

SPORTON LAB.

Certificate No: L191916L442

CERTIFICATE

EQUIPMENT: TINY (TRN) Mobile Broadband Router

MODEL NO.: TRN

APPLICANT: DOVADO FZ-LLC

Dubai Internet City, Al-Thuraya Tower 1, P.O. Box

500422, Dubai, United Arab Emirates





CERTIFY THAT:

THE MEASUREMENTS SHOWN IN THIS TEST REPORT WERE MADE IN ACCORDANCE WITH THE PROCEDURES GIVEN IN **EUROPEAN COUNCIL DIRECTIVE 2006/95/EC.** THE EQUIPMENT WAS **PASSED** THE TEST PERFORMED ACCORDING TO

European Standard: 2006/95/EC

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IEC 60950-1: 2005 (2nd Edition) EN 60950-1: 2006+A11:2009

This evaluation was carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care. This certification is not intended to relieve the sellers from their contractual obligations.

THE CERTIFICATE WAS CARRIED OUT ON November 25, 2011 AT SPORTON INTERNATIONAL INC. LAB.

Hans Hsieh

Director

Deter Hou



LOW VOLTAGE DIRECTIVE TEST REPORT

IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1: 2006

Information technology equipment – Safety – Part 1: General requirements

Report Reference No. L191916L422

Compiled by (+ signature) Nancy Shi

Engineer

Approved by (+ signature) Peter Hsu

Reviewer

Date of Issue November 25, 2011

Testing laboratory...... Sporton International Inc.

Address....... 14 Fl-2, No. 186, Jianyi Road, Zhonghe District, New Taipei City, Taiwan

Testing location Taiwan

Applicant DOVADO FZ-LLC

Address...... Dubai Internet City,Al-Thuraya Tower 1,P.O. Box 500422,Dubai, United

Arab Emirates

Standard IEC 60950-1: 2005 (2nd Edition) and/or

EN 60950-1: 2006+A11:2009

Test Report Form No.: LVD 60950-1

Test procedure Sporton LVD type test approval

Procedure deviation.....: N/A

Non-standard test method.....: N/A

Type of test object TINY (TRN) Mobile Broadband Router

Trademark: Dovado

Model/type reference...... TRN

Manufacturer EDIMAX TECHNOLOGY CO., LTD.

Taiwan

Rating..... DC 5 V, 1 A



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	
Mains supply tolerance (%) or absolute mains supply values:	Not directly connected to the mains	
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 (A):	N/A	
Pollution degree (PD)	[] PD 1 [X] PD 2 [] PD 3	
IP protection class:	IPX0	
Altitude during operation (m)	Up to 2000 m	
Altitude of test laboratory (m):	Not over 2000 m	
Mass of equipment (kg):	0.07	
Test case verdicts		
Test case does not apply to the test object:	N (N.A.)	
Test item does meet the requirement:	P (Pass)	
Test item does not meet the requirement:	F (Fail)	
Testing:		
- Date of receipt of test item:	2011-09-20	
- Date(s) of performance of test:	2011-11-25	

General remarks:

The test result presented in this report relate only to the object(s) tested.

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

"(see appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.



Comments:

The test results are true for the test sample(s) only.

A part of this test report or certificate should not be duplicated in any way; however, the duplication of the whole document is allowed.

This test-report includes the following documents:

Test report - (38 pages)

Photo - (05 pages)

General product information:

- -The equipment is a TINY (TRN) Mobile Broadband Router, intended for used with information technology equipment.
- -The unit will be used with below power adapter, which max. ambient temperature is 40°C in following power adapter test report. However, the max. ambient temperature can be changed to 50°C according to cl. 1.4.12.3 by calculating. Manufacturer: Dee Van Enterprise Co., Ltd., type: DSA-12PFA-05 FEU 050200.
- -The external power adaptor is approved product and complied with the requirements of sub-clause 2.5 as a limited power source, see appended table 1.5.1 for detail.
- -Overall dimensions of the equipment were approximate 74.4 by 61.9 by 23.1 mm, and plastic enclosure was secured together by screw.
- -The equipment was evaluated for use in a maximum air ambient of 50 °C.
- -The test sample is pre-production without serial number.



Clause	Requirement - Test	Result - Remark	Verdict
1	GENERAL		Pass

1.5	Components		Pass
1.5.1	Comply with IEC 60950 or relevant component standard	Components, which were found to affect safety aspects, comply with the requirements of this standard or with the safety aspects of the relevant IEC/EN component standards.	Pass
1.5.2	Evaluation and testing of components	Components, which are certified to IEC/EN and/or national standards, are used correctly within their ratings or have been evaluated during this approval.	Pass
1.5.3	Thermal controls		N.A.
1.5.4	Transformers		N.A.
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		N.A.
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N.A.
1.5.8	Components in equipment for IT power systems		N.A.
1.5.9	Surge suppressors		N.A.
1.5.9.1	General		N.A.
1.5.9.2	Protection of VDRs		N.A.
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		Pass
1.6.1	AC power distribution systems		N.A.
1.6.2	Input current	See appended table 1.6.2	Pass
1.6.3	Voltage limit of hand-held equipment		N.A.
1.6.4	Neutral conductor		N.A.



1.7	Marking and instructions		Pass
1.7.1	Power rating	See below	Pass
	Rated voltage(s) or voltage range(s) (V)	The unit does not directly connect to Mains supply. (Rated voltage DC 5 V is optional marked)	N.A.
	Symbol for nature of supply, for d.c. only	The unit does not directly connect to Mains supply. (DC symbol is optional marked)	N.A.
	Rated frequency or rated frequency range (Hz)	DC input	N.A.
	Rated current (mA or A)	The unit does not directly connect to Mains supply. (Rated current 1 A is optional marked)	N.A.
	Manufacturer's name or trade-mark or identification mark	Dovado	Pass
	Type/model or type reference	TRN	Pass
	Symbol for Class II equipment only	Class III equipment.	N.A.
	Other symbols	Additional symbols or marking do not give rise to misunderstandings.	Pass
1.7.2	Safety instructions and marking	See below.	Pass
1.7.2.1	General	Operation/installation instruction is provided with each unit.	Pass
1.7.2.2	Disconnect devices		N.A.
1.7.2.3	Overcurrent protective device		N.A.
1.7.2.4	IT power distribution systems		N.A.
1.7.2.5	Operator access with a tool		N.A.
1.7.2.6	Ozone		N.A.
1.7.3	Short duty cycles		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		N.A.
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)		N.A.
1.7.7	Wiring terminals		N.A.
1.7.7.1	Protective earthing and bonding terminals		N.A.
1.7.7.2	Terminal for a.c. mains supply conductors		N.A.
1.7.7.3	Terminals for d.c. mains supply conductors		N.A.
1.7.8	Controls and indicators		Pass
1.7.8.1	Identification, location and marking		N.A.
1.7.8.2	Colours		N.A.



1.7.8.3	Symbols according to IEC 60417		N.A.
1.7.8.4	Markings using figures		N.A.
1.7.9	Isolation of multiple power sources		N.A.
1.7.10	Thermostats and other regulating devices		N.A.
1.7.11	Durability		N.A.
1.7.12	Removable parts	No markings placed on removable parts.	N.A.
1.7.13	Replaceable batteries		N.A.
	Language(s)		_
1.7.14	Equipment for restricted access locations	Not intended for use in restricted access locations.	N.A.

2	PROTECTION FROM HAZARDS	Pass	

2.1	Protection from electric shock and energy haz	ards	Pass
2.1.1	Protection in operator access areas	See below	Pass
2.1.1.1	Access to energized parts	The unit is supplied from approved power supply that provides SELV.	Pass
		Only SELV circuit inside the unit. No electrical shock or energy hazards.	
	Test by inspection		N.A.
	Test with test finger (Figure 2A)		N.A.
	Test with test pin (Figure 2B)		N.A.
	Test with test probe (Figure 2C)		N.A.
2.1.1.2	Battery compartments		N.A.
2.1.1.3	Access to ELV wiring		N.A.
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		_
2.1.1.4	Access to hazardous voltage circuit wiring		N.A.
2.1.1.5	Energy hazards	No energy hazard in operator access area.	Pass
2.1.1.6	Manual controls		N.A.
2.1.1.7	Discharge of capacitors in equipment		N.A.
	Time-constant (s); measured voltage (V)		_
2.1.1.8	Energy hazards – d.c. mains supplies		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		N.A.
2.1.2	Protection in service access areas		N.A.



2.1.3	Protection in restricted access locations	N.A.

2.2	SELV circuits		Pass
2.2.1	General requirements	See below.	Pass
2.2.2	Voltages under normal conditions (V)	Between any SELV circuits 42.4 Vpeak and 60 Vdc are not exceeded.	Pass
2.2.3	Voltages under fault conditions (V)	Single fault did not cause excessive voltage in accessible SELV circuits.	Pass
		Limits of 71V peak and 120Vd.c. were not exceeded within 0.2s and limits 42.4V peak and 60Vd.c. were not exceeded for longer than 0.2s.	
2.2.4	Connection of SELV circuits to other circuits	SELV circuit only connected to SELV	Pass

2.3	TNV circuits		N.A.
2.3.1	Limits	No TNV circuits.	N.A.
	Type of TNV circuits		_
2.3.2	Separation from others circuits and from accessible parts		N.A.
2.3.2.1	General requirements		N.A.
2.3.2.2	Protection by basic insulation		N.A.
2.3.2.3	Protection by earthing		N.A.
2.3.2.4	Protection by other constructions		N.A.
2.3.3	Separation from hazardous voltages		N.A.
	Insulation employed		_
2.3.4	Connection of TNV circuits to other circuits		N.A.
	Insulation employed		_
2.3.5	Test for operating voltages generated externally		N.A.

2.4	Limited current circuits		N.A.
2.4.1	General requirements	No limited current circuits.	N.A.
2.4.2	Limit values		N.A.
	Frequency (Hz)		_
	Measured current (mA)		_
	Measured voltage (V) :		_
	Measured capacitance (µF)		_
2.4.3	Connection of limited current circuits to other circuits		N.A.

2.5	Limited power sources	Pass	l
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a) Inherently limited output		N.A.
b) Impedance limited output		N.A.
c) Regulating network limited output under normal operating and single fault condition	For USB port	Pass
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)		_

2.6	Provisions for earthing and bonding		N.A.
2.6.1	Protective earthing	Class III equipment.	N.A.
2.6.2	Functional earthing		N.A.
2.6.3	Protective earthing conductors 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 (mm²), AWG		_
2.6.3.3	Size of protective bonding conductors		N.A.
	Rated current (A), cross-sectional area (mm²), AWG		_
	Protective current rating (A), cross-sectional area (mm²), AWG		N.A.
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 and 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.
2.6.5.4	Parts that can be removed by an operator		N.A.
2.6.5.5	Parts removed during servicing		N.A.
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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	Over current and earth fault protection in primary circuits		N.A.
2.7.1	Basic requirements	Class III equipment.	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	N.A.
2.8.2	Protection requirements	N.A.
2.8.3	Inadvertent reactivation	N.A.
2.8.4	Fail-safe operation	N.A.
2.8.5	Moving parts	N.A.
2.8.6	Overriding	N.A.
2.8.7	Switches and relays	N.A.
2.8.7.1	Contact gaps (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.

2.9	Electrical insulation		Pass
2.9.1	Properties of insulating materials	Only functional insulation in the unit. See Clause 5.3.4.	Pass
2.9.2	Humidity conditioning		N.A.
	Humidity (%),Temperature (°ℂ)		_
2.9.3	Grade of insulation	See Clause 2.9.1.	Pass
2.9.4	Separation from hazardous voltages		N.A.
	Method(s) used		



2.10.1	General	Functional insulation only. See Clause 5.3.4.	Pass
2.10.1.1	Frequency		N.A.
2.10.1.2	Pollution degrees		N.A.
2.10.1.3	Reduced values for functional insulation		N.A.
2.10.1.4	Intervening unconnected conductive parts		N.A.
2.10.1.5	Insulation with varying dimensions		N.A.
2.10.1.6	Special separation requirements		N.A.
2.10.1.7	Insulation in circuits generating starting pulses		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		N.A.
2.10.3.4	Clearances in secondary circuits		N.A.
2.10.3.5	Clearances in circuits having starting pulses		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		N.A.
2.10.4	Creepage distances		N.A.
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.



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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.
	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	N.A.
	Electric strength test	_
	Routine test	N.A.
2.10.5.14	Additional insulation in wound components	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	N.A.
	Distance through insulation	N.A.
	Number of insulation layers (pcs)	N.A.
2.10.7	Component external terminations	N.A.
2.10.8	Tests on coated printed boards and coated components	N.A.
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2.10.8.1	Sample preparation and preliminary inspection	N.A.
2.10.8.2	Thermal conditioning (°C)	N.A.
2.10.8.3	Electric strength test	_
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	Pass
3.1	General	N.A.
3.1.1	Current rating and overcurrent protection	N.A.
3.1.2	Protection against mechanical damage	N.A.
3.1.3	Securing of internal wiring	N.A.
3.1.4	Insulation of conductors	N.A.
3.1.5	Beads and ceramic insulators	N.A.
3.1.6	Screws for electrical contact pressure	N.A.
3.1.7	Insulation materials in electrical connections	N.A.
3.1.8	Self-tapping and spaced thread screws	N.A.
3.1.9	Termination of conductors	N.A.
	10 N pull test	N.A.
3.1.10	Sleeving on wiring	N.A.

3.2	Connection to a mains supply		N.A.
3.2.1	Means of connection	Class III equipment.	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.
	Number of conductors, diameter (mm) of cable and conduits		_
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 (mm²), 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 co	nductors	N.A.
3.3.1	Wiring terminals	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 (mm²)		_
3.3.5	Wiring terminal sizes		N.A.
	Rated current (A), type and nominal thread diameter (mm)		_
3.3.6	Wiring terminals design		N.A.
3.3.7	Grouping of wiring terminals		N.A.
3.3.8	Stranded wire		N.A.

3.4	Disconnection from the mains supply		N.A.
3.4.1	General requirement	Class III equipment.	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.
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3.5	Interconnection of equipment	Interconnection of equipment	
3.5.1	General requirements	See below.	Pass
3.5.2	Types of interconnection circuits	Interconnection circuits of SELV through the connectors.	Pass
3.5.3	ELV circuits as interconnection circuits		N.A.
3.5.4	Data ports for additional equipments	See appended table 2.5	Pass

4 PHYSICAL REQUIREMENTS	Pass	l
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4.1	Stability		N.A.
	Angle of 10°	< 7 kg.	N.A.
	Test: force (N)		N.A.

4.2	Mechanical strength	N.A.
4.2.1	General	N.A.
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	N.A.
4.2.5	Impact test	N.A.
	Fall test	N.A.
	Swing test	N.A.
4.2.6	Drop test; height (mm)	N.A.
4.2.7	Stress relief test	N.A.
4.2.8	Cathode ray tubes	N.A.
	Picture tube separately certified	N.A.
4.2.9	High pressure lamps	N.A.
4.2.10	Wall or ceiling mounted equipment; force (N)	N.A.

4.3	Design and construction		Pass
4.3.1	Edges and corners	All edges and corners are rounded or smoothed	Pass
4.3.2	Handles and manual controls; force (N)		N.A.
4.3.3	Adjustable controls		N.A.
4.3.4	Securing of parts		N.A.
4.3.5	Connection of plugs and sockets		N.A.



4.3.6	Direct plug-in equipment		N.A.
	Dimensions (mm) of mains plug for direct		N.A.
	plug-in:		
	Torque and pull test of mains plug for direct		N.A.
	plug-in; torque (Nm);pull(N)		
4.3.7	Heating elements in earthed equipment		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		N.A.
4.3.10	Dust, powders, liquids and gases		N.A.
4.3.11	Containers for liquids or gases		N.A.
4.3.12	Flammable liquids		N.A.
	Quantity of liquid (I)		N.A.
	Flash point (°C)		N.A.
4.3.13	Radiation; type of radiation	See below.	Pass
4.3.13.1	General	See below.	Pass
4.3.13.2	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		N.A.
	Part, property, retention after test, flammability classification		N.A.
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N.A.
4.3.13.5	Laser (including LEDs)	LEDs are used as indicating lights.	Pass
	Laser class		
4.3.13.6	Other types		N.A.

4.4	Protection against hazardous moving parts	N.A.
4.4.1	General	N.A.
4.4.2	Protection in operator access areas	N.A.
4.4.3	Protection in restricted access locations	N.A.
4.4.4	Protection in service access areas	N.A.



4.5	Thermal requirements		Pass
4.5.1	General	See below	Pass
4.5.2	Temperature tests	See appended table 4.5	Pass
	Normal load condition per Annex L	See appended table 1.6.2	_
4.5.3	Temperature limits for materials	See appended table 4.5	Pass
4.5.4	Touch temperature limits	See appended table 4.5	Pass
4.5.5	Resistance to abnormal heat		N.A.

4.6	Openings in enclosures		N.A.
4.6.1	Top and side openings	No opening.	N.A.
	Dimensions (mm)		_
4.6.2	Bottoms of fire enclosures	No opening.	N.A.
	Construction of the bottom, dimensions (mm)		_
4.6.3	Doors or covers in fire enclosures		N.A.
4.6.4	Openings in transportable equipment		N.A.
4.6.4.1	Constructional design measures		N.A.
	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		Pass
4.7.1	Reducing the risk of ignition and spread of flame	See below.	Pass
	Method 1, selection and application of components wiring and materials	Use of materials with the required flammability classes.	Pass
	Method 2, application of all of simulated fault condition tests		N.A.
4.7.2	Conditions for a fire enclosure	See below.	Pass
4.7.2.1	Parts requiring a fire enclosure		N.A.
4.7.2.2	Parts not requiring a fire enclosure	With having the following parts:	Pass
		 Components in secondary (supplied by LPS). 	
		 Components mounted on material of flammability Class V-1. 	
		The fire enclosure is not required.	
4.7.3	Materials	See below.	Pass
4.7.3.1	General	See appended table 1.5.1	Pass
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 SIMULAT	ED ABNORMAL CONDITIONS	Pass
5.1	Touch current and protective conductor current		N.A.
5.1.1	General	Class III equipment.	N.A.
5.1.2	Equipment under test (EUT)		N.A.
5.1.2.1	Single connection to an a.c. mains supply		N.A.
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N.A.
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		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)		N.A.
5.1.7	Equipment with touch current exceeding 3.5 mA		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 and from telecommunication networks and cable distribution systems and from telecommunication networks		N.A.
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		N.A.
	Supply voltage (V)		_
	Measured touch current (mA))		_
	Max. allowed touch current (mA)		_
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.

5.2	Electric strength		N.A.
5.2.1	General	Class III equipment.	N.A.
5.2.2	Test procedure		N.A.

5.3	Abnormal operating and fault conditions		Pass
5.3.1	Protection against overload and abnormal operation	See below.	Pass
5.3.2	Motors		N.A.
5.3.3	Transformers		N.A.
5.3.4	Functional insulation	 Complied with the requirements c). All components are mounted on PCB of flammability V-1 No risk of electrical shock Not test had been performed. 	Pass
5.3.5	Electromechanical components		N.A.
5.3.6	Audio amplifiers in ITE		N.A.
5.3.7	Simulation of faults		N.A.
5.3.8	Unattended equipment		N.A.
5.3.9	Compliance criteria for abnormal operating and fault conditions	d	N.A.
5.3.9.1	During the tests		N.A.
5.3.9.2	After the tests		N.A.

6	CONNECTION TO TELECOMMUNICATION NETWORKS	N.A.	
---	--	------	--

6.1	Protection of telecommunication network service personnel, and users of other equipment connected to the network, from hazards in the equipment	
6.1.1	Protection from hazardous voltages	N.A.
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		N.A.
6.2.1	Separation requirements		N.A.



6.2.2	Electric strength test procedure	N.A.
6.2.2.1	Impulse test	N.A.
6.2.2.2	Steady-state test	N.A.
6.2.2.3	Compliance criteria	N.A.

6.3	Protection of telecommunication wiring system from overheating		N.A.
	Max. output current (A)		
	Current limiting method		_

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS	N.A.
		<u>, </u>
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.



Α	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)	
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	N.A.
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)	_
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.



В	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	_
	Туре	_
	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)	_
	Electric strength test: test voltage (V)	_
B.6	Running overload test for DC 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 DC 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)	_

С	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)	N.A.
	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.1	Measuring instrument	
D 0		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	N.A.
	(see 2.10)	
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 levels (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.
Н	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 used	_



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.
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 T BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)	YPES OF ELECTRICAL Pass
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	Pass

М	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)	N.A.
M.1	Introduction	N.A.
M.2	Method A	N.A.
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.

N.A.



Р	ANNEX P, NORMATIVE REFERENCES	Pass
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)	N.A.
	a) Preferred climatic categories	N.A.
	b) Maximum continuous voltage	N.A.
	c) Pulse current	N.A.
	0,1 4,55 54.1611	14.74.
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.
<u> </u>	a para di di para di di	•
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)	N.A.
		N.A.
т	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2) ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED	_
т	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2) ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED	_
т	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2) ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED	_
T U	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2) ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4).	N.A.
T U	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2) ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4). ANNEX V, AC POWER DISTRIBUTION SYSTEMAS (see 1.6.1)	N.A.
V V.1 V.2	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4). ANNEX V, AC POWER DISTRIBUTION SYSTEMAS (see 1.6.1) Introduction TN power distribution systems	N.A. N.A. N.A. N.A.
T U V V.1	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2) ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4). ANNEX V, AC POWER DISTRIBUTION SYSTEMAS (see 1.6.1) Introduction	N.A. N.A. N.A.
V V.1 V.2	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4). ANNEX V, AC POWER DISTRIBUTION SYSTEMAS (see 1.6.1) Introduction TN power distribution systems ANNEX W, SUMMATION OF TOUCH CURRENTS	N.A. N.A. N.A. N.A.
V V.1 V.2 W W.1	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2) ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4). ANNEX V, AC POWER DISTRIBUTION SYSTEMAS (see 1.6.1) Introduction TN power distribution systems ANNEX W, SUMMATION OF TOUCH CURRENTS Touch current from electronic circuits	N.A. N.A. N.A. N.A. N.A.
V V.1 V.2 W W.1 W.1.1	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4). ANNEX V, AC POWER DISTRIBUTION SYSTEMAS (see 1.6.1) Introduction TN power distribution systems ANNEX W, SUMMATION OF TOUCH CURRENTS Touch current from electronic circuits Floating circuits	N.A. N.A. N.A. N.A. N.A. N.A.
V V.1 V.2 W W.1.1 W.1.1	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2) ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4). ANNEX V, AC POWER DISTRIBUTION SYSTEMAS (see 1.6.1) Introduction TN power distribution systems ANNEX W, SUMMATION OF TOUCH CURRENTS Touch current from electronic circuits Floating circuits Earthed circuits	N.A. N.A. N.A. N.A. N.A. N.A. N.A.
V V.1 V.2 W W.1.1 W.1.2 W.2	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4). ANNEX V, AC POWER DISTRIBUTION SYSTEMAS (see 1.6.1) Introduction TN power distribution systems ANNEX W, SUMMATION OF TOUCH CURRENTS Touch current from electronic circuits Floating circuits Earthed circuits Interconnection of several equipments	N.A. N.A. N.A. N.A. N.A. N.A. N.A. N.A.

ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)

X



X.1	Determination of maximum input current	N.A.
X.2	Overload test procedure	N.A.
Υ	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.
ВВ	ANNEX BB, CHANGES IN THE SECOND EDITION	_



1.5.1	TABLE: list of criti	cal components				Pass
object/part No	manufacturer/ trademark	type/model	technical data	standard	mark(s	,
AC Adaptor	Dee Van Enterprise Co., Ltd.	DSC-6PFA-05 FEU 050100	I/P: 100-240Vac, 50/60 Hz, 0.2 A. O/P: DC 5 V, 1 A Class II, 50°C, LPS.	EN 60950-1: 2006+A11+A1	TUV/ F (Cert. I S1 501	
(alternate)	Dee Van Enterprise Co., Ltd.	DSA-12PFA-05 FEU 050200	I/P: 100-240Vac, 50/60 Hz, 0.5 A. I/P: DC 5 V, 2 A Class II, 40°C, LPS.	EN 60950-1: 2006+A11+A1	TUV/ F (Cert. I S1 501	
PWB			Min. V-1, Min. 105 °C	UL 796	UL	
Plastic enclos	ure		HB min.	UL 94	UL	
* Additional te	sting and evaluatior	n may be required b	ased on auditing agency's	discretion.		



1.6.2	1.6.2 TABLE: electrical data (in normal conditions)						Pass	
fuse #	I _{rated} (A)	U (V)	P (W)	I (A)	I _{fuse} (A)	condition/status		
	1.0	DC 5 V	3.95	0.79		Maximum Normal Load		

Note(s): **Maximum Normal Load:**The equipment communicated with PC via LAN port (RJ-45) then operated continuously and the USB port loaded 0.5A.

2.1.1.5	TABLE: r	ABLE: max. V, A, VA test						
Voltage (rated) (V)		Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)			
Note(s):								

2.1.1.7 T	ABLE: dis	N.A.				
Condition		t calculated (s)	т measured (s)	tu → 0V (s)	Comments	
Note(s):						

2.2.2	TABLE: Hazardou	N.A.				
Transformer		Location	max. V	oltage	Voltage Compor	Limitation
			V peak	V d.c.	Compor	ici
Note(s):						

2.2.3	TABLE: SEL vol	ABLE: SEL voltage measurement				
L	ocation_	Voltage measured (V)	Comments	5		
Note(s):						

2.4.2	TABLE:		N.A.				
Location	Location Voltage Current Freq. Limit Comment (V) (mA) (kHz) (mA)				S		
Note(s):							

2.5	TABLE: limited power source measurement						
	Limits Measured						
USB Port	USB Port						

Sporton International Inc.



According to Table 2B (n	ormal condition), Pin 1, Uoc =	=5.08 V	
current (in A)	8	1.02	Pass
Apparent power (in VA)	≤ 100	1.785	Pass
According to Table 2B (n	ormal condition), Pin 2~Pin 4,	Uoc =0 V	
current (in A)	8	0	Pass
Apparent power (in VA)	≤ 100	0	Pass
According to Table 2B (S	Single fault condition), Q9 Pin 2	-3 short, Uoc =5.08 V	
current (in A)	8	3.00	Pass
Apparent power (in VA)	≤ 100	11.40	Pass
For Data port (LAN port	pin 1-8)		
According to Table 2B (n	ormal condition), Uoc =0 V		
current (in A)	8	0	Pass
Apparent power (in VA)	≤ 100	0	Pass
For Data port (WAN por	t pin 1-8)		
According to Table 2B (n	ormal condition), Uoc $=$ 0 V		
current (in A)	8	0	Pass
Apparent power (in VA)	≤ 100	0	Pass
Note(s):			

2.6.3.4	TABLE: groun	TABLE: ground continue test			
Location		Resistance measured(m Ω)	Comments		
Note(s):					

2.10.2	TABLE: working voltage measurement					
Location		RMS voltage (V)	Peak voltage (V)	Comments		
Note(s):						

2.10.3 and 2.10.4	TABLE: clearance	TABLE: clearance and creepage distance measurements					
clearance cl and creepage Up distance dcr at/of: U r.m.s. (V) required cl (mm)					cl (mm)	required dcr (mm)	dcr (mm)
Notes: Functional insulation only.							



2.10.5	TABLE: distance through insula	N.A.			
distance through insulation di at/of:		U r.m.s. (V)	test voltage (V)	required di (mm)	di (mm)
Note(s):					

4.3.8	TABLE: B	atteries							N.A.	
The tests o		applicable o	only when approp	oriate batte	ery				N.A.	
Is it possibl	e to install t	he battery i	n a reverse pola	rity positio	n?					
	Non-r	echargeab	le batteries		•	Rechargea	ble batteri	es		
	Discha	arging	Un-intentional	Chai	ging	Discha	rging	Reverse	Reversed charging	
	Meas. current	Manuf. Specs.	charging	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
Max. current during normal condition										
Max. current during fault condition										
Test results									Mandiat	
- Chemical									Verdict	
		_							N.A.	
	of the batte								N.A.	
- Emission	of flame or	expulsion o	of molten metal						N.A.	
- Electric st	rength tests:	of equipm	ent after comple	tion of tes	ts				N.A.	

4.5	TABLE: maximum temperatures		Pass		
	test voltage (V)	DC 5 V		_	
	t _{amb1} (°C)			_	
	t _{amb2} (°C)			_	
tempera	ture rise dT of part/at:	T (°	C)	allowed T _{max} (°C)	
PWB near U2		69.0		105	
PWB ne	ear U14	68.2		105	



Plastic enclosure inside near U2		60.1			
Plastic enclosure outside near U2		57.0			95
Ambient	50.0(23.6)				
temperature T of winding:	R1 (Ω)	R2 (Ω)	dT (°K)	allowed T _{max} (°C)	insulation class

Supplementary information:

- 1) All values for T (°C) are re-calculated from Tamb respectively.
- 2) The maximum ambient temperature specified by manufacturer is 50 °C (Tma).

4.5.5	TABLE: ball pressure test of thermoplastics part		N.A.	
	Allowed impression diameter (mm):		\leq 2 mm	_
part:		test temperature (°C)	impres	ssion diameter (mm)
Note(s):				

4.6.1, 4.6.2	TABLE: Enclos	ΓABLE: Enclosure openings							
L	ocation	Size(mm)	Comment	S					
Note(s):									

4.7	Table: Resistance to	able: Resistance to fire							
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence				
Note(s):									

	ABLE: touch current measurement								
Condition	L→terminal A (mA)	N→terminal A (mA)	Limit	Comments					
Note(s):									

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
Note(s):			

5.3		TABLE	ΓABLE: fault condition tests									
		ambient	t temperatu	re (°C)		:			_			
		model/t	model/type of power supply:						_			
		manufa	manufacturer of power supply:						_			
	rated markings of power supply:						_					
No.	No. component No.		fault	test voltage (V)	test time	fuse No.	fuse current (A)	result				
Note(Note(s):											



		EN 60950-1:	2006 – CENE	LEC COMMON	I MODIFICATI	ONS				
Contents	Add the following annexes:									
	Annex 2	ZA (normative)		references to into ing European pu		lications with their				
	Annex 2	ZB (normative)	Special national conditions							
	Annex 2	Annex ZC (informative) A-deviations								
General	Delete a	all the "country" no	otes in the refe	erence documer	nt according to	the following list:	Pass			
Conoral	Delete all the "country" notes in the reference document according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.2.2 Note 6.2.2 Note 6. 2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2									
1.3.Z1		following subclau		escure			N.A.			
	1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.									



1.5.1	Add the following NOTE:	N.A.
	NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC	
1.7.2.1	Add the following NOTE:	N.A.
	NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss	
2.7.1	Replace the subclause as follows:	
	Basic requirements	
	To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):	
	a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;	
	b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;	
	c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.	
	If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	
2.7.2	This subclause has been declared 'void'.	
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".	N.A.
	In Table 3B, replace the first four lines by the following:	
	Up to and including 6	
	In the conditions applicable to Table 3B delete the words "in some countries" in condition a).	
	In NOTE 1, applicable to Table 3B, delete the second sentence.	
3.3.4	In table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:	N.A.
	Over 10 up to and including 16 1,5 to 2,5 1,5 to 4	
	Delete the fifth line – conductor sizes for 13 to 16 A.	
4.3.13.6	Add the following NOTE:	N.A.
	NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.	



Annex H	Replace the last paragraph of this annex by:	N.A.
	At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 μ Sv/h (0,1 mR/h) (see NOTE). Account is taken of the background level.	
	Replace the notes as follows:	
	NOTE These values appear in Directive 96/29/Euratom.	
	Delete NOTE 2.	
Biblio-grap hy	Additional EN standards.	_

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	
ZB	SPECIAL NATIONAL CONDITIONS	
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	
1.5.7.1	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.	
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	
1.5.9.4	In Finland , Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	
1.7.2.1	In Finland , Norway and Sweden , CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.	N.A.
	The marking text in the applicable countries shall be as follows:	
	In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"	
	In Norway: "Apparatet må tilkoples jordet stikkontakt"	
	In Sweden: "Apparaten skall anslutas till jordat uttag"	
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.	N.A.
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	N.A.
2.3.2	In Finland , Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.	
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	N.A.



2.10.5.13	In Finland , Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	
3.2.1.1	In Switzerland , supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:	
	SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A	
	In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:	
	SEV 5932-2.1998 Plug Type 25 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998 Plug Type 21 L+N 250 V, 16 A SEV 5934-2.1998 Plug Type 23 L+N+PE 250 V, 16 A	
3.2.1.1	In Denmark , supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.	N.A.
	CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.	
	If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	
3.2.1.1	In Spain , supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.	
	Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.	
	CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.	
	If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.	
3.2.1.1	In the United Kingdom , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.	N.A.
	NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.	
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.	N.A.



3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm² to 1,5 mm² nominal cross-sectional area.	N.A.
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	N.A.
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	N.A.
5.1.7.1	In Finland , Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:	N.A.
	STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and	
	 is provided with instructions for the installation of that conductor by a SERVICE PERSON; 	
	STATIONARY PLUGGABLE EQUIPMENT TYPE B;	
	STATIONARY PERMANENTLY CONNECTED EQUIPMENT.	



6.1.2.1	In Finland , Norway and Sweden , add the following text between the first and second paragraph of the compliance clause:		N.A.
	If this insulation is solid, including insulation for consist of either	ming part of a component, it shall at least	
	- which shall pass the electric	two layers of thin sheet material, each of	
		strength test below, or	
	insulation of at least 0,4 mm, which below.	one layer having a distance through shall pass the electric strength test	
	If this insulation forms part of a semiconductor no distance through insulation requirement for compound completely filling the casing, so that DISTANCES do not exist, if the component pawith the compliance clause below and in additional contents of the compliance clause clause contents of the compliance clause contents of the compliance clause cla	the insulation consisting of an insulating CLEARANCES and CREEPAGE sses the electric strength test in accordance	
	-passes the tests and inspection criteria of 2.10 test of 1,5 kV multiplied by 1,6 (the electric stree performed using 1,5 kV), and		
	-is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.lt is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.		
	A capacitor classified Y3 according to EN 1324 the following conditions:	.00:1994, may bridge this insulation under	
	-the insulation requirements are satisfied by ha as defined by EN 132400, which in addition to an impulse test of 2,5 kV defined in EN 60950-	he Y3 testing, is tested with	
	-the additional testing shall be performed on all the test specimens as described in EN 132400;		
	-the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		
6.1.2.2	In Finland , Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N.A.
7.2	In Finland , Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex.		N.A.
	The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		
7.3	In Norway and Sweden , there are many buildi is normally not connected to the earth in the bu		N.A.
7.3	In Norway, for installation conditions see EN 6	0728-11:2005.	N.A.
ZC	A-DEVIATIONS (informative)		N.A.
1.5.1	Sweden (Ordinance 1990:944)		N.A.
	Add the following:		
	NOTE In Sweden, switches containing mercury are	not permitted.	

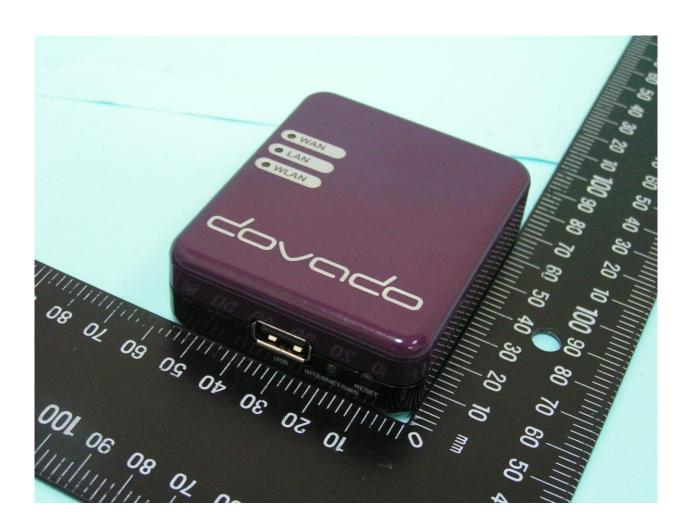


1.5.1	Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.)	N.A.
	Add the following:	
	NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.	
1.7.2.1	Denmark (Heavy Current Regulations)	N.A.
	Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text:	
	Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket eller	
	If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text:	
	"For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."	
1.7.2.1	Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2).	N.A.
	If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market.	
	Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.	
1.7.5	Denmark (Heavy Current Regulations)	N.A.
	With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.	
1.7.13	Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries)	N.A.
	Annex 2.15 of SR 814.81 applies for batteries.	
5.1.7.1	Denmark (Heavy Current Regulations, Chapter 707, clause 707.4)	N.A.
	TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.	



Page 1 Report No.: L191916L422

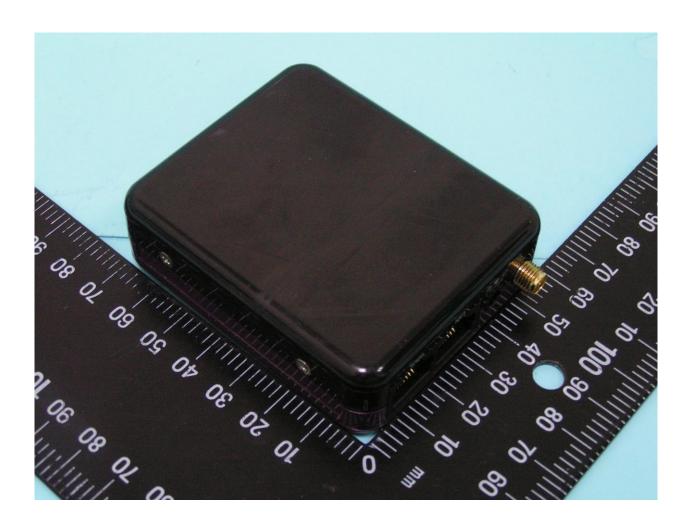






Report No.: L191916L422





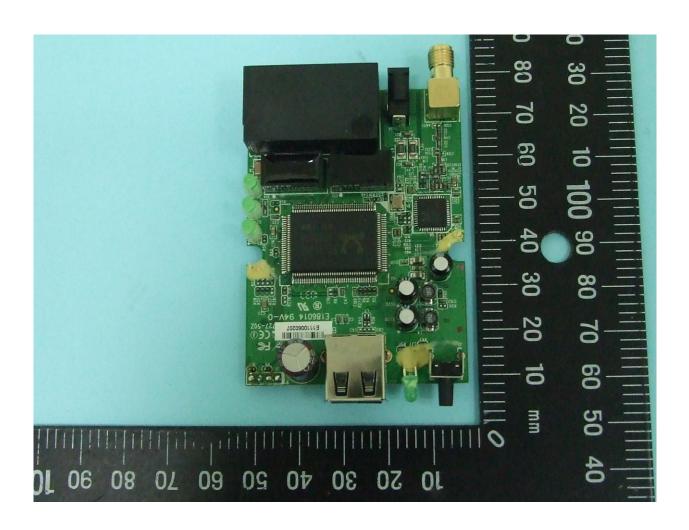


Page 3 Report No.: L191916L422



Page 4 Report No.: L191916L422







Report No.: L191916L422



