLE: Discharge test				N/A
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	Comments	
--	--	--	--	--	
Supplementary information: Class III equipment					

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2.2.2	TABLE: SELV measurement (under normal conditions)			P
Transformer	Location	Voltage (max.) (V)		Voltage Limitation Component
		V peak	V d.c.	
--	--	--	--	--
Supplementary information: Class III equipment supplied by SELV only				

2.2.3	TABLE: SELV measurement (under fault conditions)	P
Location	Voltage (max.) (V)	Comments
--	--	--
Supplementary information: Class III equipment supplied by SELV only		

2.4.2	TABLE: Limited current circuit measurement					N/A
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
--	--	--	--	--	--	
Supplementary information: No limited current circuit						

2.5	TABLE: Limited power source measurement		N/A
	Limits	Measured	Verdict
According to Table 2B/2C (normal condition)			
current (in A)	--	--	--
apparent power (in VA)	--	--	--
According to Table 2B/2C (single fault condition)			
current (in A)	--	--	--
apparent power (in VA)	--	--	--
Supplementary information:No limited power source			

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2.6.3.4	TABLE: Resistance of earthing measurement	N/A

Location	Resistance measured (m)	Comments
--	--	--

Supplementary information:Class III equipment

<OR>

2.6.3.4	TABLE: Resistance of earthing measurement	N/A

Location	Voltage drop (V)	Comments
--	--	--

Supplementary information: Class III equipment

2.10.2	Table: Working voltage measurement	N/A

Location	RMS voltage (V)	Peak voltage (V)	Comments
--	--	--	--

Supplementary information:Class III equipment

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements	N/A

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:						
--	--	--	--	--	--	--
Basic / supplementary:						
--	--	--	--	--	--	--
Reinforced:						
--	--	--	--	--	--	--

Supplementary information: Class III equipment

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2.10.5	TABLE: Distance through insulation measurements					N/A
Distance through insulation (DTI) at/of:		U peak (V)	U r.m.s. (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Basic:						
--		--	--	--	--	--
Supplementary:						
--		--	--	--	--	--
Reinforced:						
--		--	--	--	--	--
Supplementary information: No such insulation						

4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available					--				N/A
Is it possible to install the battery in a reverse polarity position?					--				N/A
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--

Test results:		Verdict
- Chemical leaks	--	N/A
- Explosion of the battery	--	N/A
- Emission of flame or expulsion of molten metal	--	N/A
- Electric strength tests of equipment after completion of tests	--	N/A
Supplementary information: --		

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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 1.6.2 resulted in highest temperature values.
Temperatures are calculated according cl. 1.4.12.3 with regard to the maximum ambient operation temperature of 50°C(T_{ma}), as specified by the manufacturer.

test voltage(s) (V):		A: 37Vdc (PoE)	B: 57Vdc (PoE)
t_{amb1} (°C):	A: 25° B: 25°C	t_{amb2} (°C):	A: 25°C B: 25°C

Temperature of part/at: (measured with thermocouples)	Measured temperature rise at T_{amb}		Calculated temperature at T_{ma}		Allowed T_{max} (°C)
	A dT (K)	B dT (K)	A T (°C)	B T (°C)	
Internal wire	4	6	54	56	80
PCB	13	12	63	62	130
Metal enclosure	6	5	56	55	70

test voltage(s) (V):		A: 12.0 Vdc	B:--
t_{amb1} (°C):	A: 26° C B: --	t_{amb2} (°C):	A: 26°C B: --

Temperature of part/at: (measured with thermocouples)	Measured temperature rise at T_{amb}		Calculated temperature at T_{ma}		Allowed T_{max} (°C)
	A dT (K)	B dT (K)	A T (°C)	B T (°C)	
Internal wire	5	--	55	--	80
PCB	14	--	64	--	130
Metal enclosure	6	--	56	--	70

Temperatures measured with winding resistance method: Not used

temperature T of winding: (winding resistance method)	(V)	R_1 (Ω)	R_2 (Ω)	T (°C)	allowed T_{max} (°C)	insulation class
--	--	--	--	--	--	--

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

Part	Test temperature (°C)	Impression diameter (mm)
--	--	--

Supplementary information: No thermoplastic material at hazardous voltage

4.6.1, 4.6.2	Table: Enclosure opening measurements		N/A

Location	Size (mm)	Comments
--	--	--

Supplementary information: No openings

4.7	Table: Resistance to fire					P

Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
--	--	--	--	--	--

Supplementary information: Certified material used

5.1.6	TABLE: Touch current and protective conductor current measurement		N/A
	Test voltage (V)..... :	AC .....V, ...Hz	—

Measurement location	Polarity (normal) [mA]		Polarity (reverse) [mA]		Limit (mA)	Comments
(Terminal A connected to...)	Switch: ON	Switch: OFF	Switch: ON	Switch: OFF		
--	--	--	--	--	--	--
--	--	--	--	--	--	--

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5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			N/A
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
--		--	--	--
Basic / supplementary:				
--		--	--	--
Reinforced:				
--		--	--	--
Supplementary information: Class III equipment				

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C)	25°C	--
	Power source for EUT: Manufacturer, model/type, output rating	--	--

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
DC in on PCB (+ve to -ve)	Short circuit	12.0Vdc	1 minute	--	--	Unit shut down immediately Result: No fire No hazards
Diode(D20)	Short circuit	37Vdc	1 minute	--	--	Unit shut down immediately Result: No fire No hazards
Resistor (R120)	Short circuit	57Vdc (PoE)	1 minute	--	--	Unit operated normally Result: No fire No hazards
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C.2	TABLE: Insulation of transformers		N/A
	Transformer part name.....:	--	--
	Manufacturer .....:	--	--
	Type.....:	--	--

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)
Primary /input winding and secondary/output winding (internal)	--	--	--	--	--	--
Primary/input winding and core (internal)			--	--	--	--
Secondary/output winding and core (internal)			--	--	--	--
Primary/input part and secondary/output part (external)			--	--	--	--
Primary/input part and core (external)			--	--	--	--
Primary/input part and secondary/output winding (external)			--	--	--	--
Secondary/output part and core (external)			--	--	--	--
Secondary/output part and primary/input winding (external)			--	--	--	--

Description of design:	
(a) Bobbin	
Primary/input pins .....:	--
Secondary/output pins .....:	--
Material (manufacturer, type, ratings).....:	--
Thickness (mm) .....:	--
(b) General	
Supplementary information: --	

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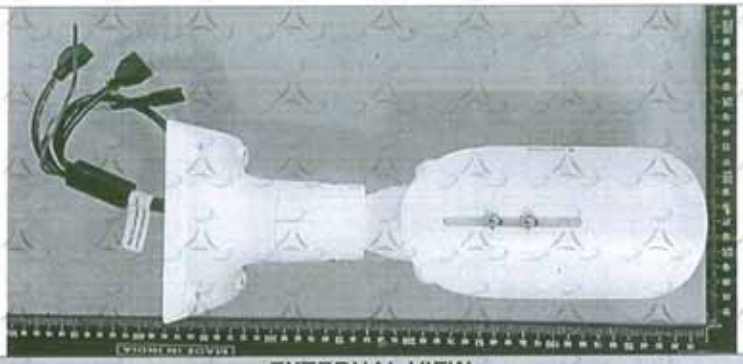
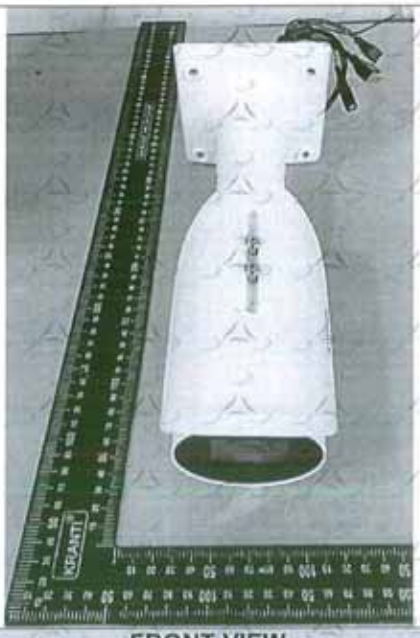
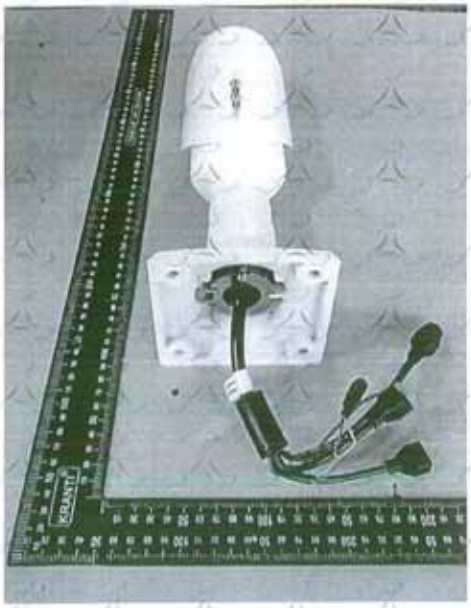
PHOTOGRAPH



EXTERNAL VIEW



FRONT VIEW



REAR VIEW

ALPHA TEST HOUSE NEW DELHI

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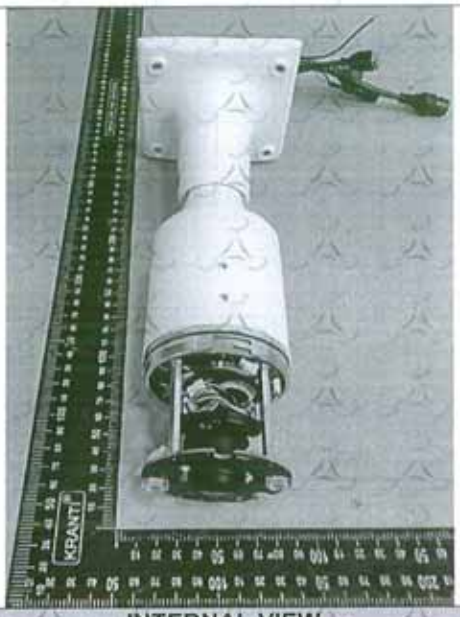
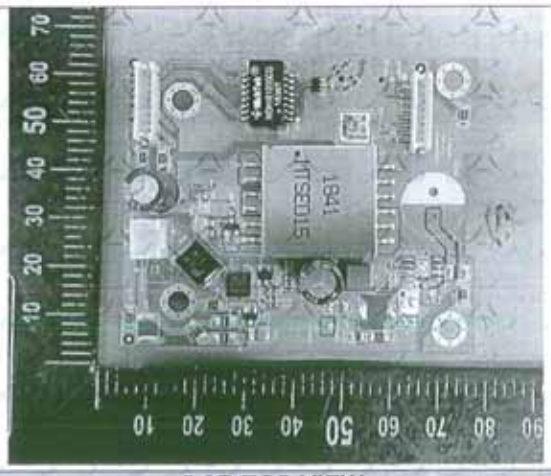
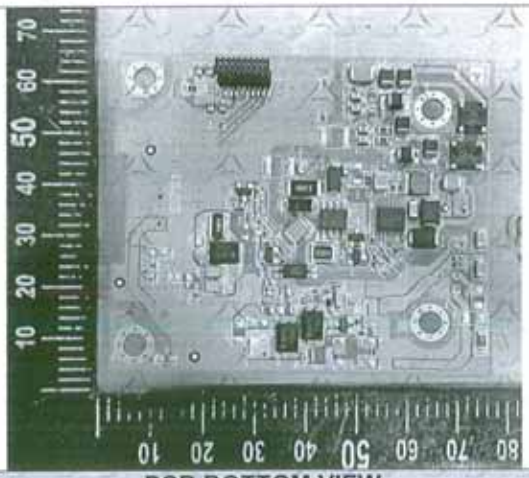


INTERNAL VIEW



PCB TOP VIEW



PCB BOTTOM VIEW

END OF TEST REPORT

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