TEST REPORT

AS/NZS60950.1:2011+A1:2013

Safety of Information Technology Equipment including
Electrical business equipment

Report Number. ..... :	1607CF12
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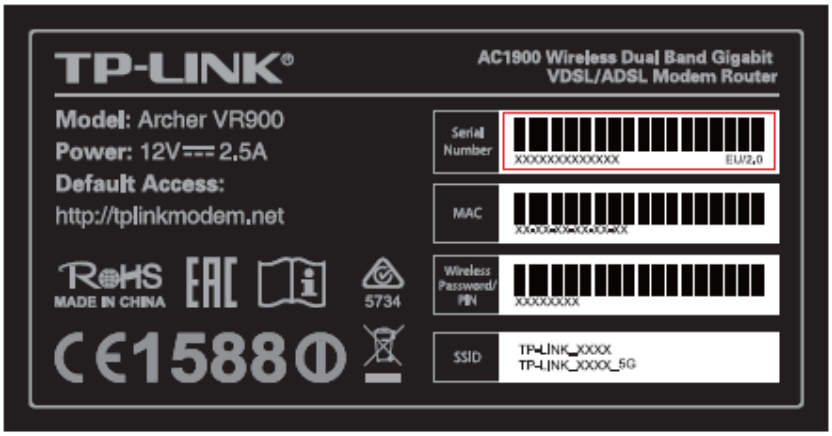
Test Address	No.19 Lane 772 Ho-Ping Rd., Pa-Te city Taoyuan County 334, Taiwan R.O.C.
Applicant's name.....:	TP-LINK TECHNOLOGIES CO., LTD.
Address ..... :	Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China
Test specification:	
Standard..... :	AS/NZS 60950.1:2011+A1:2013
Test item description .....:	AC1900 Wireless Dual Band Gigabit VDSL/ADSL Modem Router
Trade Mark..... :	TP-LINK
Manufacturer ..... :	TP-LINK TECHNOLOGIES CO., LTD
Model/Type reference ..... :	Archer VR900
Ratings ..... :	I/P: 12Vdc, 2.5A

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
All applicable tests as described in Test Case and Measurement Sections were performed. 1.6.2 - Input current test 2.3.1 b -TNV-2, -3 Circuits Limit Test 2.5-Limited Power Sources Test 4.2.4-Mechanical Strength – 250 N Force Test 4.2.6-Mechanical Strength – Drop Test 4.2.7-Mechanical Strength – Stress Relief Test 4.2.10-Mechanical Strength – Mounting Means Test 4.5.2 - Temperature test 5.2-Electric Strength Test 5.3.9 - Abnormal operating and fault conditions The product was submitted and tested for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of 40℃. Tests were performed under max. normal load condition.	All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 1.

Copy of marking plate



Test item particulars ..... :	
Equipment mobility ..... :	[X] 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 [X] not directly connected to the mains
Operating condition ..... :	[X] continuous [] rated operating / resting time:
Access location ..... :	[X] operator accessible [] restricted access location
Over voltage category (OVC) ..... :	[] OVC I [] OVC II [] OVC III [] OVC IV [X] other: not directly connected to the mains
Mains supply tolerance (%) or absolute mains supply values ..... :	N.A
Tested for IT power systems ..... :	[] Yes [X] No
IT testing, phase-phase voltage (V) ..... :	N/A
Class of equipment ..... :	[] Class I [] Class II [X] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) ..... :	N/A
Pollution degree (PD) ..... :	[] PD 1 [X] PD 2 [] PD 3
IP protection class ..... :	IPX0
Altitude during operation (m) ..... :	Up 2000 m
Altitude of test laboratory (m) ..... :	Up 2000 m
Mass of equipment (kg) ..... :	0.57 Kg
Possible test case verdicts:	
- test case does not apply to the test object ..... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
Testing ..... :	
Date of receipt of test item ..... :	2016-07-15
Date(s) of performance of tests ..... :	2016-07-15 ~ 2016-08-09
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. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 6.2.5 of IECEE 02:	
Name and address of factory (ies) ..... :	TP-LINK TECHNOLOGIES CO., LTD. Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen,China

General product information:

This product is a WLAN/ADSL Modem Router supplied by external power adapter.

The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tma) of 40℃.

The product fulfils the requirements of IEC 60950-1:2005 (2nd Edition) + Am 1:2009 +Am 2:2013 and EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013.

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1	**GENERAL**		**P**

1.5	**Components**		**P**
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	Components certified to IEC standards and/or their harmonized standards, are used within their ratings and are checked for correct application. Non-certified components are checked for correct application, used within their ratings, tested as part of the equipment and subjected to applicable tests of the component standard. Components, which no relevant IEC-Standard exists, are used within their ratings and are tested under the conditions occurring in the equipment.	P
1.5.3	Thermal controls	No thermal control used.	N/A
1.5.4	Transformers	TNV Transformer provided.	P
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors bridging insulation		N/A
1.5.7	Resistors bridging insulation		N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	No such component within the EUT	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	No such component within the EUT	N/A
1.5.8	Components in equipment for IT power systems	The EUT is a Class III equipment	N/A
1.5.9	Surge suppressors	No surge suppressors used.	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	**Power interface**		**P**
1.6.1	AC power distribution systems	Not directly connected to the mains.	N/A
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	The EUT is not hand-held equipment	N/A
1.6.4	Neutral conductor	The EUT is a Class III equipment	N/A
1.7	**Marking and instructions**		**P**
1.7.1	Power rating and identification markings	See below	P
1.7.1.1	Power rating marking	See copy of marking plate.	P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	12Vdc	P
	Symbol for nature of supply, for d.c. only	⎓	P
	Rated frequency or rated frequency range (Hz)		N/A
	Rated current (mA or A)	2.5A	P
1.7.1.2	Identification markings	See below	P
	Manufacturer's name or trade-mark or identification mark	TP-LINK	P
	Model identification or type reference	Archer VR900	P
	Symbol for Class II equipment only	Class III equipment.	N/A
	Other markings and symbols	No other symbols given to raise misunderstanding.	P
1.7.1.3	Use of graphical symbols	No such symbols	N/A
1.7.2	Safety instructions and marking	See below:	P
1.7.2.1	General	Instruction is available	P
1.7.2.2	Disconnect devices	1.7.2.2 Disconnect devices The EUT is not directly supplied by mains	N/A
1.7.2.3	Overcurrent protective device	No such component within the EUT	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.4	IT power distribution systems	The EUT is not direct connection to mains	N/A
1.7.2.5	Operator access with a tool	No such area	N/A
1.2.7.6	Ozone	The EUT does not produce ozone	N/A
1.7.3	Short duty cycles	The EUT is continuous operating type	N/A
1.7.4	Supply voltage adjustment .....:		N/A
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:	No such component within the EUT	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....:	No such component within the EUT	N/A
1.7.7	Wiring terminals	No such component within the EUT	N/A
1.7.7.1	Protective earthing and bonding terminals .....:	The EUT is a Class III equipment	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	The EUT is not direct connection to mains	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	The EUT is not direct connection to mains	N/A
1.7.8	Controls and indicators	See below	P
1.7.8.1	Identification, location and marking .....:		P
1.7.8.2	Colours .....:		N/A
1.7.8.3	Symbols according to IEC 60417 .....:	For push-push type switches the symbol ⏻ are used on the equipment.	P
1.7.8.4	Markings using figures .....:	No figures used as marking	N/A
1.7.9	Isolation of multiple power sources .....:	Only one power supply	N/A
1.7.10	Thermostats and other regulating devices .....:	No such device within the EUT	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.11	Durability	After rubbing test by water and petroleum spirit, the marking still legible; it is not easily possible to remove the marking plate and show no curling	P
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries .....:	No battery within this equipment.	N/A
	Language(s) .....:		—
1.7.14	Equipment for restricted access locations.....:	The EUT is not such type	N/A

2	**PROTECTION FROM HAZARDS**		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	Complied	P
2.1.1.1	Access to energized parts	The operator has access to bare parts of SELV CIRCUITS. RJ-11 port (TNV-1,TNV-2 circuit) can't be touched by test probe.	P
	Test by inspection	Ditto.	P
	Test with test finger (Figure 2A)	Ditto.	P
	Test with test pin (Figure 2B)	Ditto.	P
	Test with test probe (Figure 2C)	Test TNV circuits.	P
2.1.1.2	Battery compartments	No battery compartment.	N
2.1.1.3	Access to ELV wiring	No ELV circuit.	N
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage circuit wiring within the EUT	N/A
2.1.1.5	Energy hazards	No energy hazards in operator access areas	N/A
2.1.1.6	Manual controls	No hazardous live shafts of operating knobs, handles, levers or the likes are used	N/A
2.1.1.7	Discharge of capacitors in equipment	No such device within the EUT	N/A
	Measured voltage (V); time-constant (s)		—

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.8	Energy hazards – d.c. mains supply	Not direct connected to the d.c. mains	N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	No such device within the EUT	N/A
2.1.2	Protection in service access areas	The EUT is a Class III equipment, no hazardous live parts or hazardous energy level within the EUT.	N/A
2.1.3	Protection in restricted access locations	The EUT is not intended to be used in restricted locations	N/A
2.2	**SELV circuits**		P
2.2.1	General requirements	The equipment supplied from SELV only.	P
2.2.2	Voltages under normal conditions (V)	42.4V peak or 60Vd.c. are not exceeded in SELV circuit under normal operation.	P
2.2.3	Voltages under fault conditions (V)	Approved external power adapter used. Single fault did not cause excessive voltage in accessible SELV circuits.	P
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other secondary circuits. SELV circuit, TNV-1 and TNV-2 circuit.	P
2.3	**TNV circuits**		N/A
2.3.1	Limits	TNV-2 circuit – Telephone ringing signal complies with the limits of clause M.3.	P
	Type of TNV circuits	TNV-2 and TNV-1	P
2.3.2	Separation from other circuits and from accessible parts	Providing BASIC INSULAION and the application of Electric strength test met the separation requirements.	P
2.3.2.1	General requirements	See below	P

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2.2	Protection by basic insulation	TNV circuit separated from SELV circuit by Basic insulation.	P
2.3.2.3	Protection by earthing	Class III equipment	N
2.3.2.4	Protection by other constructions	Basic insulation and insulation between SLIC IC (TNV-2 circuit) and SELV was covered by voltage measurement and single fault. See appended table 2.3.1	P
2.3.3	Separation from hazardous voltages	The TNV circuits are separated from circuits at hazardous voltages by double or reinforced insulation. Evaluated at power certificated.	P
	Insulation employed.....		—
2.3.4	Connection of TNV circuits to other circuits	TNV circuit separated from SELV circuit by Basic insulation.	P
	Insulation employed.....		—
2.3.5	Test for operating voltages generated externally		N

2.4	**Limited current circuits**		N/A
2.4.1	General requirements	No limited current circuits.	N
2.4.2	Limit values		N/A
	Frequency (Hz)		—
	Measured current (mA).....		—
	Measured voltage (V)		—
	Measured circuit capacitance (nF or µF)		—
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	**Limited power sources** The external power adapter complied with Limited power sources.		**P**
	a) Inherently limited output		N/A
	b) Impedance limited output	See appended table 2.5	P
	c) Regulating network limited output under normal operating and single fault condition		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA).....	See appended table 2.5	—
	Current rating of overcurrent protective device (A) .:		—
	Use of integrated circuit (IC) current limiters		N/A

2.6	**Provisions for earthing and bonding**		**N/A**
2.6.1	Protective earthing	The EUT is a Class III equipment	N/A
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing……:		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG……..:		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG..... :		—
	Protective current rating (A), cross-sectional area (mm^2), AWG..... :		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)..... :		N/A
2.6.3.5	Colour of insulation..... :		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	**Overcurrent and earth fault protection in primary circuits**		**N/A**
2.7.1	Basic requirements	The EUT is supplied by an approved external power supply unit .	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices ..... :		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel..... :		N/A
2.8	**Safety interlocks**		**N/A**
2.8.1	General principles	No safety interlock or similar devices used within the EUT	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) ..... :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.9	**Electrical insulation**		**P**
2.9.1	Properties of insulating materials	Natural rubber, hygroscopic materials or asbestos are not used	N/A
2.9.2	Humidity conditioning	Class III equipment with approved external power supply unit	N/A
	Relative humidity (%), temperature (℃) ..... :		—
2.9.3	Grade of insulation	Only functional insulation.	P
2.9.4	Separation from hazardous voltages		P
	Method(s) used ..... :		—

2.10	**Clearances, creepage distances and distances through insulation**		P
2.10.1	General		P
2.10.1.1	Frequency ..... :		N/A
2.10.1.2	Pollution degrees ..... :	II	P
2.10.1.3	Reduced values for functional insulation	See 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions	No such insulations	N/A
2.10.1.6	Special separation requirements	No used	N/A
2.10.1.7	Insulation in circuits generating starting pulses	The EUT does not produce starting pulse	N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances		N/A
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply ..... :		N/A
	b) Earthed d.c. mains supplies ..... :		N/A
	c) Unearthed d.c. mains supplies ..... :		N/A
	d) Battery operation ..... :		N/A
2.10.3.3	Clearances in primary circuits	No primary circuits.	N/A
2.10.3.4	Clearances in secondary circuits	Only functional insulation	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.5	Clearances in circuits having starting pulses	The EUT does not produce starting pulse	N/A
2.10.3.6	Transients from a.c. mains supply ..... :		N/A
2.10.3.7	Transients from d.c. mains supply ..... :		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems ..... :		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply ..... :		N/A
	For a d.c. mains supply ..... :		N/A
	b) Transients from a telecommunication network :		P
2.10.4	Creepage distances	Functional insulation only.	P
2.10.4.1	General		N/A
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests ..... :		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components	No such device within the EUT	N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No additional insulation used	N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	**Construction of printed boards**		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board	No such parts.	N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	**Component external terminations**	No such parts.	N/A
2.10.8	Tests on coated printed boards and coated components	No such parts.	N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	**WIRING, CONNECTIONS AND SUPPLY**		**P**
3.1	General		P
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring	P

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.1.2	Protection against mechanical damage	Wireways are smooth and fee from edges. Wires are adequately fixed to prevent excessive strain on wire and terminals and avoiding damage to the insulation of the conductors	P
3.1.3	Securing of internal wiring	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulation	P
3.1.4	Insulation of conductors	Insulation on internal conductor is considered to be of adequate quality and suitable for the application and the working voltage involved	P
3.1.5	Beads and ceramic insulators	No such insulator	N/A
3.1.6	Screws for electrical contact pressure	No screws used for electrical contact	N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material	N/A
3.1.8	Self-tapping and spaced thread screws	No such screws are used	N/A
3.1.9	Termination of conductors	All conductors are reliably secured	P
	10 N pull test	Considered	P
3.1.10	Sleeving on wiring	No sleeving used for supplementary insulation	N/A

3.2	**Connection to a mains supply**		**N/A**
3.2.1	Means of connection	No directly connected to the mains.	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Number of conductors, diameter of cable and conduits (mm) ..... :		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		—
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) ..... :		—
	Longitudinal displacement (mm) ..... :		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) ..... :		—
	Radius of curvature of cord (mm)..... :		—
3.2.9	Supply wiring space		N/A

3.3	**Wiring terminals for connection of external conductors**		**N/A**
3.3.1	Wiring terminals	The EUT is a Class III equipment and no wiring terminals	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) ..... :		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

3.4	**Disconnection from the mains supply**		**N/A**
3.4.1	General requirement	The EUT is a Class III equipment and supplied by an approved external power supply unit, which is not directly connected to mains	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

3.5	**Interconnection of equipment**		**P**
3.5.1	General requirements	Considered	P
3.5.2	Types of interconnection circuits	Interconnection circuits are SELV, TNV-1 and TNV-2 CIRCUITS.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection circuits	N/A
3.5.4	Data ports for additional equipment		P

4	**PHYSICAL REQUIREMENTS**		**P**
4.1	Stability		N/A
	Angle of 10°	The mass of EUT is less than 7 kg	N/A
	Test force (N) .....:	The mass of EUT is less than 25 kg and not a floor-standing unit	N/A

4.2	**Mechanical strength**		**P**
4.2.1	General		P
	Rack-mounted equipment.		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test	The EUT is transportable equipment	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) .....:	750mm drop, no hazards	P
4.2.7	Stress relief test	Test temperature 70℃, test time 7hrs , no hazards	P
4.2.8	Cathode ray tubes	No such device within the EUT	N/A
	Picture tube separately certified .....:		N/A
4.2.9	High pressure lamps	No such device within the EUT	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....:	50N	P
4.3	**Design and construction**		**P**
4.3.1	Edges and corners	The outer surface of the EUT is smoothed. No sharp edges and corners	P
4.3.2	Handles and manual controls; force (N) ..... :	No such device within the EUT	N/A
4.3.3	Adjustable controls	No such device within the EUT	N/A
4.3.4	Securing of parts	The enclosures are fixed together by mechanical fixing. No loosening of parts impairing creepage distances or clearances is likely to occur.	P
4.3.5	Connection by plugs and sockets	No misconnection likely.	N/A
4.3.6	Direct plug-in equipment	The EUT is not direct plug-in equipment	N/A
	Torque .....:		—
	Compliance with the relevant mains plug standard .....:		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.7	Heating elements in earthed equipment	No such device within the EUT	N/A
4.3.8	Batteries		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No such material within the EUT	N/A
4.3.10	Dust, powders, liquids and gases	The EUT does not produce such thing	N/A
4.3.11	Containers for liquids or gases	No such device within the EUT	N/A
4.3.12	Flammable liquids ..... :	No such material is used	N/A
	Quantity of liquid (l) ..... :		N/A
	Flash point (°C) ..... :		N/A
4.3.13	Radiation		N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation	The EUT does not generate ionizing radiation	N/A
	Measured radiation (pA/kg) ..... :		—
	Measured high-voltage (kV) ..... :		—
	Measured focus voltage (kV) ..... :		—
	CRT markings ..... :		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The EUT does not produce significant UV radiation	N/A
	Part, property, retention after test, flammability classification ..... :		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation ..... :	The EUT does not produce significant UV radiation	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class ..... :		—
4.3.13.5.2	Light emitting diodes (LEDs)		N/A
4.3.13.6	Other types ..... :	No such device within the EUT	N/A

4.4	**Protection against hazardous moving parts**	**N/A**

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.1	General	No moving parts.	N/A
4.4.2	Protection in operator access areas .....:		N/A
	Household and home/office document/media shredders	The EUT is not such type equipment	N/A
4.4.3	Protection in restricted access locations ..... :	Not intended for installation in restricted access locations	N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a).....:		N/A
	Is considered to cause pain, not injury. b) .....:		N/A
	Considered to cause injury. c) .....:		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning .....:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning .....:		N/A

4.5	**Thermal requirements**		**P**
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	(See appended table 4.5)	P
	Normal load condition per Annex L ..... :	(See Annex L)	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat .....:		N/A

4.6	**Openings in enclosures**		**P**
4.6.1	Top and side openings	See below	P
	Dimensions (mm) .....:	Numerous openings with dimension 1.91mm x 1.93mm mm on the Top	—
4.6.2	Bottoms of fire enclosures	This equipment does not require a fire enclosure.	N/A
	Construction of the bottomm, dimensions (mm) :	Numerous openings with dimension 1.59mm x 6.06mm mm on the Bottoms	—
4.6.3	Doors or covers in fire enclosures	No door or cover is provided	N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Dimensions (mm) .....:		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks) ..... :		—

4.7	**Resistance to fire**		**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	Use of materials with the required flammability classes	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	See 4.7.2.2.	N/A
4.7.2.2	Parts not requiring a fire enclosure	Following parts do not require a fire enclosure: Components in secondary circuit supplied by power sources that comply with the requirement of limited power source.	P
4.7.3	Materials		P
4.7.3.1	General	Components and materials have adequate flammability classification. (see appended table 1.5.1)	P
4.7.3.2	Materials for fire enclosures		N/A
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		N/A
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**	**P**
5.1	**Touch current and protective conductor current**	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.1	General	The EUT is a Class III equipment and provided by an approved external power supply unit	N/A
5.1.2	Configuration of equipment under test (EUT)	See below	N/A
5.1.2.1	Single connection to an a.c. mains supply	Not connect to a.c. mains supply	N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply	No multiple power sources	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	No multiple power sources	N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Supply voltage (V) ..... :		—
	Measured touch current (mA) ..... :		—
	Max. allowed touch current (mA) ..... :		—
	Measured protective conductor current (mA) ..... :		—
	Max. allowed protective conductor current (mA) . :		—
5.1.7	Equipment with touch current exceeding 3,5 mA	The EUT is not such equipment	N/A
5.1.7.1	General ..... :		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	See below	P
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	See appended table 5.1.8.1	P
	Supply voltage (V) ..... :	Power: 12Vdc	—
	Measured touch current (mA) ..... :	See appended table 5.1.8.1	—
	Max. allowed touch current (mA) ..... :	0.25mA	—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .... :		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2	**Electric strength**		P
5.2.1	General	(See appended table 5.2)	P
5.2.2	Test procedure	(See appended table 5.2)	P

5.3	**Abnormal operating and fault conditions**		**P**
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation .....:	Method c). See appended table 5.2	P
5.3.5	Electromechanical components	No such component within EUT	N/A
5.3.6	Audio amplifiers in ITE .....:	No such component within EUT	N/A
5.3.7	Simulation of faults		N/A
5.3.8	Unattended equipment	No such component within EUT	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	See below.	P
5.3.9.1	During the tests	No fire, no emit and no shrinkage, distortion or loosening if any enclosure part was noticeable on the equipment..	P
5.3.9.2	After the tests	No hazards.	P

6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		**P**
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		P
6.1.1	Protection from hazardous voltages		P
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions .....:		N/A

6.2	**Protection of equipment users from overvoltages on telecommunication networks**		**P**
6.2.1	Separation requirements		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2	Electric strength test procedure	See 5.2	P
6.2.2.1	Impulse test	See 5.2	P
6.2.2.2	Steady-state test	See 5.2	N/A
6.2.2.3	Compliance criteria	No breakdown of insulation	P
6.3	**Protection of the telecommunication wiring system from overheating**		**N/A**
	Max. output current (A) ..... :		—
	Current limiting method ..... :		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		**N/A**
7.1	General		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		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		**N/A**
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples..... :		—
	Wall thickness (mm)..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.1.3	Mounting of samples ..... :		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D ..... :		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—
	Sample 3 burning time (s) ..... :		—

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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)		N/A
A.2.1	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
A.2.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.2.3	Mounting of samples ..... :		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C ..... :		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—
	Sample 3 burning time (s) ..... :		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—
	Sample 3 burning time (s) ..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		**N/A**
B.1	General requirements		N/A
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test: test voltage (V) ..... :		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) ..... :		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ..... :		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) ..... :		—
C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
	Method of protection ..... :		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings ..... :		N/A
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		**N/A**
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		**N/A**
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		**N/A**

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		**N/A**
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply ..... :		N/A
G.2.2	Earthed d.c. mains supplies ..... :		N/A
G.2.3	Unearthed d.c. mains supplies ..... :		N/A
G.2.4	Battery operation ..... :		N/A
G.3	Determination of telecommunication network transient voltage (V) ..... :		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks ... :		N/A
G.4.2	Transients from telecommunication networks .... :		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances ..... :		N/A

H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**	**N/A**

J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		**N/A**
	Metal(s) used ..... :	Complied.	—

K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		**N/A**
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) ..... :		N/A
K.3	Thermostat endurance test; operating voltage (V) ..... :		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
K.4	Temperature limiter endurance; operating voltage (V) ..... :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		**P**
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		**P**
M.1	Introduction		N/A
M.2	Method A	See appended table 2.3.1.b	P
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) ..... :		—
M.3.1.2	Voltage (V) ..... :		—
M.3.1.3	Cadence; time (s), voltage (V) ..... :		—
M.3.1.4	Single fault current (mA) ..... :		—
M.3.2	Tripping device and monitoring voltage ..... :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) ..... :		N/A
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)**		**N/A**
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	**ANNEX P, NORMATIVE REFERENCES**		—

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		**N/A**
	Preferred climatic categories .....:		N/A
	Maximum continuous voltage .....:		N/A
	Combination pulse current .....:		N/A
	Body of the VDR Test according to IEC60695-11-5.....:		N/A
	Body of the VDR Flammability class of material (min. V-1).....:		N/A

R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		**N/A**
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		**N/A**
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		**N/A**
			—

U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		**N/A**
			—

V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		**N/A**
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A

W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		**N/A**
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		**N/A**
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		**N/A**
Y.1	Test apparatus .....:		N/A
Y.2	Mounting of test samples .....:		N/A
Y.3	Carbon-arc light-exposure apparatus .....:		N/A
Y.4	Xenon-arc light exposure apparatus .....:		N/A
Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		**N/A**
AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**		**N/A**
BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		—
CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		**N/A**
CC.1	General		N/A
CC.2	Test program 1.....:		N/A
CC.3	Test program 2.....:		N/A
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A
DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		**N/A**
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....:		N/A
DD.3	Mechanical strength test, 250N, including end stops.....:		N/A
DD.4	Compliance.....:		N/A
EE	**ANNEX EE, Household and home/office document/media shredders**		**N/A**

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

EE.1	General		N/A
EE.2	Markings and instructions		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……:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols……:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A) ……:		N/A
	Test with wedge probe (Figure EE1 and EE2) …:		N/A

1.5.1	**TABLE: List of critical components**				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
PCB	Various	Various	V-1 or better, min. 105℃	UL 94, UL 796	UL
Plastic enclosure	CHI MEI CORPORATION	PA-757(+)	Min. HB, Min. 80℃	UL 94	UL
Adapter	Ten Pao Industrial Co., Ltd.	S040EV1200250 S040EB1200250、 S040ES1200250	Input:100-240V~, 50/60Hz,1.2A; Output:12.0VDC ,2500 mA; L.P.S. ("V" denotes European plug; "B" denotes British plug; "S" denotes Australian plug)	IEC/EN 60950-1	CB by TUV Rh (JPTUV-048881)
TNV Transformer	Universal Microelectronics Co., Ltd.	UTB02180S	155℃	Tested in appliance	Tested in appliance

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
12Vdc	1.46	2.50	17.52	--	--	Maximum normal load.
Supplementary information:						
Maximum normal load: Device connected to ADSL internet and shared WiFi. Used External Power Adapter.						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				N/A
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Supplementary information:					

2.1.1.5 c) 2)	TABLE: stored energy	N/A
Capacitance C (µF)	Voltage U (V)	Energy E (J)
Supplementary information:		

2.2	TABLE: evaluation of voltage limiting components in SELV circuits		N/A
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Supplementary information:			

2.3.1 b	TABLE : TNV-2, -3 Circuits Limit Test				P
Voltage between:	Normal (V)	Abnormal condition	Abnormal (V)	Limit	Remark
Tip and ring	51.6Vdc	--	--	Uac/71+Udc/120≦1	Pass

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Tip and earth	47.5 Vdc	--	--	Uac/71+Udc/120≦1	Pass
Ring and earth	11.2 Vdc	--	--	Uac/71+Udc/120≦1	Pass
Tip and ring	51.6Vdc	U800 pin 6-8 Short	52.4Vdc	Uac/71+Udc/120≦1	Pass
Tip and earth	47.5 Vdc	U800 pin 6-8 Short	49.1Vdc	Uac/71+Udc/120≦1	Pass
Ring and earth	11.2 Vdc	U800 pin 6-8 Short	12.6Vdc	Uac/71+Udc/120≦1	Pass
Tip and ring	51.6Vdc	U800 pin 7-9 Short	52.7Vdc	Uac/71+Udc/120≦1	Pass
Tip and earth	47.5 Vdc	U800 pin 7-9 Short	50.0Vdc	Uac/71+Udc/120≦1	Pass
Ring and earth	11.2 Vdc	U800 pin 7-9 Short	12.8Vdc	Uac/71+Udc/120≦1	Pass

Note(s):

2.3.1 b	**TNV-2, -3 Circuits Limit Test (Clause M.2)**							**P**
Condition	$I_{dC(mA)}$	$I_{P(mA)}$	$I_{PP(mA)}$	$t_{1(ms)}$	$t_{2(ms)}$	$I_{TS1(mA)}$	$I_{TS2(mA)}$	$Limit_{(ms)}$
Tip and ring	10.34	15.2	30.4	568	4700	10.75	4.54	16
Tip and earth	0.16	0.52	1.04	568	4700	0.37	0.14	16
Ring and earth	0.14	0.50	1.00	568	4700	0.35	0.13	16

Note(s):

2.5	**limited power source measurement**		P
	Limits	Measured	Verdict
According to Table 2B/2C (normal condition) (Uoc= 4.90) USB1 Prot			
current (in A)	8	3.00	P
apparent power (in VA)	100	12.09	P
According to Table 2B/2C (normal condition) (Uoc=) USB2 Prot			
current (in A)	8	3.03	P
apparent power (in VA)	100	12.18	P
According to Table 2B/2C (normal condition) (Uoc= 0) RJ45 Prot(J301)			
current (in A)	8	0	P
apparent power (in VA)	100	0	P

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

According to Table 2B/2C (normal condition) (Uoc= 51.6) RJ11 Prot(J401)			
current (in A)	8	0	P
apparent power (in VA)	100	0	P
According to Table 2B/2C (single fault condition R27 Short) (Uoc= 4.90) USB1 Prot			
current (in A)	8	3.10	P
apparent power (in VA)	100	12.40	P
According to Table 2B/2C (single fault condition R27 Short) (Uoc= 4.90) USB1 Prot			
current (in A)	8	3.11	P
apparent power (in VA)	100	12.43	P

4.5	**TABLE: Thermal requirements**			P
	Supply voltage (V) ..... :	12Vdc Horizontal	12Vdc Vertical	—
	Ambient T_{min} (°C) ..... :	--	--	—
	Ambient T_{max} (°C) ..... :	40	40	—
Maximum measured temperature T of part/at:		T (°C)		Allowed T_{max} (°C)
1. PCB near DC Jak		66.6	63.4	105
2. PCB near T303		70.2	68.0	105
3.T402 body		61.7	61.1	155
4. PCB near IC101		81.9	74.5	105
5.L801 Coil		52.1	54.9	105
6.Plastic Enclosure inside		64.1	54.6	80
7.Plastic Enclosure outside		60.8	53.6	95
8.Ambient		40.0	40.0	--
	Supplementary information:			

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Temperature T of winding:	t_1 (℃)	R_1 (Ω)	t_2 (℃)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
No such device provided.	--	--	--	--	--	--	--
Supplementary information:							

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

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:

5.1.8.1	TABLE：LIMITATION OF TOUCH CURRENT DUE TO RINGING SIGNALS			**P**
Telecommunication Network Leads	Touch Current (mA) from Telecommunication			
	Normal/ on	Reverse/ on	Normal/ off	Reverse/ off
TNV to enclosure with foil	0.01	--	0.01	--
TNV to SELV	0.02	--	0.02	--
Note:				

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests		P
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
TNV to SELV circuit	AC	1000	No
TNV to Plastic enclosure with metal foil	AC	1000	No
Supplementary information: According to sub-clause 6.2.2.2, Steady-state tst.			

5.3	TABLE: Fault condition tests						P
	Ambient temperature (°C) .....:			25			—
	Power source for EUT: Manufacturer, model/type, output rating .....:			Manufacturer : Ten Pao Industrial Co., Ltd. model: S040EV1200250 Output:12VDC ,2500mA;			—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Openings	Blocked	12Vdc	2hrs 44min	--	--	Unit operated normally. No damage, no hazard. T402 body:51.2℃ PCB near IC101:71.5℃ Ambient = 27.1℃	
Supplementary information:							

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

National differences for Australia and New Zealand IEC 60950-1, 2nd edition			
	ANNEX ZZ (normative) Variations to IEC 60950-1, ED.2.0 (2005) for application in Australia and New Zealan		
ZZ1	**Introduction** This Annex sets out variations and additional requirements to cover issues which have not been addressed by the International Standard. These variations indicate national variations for purposes of the IECEE CB Scheme and will be published in the IECEE CB Bulletin.		--
ZZ2	**Variations** The following variations apply to the source tex		--
1.2	Between the definitions for 'Person, service' and 'Range, rated frequency' insert the following: POTENTIAL IGNITION SOURCE 1.2.12		P
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: 1.2.12.201 POTENTIAL IGNITION SOURCE: Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c and the product of the peak value of this voltage and the measured r.m.s current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202 This definition is from AS/NZS 60065:2003		P
1.5.1	Add the following to the end of first paragraph: "or the relevant Australian/New Zealand Standard". In NOTE 1, add the following after the word "Standard: "or an Australian/New Zealand Standard"		P

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.2	Add the following to the end of first and third dash items: "or the relevant Australian/New Zealand Standard"		P
3.2.5.1	*Modify* Table 3B as follows: *Delete* the first four rows and replace with the following: RATED CURRENT of equipment A | Minimum conductor sizes: Nominal cross-sectional area mm² | AWG or kcmil [cross-sectional area in mm²] see Note 2 Over 0.2 up to and including 3 | 0,5 a) | 18 [0,8] Over 3 up to and including 7.5 | 0,75 | 16 [1,3] Over 7.5 up to and including 10 | (0,75) b) 1,00 | 16 [1,3] Over 10 up to and including 16 | (1,0) c) 1,5 | 14 [2] *Delete* NOTE 1. *Replace* footnote a) with the following: 1) This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191).		N/A
4.1.201	*Insert* a new Clause 4.1.201 after Clause 4.1 as follows: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.		N/A
4.3.6	*Delete* the third paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.3.13.5	*Add* the following to the end of the first paragraph: ", or AS/NZS 2211.1".		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	*Add* the following new paragraph to the end of the clause: "For alternate tests refer to Clause 4.7.201."		N/A
4.7.201	*Insert* a new Clause 4.7.201 after Clause 4.7.3.6 as follows: **4.7.201 Resistance to fire – Alternative tests** **4.7.201.1 General** Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE In considering how to minimize propagation of fire and what "small parts" are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.	The equipment complies with the requirements of IEC 60950-1. Alternative test methods are not considered.	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Cont.	**4.7.201.2 Testing of non-metallic materials** Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550℃. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part. **4.7.201.3 Testing of insulating materials** Parts of insulating material supporting **POTENTIAL IGNITION SOURCES** shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750℃. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: N/A		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Cont.			N/A

Clause of AS/NZS 60695.11.5	Change
9 Test procedure	
9.2 Application of needle-flame	*Replace* the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner *Replace* the first paragraph with: The duration of application of the test flame shall be 30 s ±1 s.
9.3 Number of test specimens	*Replace* with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.
11 Evaluation of test results	*Replace* with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.

The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.

4.7.201.4 Testing in the event of non-extinguishing material

If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Cont.	NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections. **4.7.201.5 Testing of printed boards** The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a **POTENTIAL** IGNITION **SOURCE**. The test is not carried out if the — - Printed board does not carry any **POTENTIAL IGNITION SOURCE**; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely.		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Compliance shall be determined using the smallest thickness of the material. NOTE – Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		N/A
6.2.2	For Australia only, *delete* the first paragraph and Note, and *replace* with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.		P
6.2.2.1	For Australia only, *delete* the first paragraph including the Notes, and *replace* with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is: (i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 – The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 – The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		P
6.2.2.2	For Australia only, *delete* the second paragraph including the Note, and *replace* with the following. In Australia only, the a.c. test voltage is: (i) for 6.2.1 a): 3 kV; and (ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 – The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		P
7.3	*Add* the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and anal ogue or data ports not intended to be used for telecommunications purposes.		P
Annex P	*Add* the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		P

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Index	*Insert* the following between “asbestos, not be used as insulation” and “attitude see orientation”: AS/NZS 2211.1 4.3.13.5 AS/NZS 3112 4.3.6 AS/NZS 3191 3.2.5.1 (Table 3B) AS/NZS 60064 4.1.201 AS/NZS 60695.2.11 4.7.201.2, 4.7.201.3 AS/NZS 60695.11.10 4.7.201.1, 4.7.201.5 AS/NZS 60695.11.5 4.7.201.3 *Insert* the following between “positive temperature coefficient (PTC) device” and ‘powder’: potential ignition source 1.2.201, 4.7.201.3, 4.7.201.5		P

Photo # 1 Front View

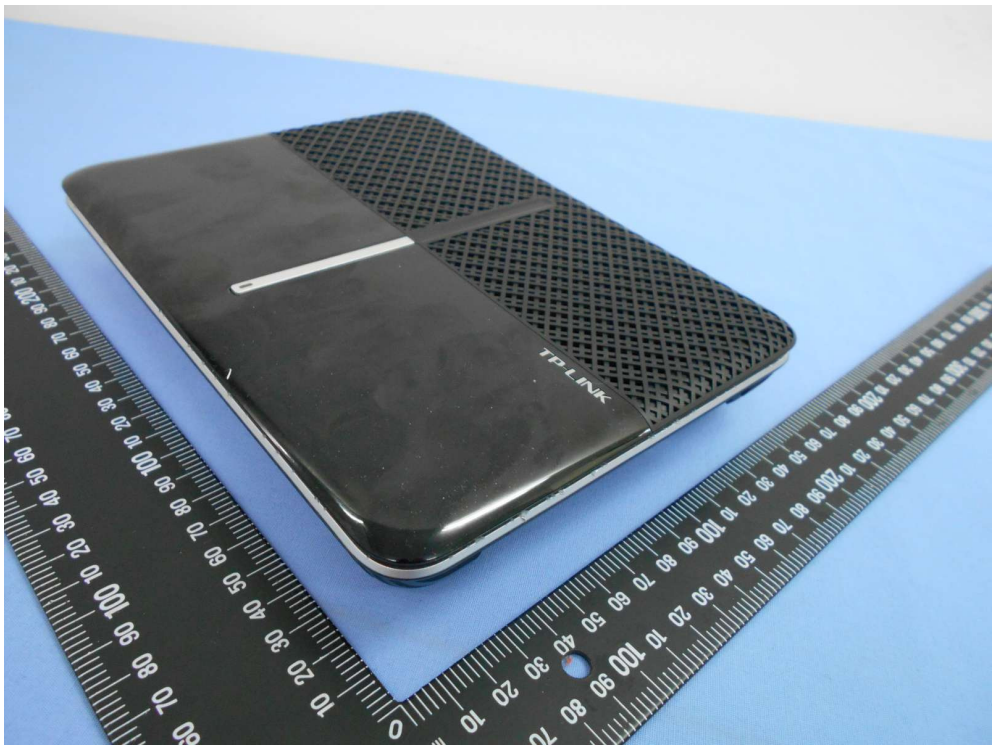


Photo # 2 Rear View

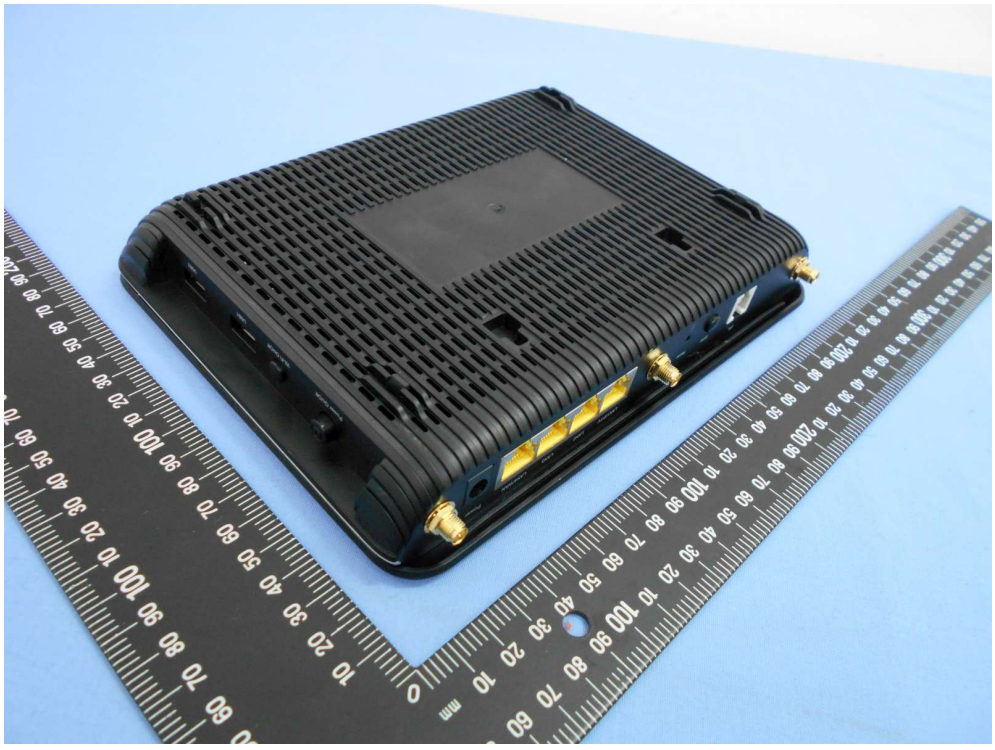


Photo # 3 TOP View

Photo # 4 Bottom View

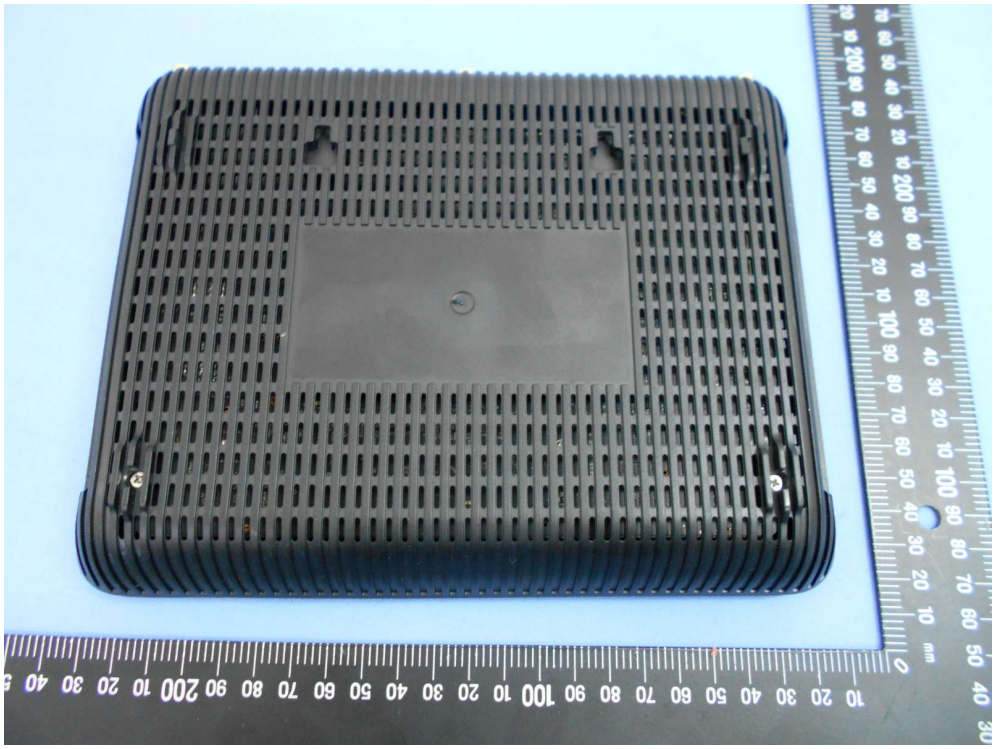


Photo # 5 IO Port View

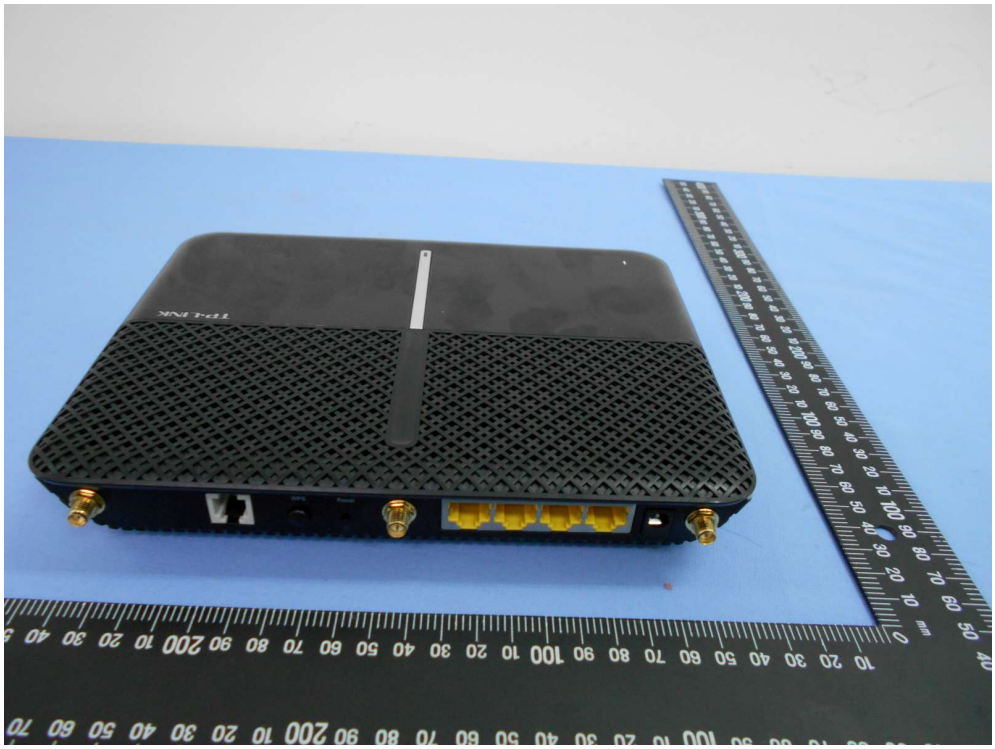


Photo # 6 Unit Partially Disassembled View

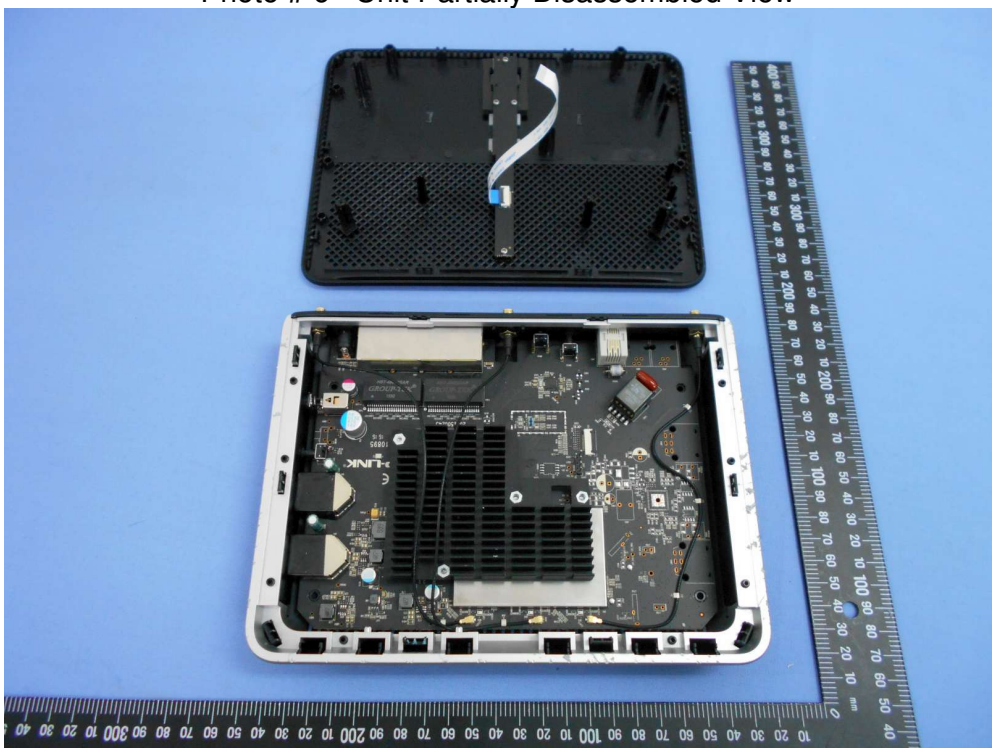


Photo # 7 Unit Partially Disassembled View

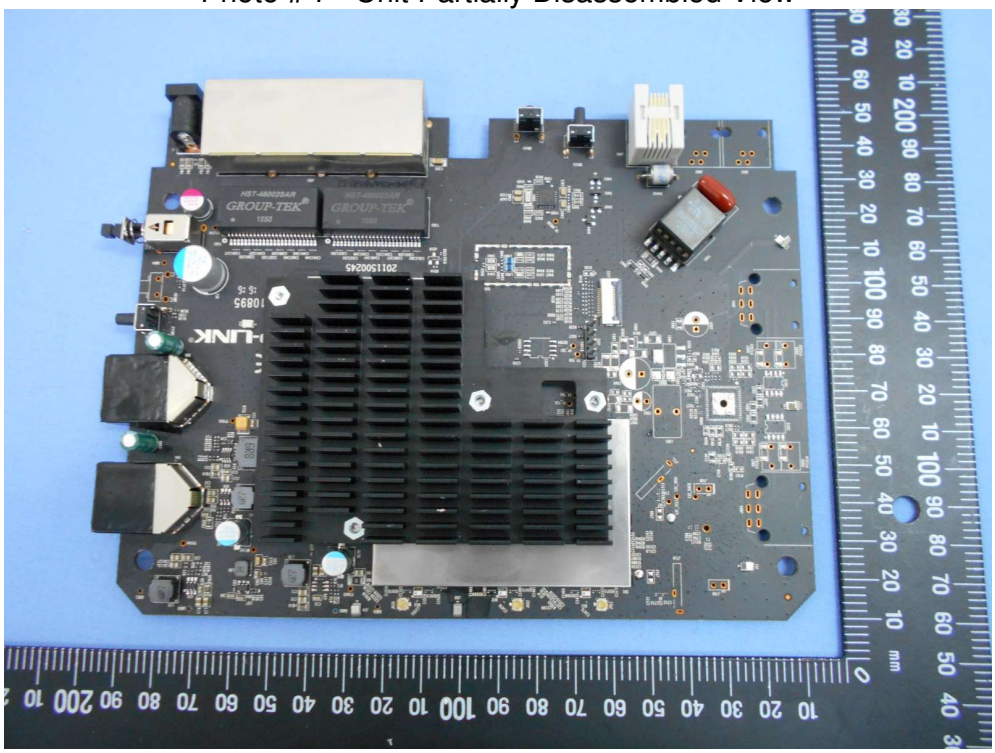


Photo # 8 Unit Partially Disassembled View

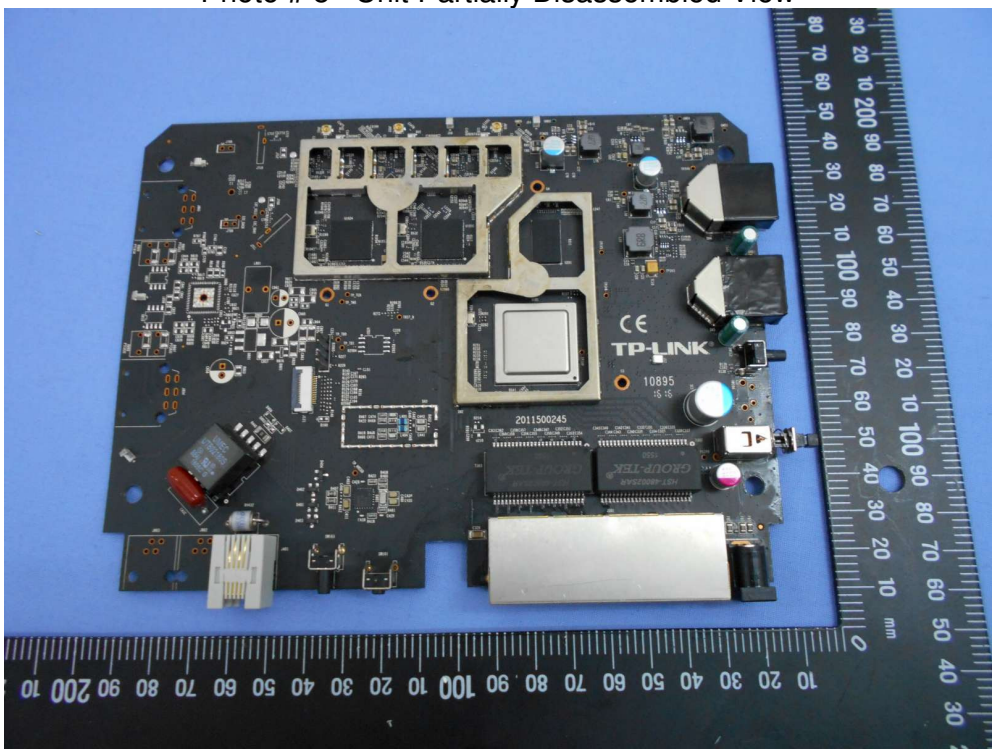


Photo # 9 Unit Partially Disassembled View

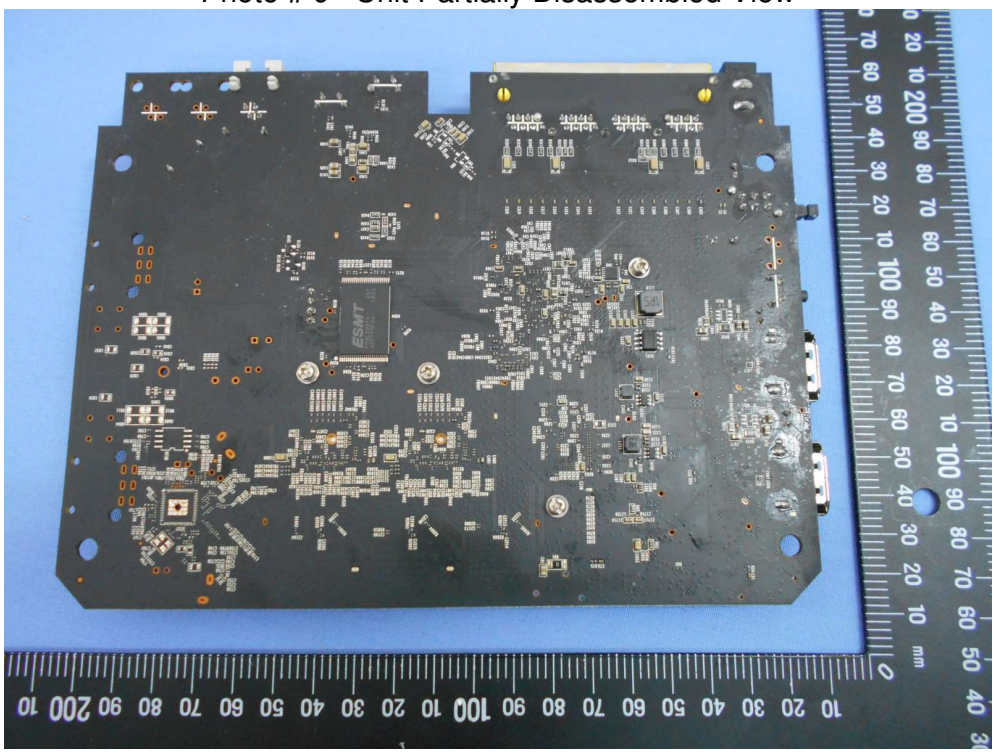


Photo # 10 Adapter View

Photo # 11 Adapter View

Photo # 12 Adapter View

End of the Test Report