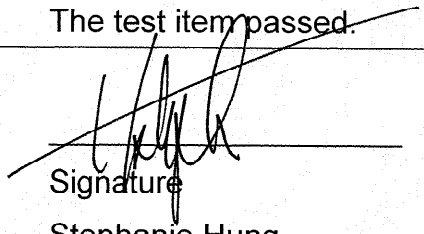
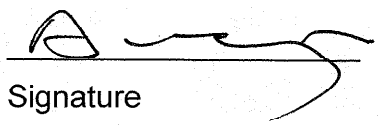
Test Report No.:	**LD910514R03A**
Client	
Name :	**Senao International Co., Ltd.**
Address :	**2F, No. 531 Chung Cheng Rd., Hsin-Tien, Taipei, Taiwan, R.O.C.**
Test Item :	**Long Range Outdoor Bridge**
Identification :	**DWL-1750 (Brand: D-Link), SL-2511BG PLUS (Brand: SENAO)**
Testing laboratory	
Name :	Advance Data Technology Corporation
Address :	No. 46, Lane 504, Chung Hsiao Road, Lin Kou Hsiang, Taipei, R.O.C.
Test specification	
Standard :	**EN 60950, 3rd Edition: 2000**
Test Result :	The test item passed.
Tested By :	Signature:  Date: April 29, 2005 Stephanie Hung Specialist
Approved By:	Signature:  Date: April 29, 2005 Angus Hsu Manager
Other Aspects: The completed test report includes the following documents: ■ EN 60950 report (29 pages)	

TEST REPORT

EN 60950

Safety of information technology equipment including electrical business equipment

Report

Reference No.....: LD910514R03A

Compiled by (+ signature).....: See cover sheet .....

Approved by (+ signature).....: See cover sheet .....

Date of issue.....: April 29, 2003

This report is based on a blank test report that was prepared by KEMA using information obtained from the TRF originator (see below).

Testing laboratory

Name.....: Advance Data Technology Corporation

Address.....: No. 46, Lane 504, Chung Hsiao Road, Lin Kou Hsiang, Taipei, Taiwan.

Testing location.....: Advance Data Technology Corporation

Address .....: No. 46, Lane 504, Chung Hsiao Road, Lin Kou Hsiang, Taipei, Taiwan.

Client

Name.....: Senao International Co., Ltd.

Address.....: 2F, No. 531 Chung Cheng Rd., Hsin-Tien, Taipei, Taiwan, R.O.C.

Test specification

Standard .....: EN 60950:2000

Test procedure .....: This Test Report is not valid as a CCA Test Report unless signed by a CCA Testing Laboratory and appended to a CCA Test Certificate.

Procedure deviation.....: N/A.

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

Test Report Form/blank test report

Test Report Form No.....: 60950__D/97-08

TRF originator.....: FIMKO

Master TRF.....: Reference No. 60950 D, dated 97-02

Test item

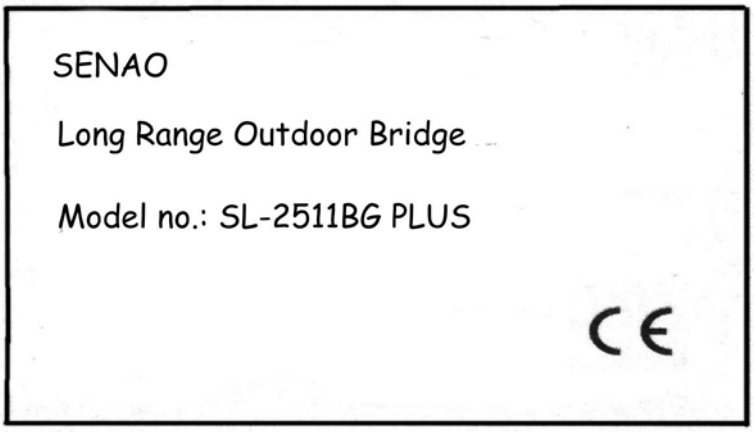
Description.....: Long Range Outdoor Bridge

Trademark.....: Senao, D-Link

Model and/or type reference .....: SL-2511BG PLUS (Brand: Senao), DWL-1750 (Brand: D-Link).

Manufacturer.....: Senao International Co., Ltd.

Rating(s) .....: DC 48 V, 0.8 A.



This is a reference label. Final label shall be including the content of it.

Particulars: test item vs. test requirements

Equipment mobility ..... : Movable or wall mountable

Operating condition ..... : Continuous

Mains supply tolerance (%) ..... : +6%, -10%

Tested for IT power systems ..... : No

IT testing, phase-phase voltage (V) ..... : N/A

Class of equipment ..... : Class III

Mass of equipment (kg) ..... : 2.0 kg

Protection against ingress of water ..... : IP65

Test case verdicts

- test case does not apply to the test object ..... : N/A

- test object does meet the requirement ..... : Pass

- test object does not meet the requirement ..... : Fail

Testing

Date of receipt of test item ..... : April 15, 2003

Date(s) of performance of test ..... : April 22, 2003

General remarks

This test report shall not be reproduced except in full without the written approval of the testing laboratory.
The test results presented in this report relate only to the item tested.
"(see remark #)" refers to a remark appended to the report.
"(see appended table)" refers to a table appended to the report.
Throughout this report a comma is used as the decimal separator.

Brief description of the test equipment:

1) The equipment is a Class III Wireless Outdoor Bridge.

2) Dimension: 242 by 200 by 80 mm

3) Maximum operating Temperature: 40℃.

Model Differences:

Model DWL-1750 is identical to Model SL-2511BG PLUS, except for model designation and brand.

Test condition:

Temperature : 25℃.
Relative humidity: 60%
Air pressure: 900 mbar.

The test sample was a pre-production sample without serial number.
This is a duplicate report of LD910514R03.

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		Pass
1.5	**Components**		Pass
1.5.1	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	Pass
1.5.2	Evaluation and testing of components	Components, which were found to affect safety aspects, are complied with the requirements of this standard or within the safety aspects of the relevant IEC component standards. (see appended table)	Pass
	Dimensions (mm) of mains plug for direct plug-in .....:	The equipment is not plug-in type.	N/A
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N) .....:	The equipment is not plug-in type.	N/A
1.5.3	Thermal controls		N/A
1.5.4	Transformers		N/A
1.5.5	Interconnecting cables	Interconnecting cable for Interconnection is carrying only SELV voltages on an energy level below 240 VA. Except for the insulation material, there is no further requirements to the o/p interconnection cable.	Pass
1.5.6	Capacitors in primary circuits .....:		N/A
1.5.7	Double or reinforced insulation bridged by components		N/A
1.5.7.1	Bridging capacitors		N/A
1.5.7.2	Bridging resistors		N/A
1.5.7.3	Accessible parts		Pass
1.5.8	Components in equipment for IT power systems	TN system	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	This appliance is not a hand-held equipment.	N/A
1.6.4	Neutral conductor	Only SELV supply, no connection to mains.	N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1.7	**Marking and instructions**		Pass
1.7.1	Power rating	Not required	N/A
	Rated voltage(s) or voltage range(s) (V) ..... :		N/A
	Symbol for nature of supply for d.c. ..... :	(60417-2-IEC-5031)	N/A
	Rated frequency or frequency range (Hz) ..... :	DC	N/A
	Rated current (A) ..... :		N/A
	Manufacturer's name/Trademark ..... :	Senao International Co., Ltd. / SENAO, D-Link.	Pass
	Type/model ..... :	Long Range Outdoor Bridge. / SL-2511BG PLUS (Brand: SENAO), DWL-1750 (Brand: D-Link).	Pass
	Symbol of Class II ..... :	Class III equipment.	N/A
	Other symbols ..... :	--	N/A
	Certification marks ..... :	CE	Pass
1.7.2	Safety instructions	The users manual provided.	Pass
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment ..... :		N/A
1.7.5	Power outlets on the equipment ..... :	No outlet	N/A
1.7.6	Fuse identification ..... :	No fuse provided	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
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking ..... :	No switched and controls	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	IT power system		N/A
1.7.11	Thermostats and other regulating devices	No adjustable thermostats	N/A
1.7.12	Language ..... :	English	—

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.13	Durability	The label was subjected to the test for permanence of marking. The label was rubbed with cloth for 15 sec. And then rubbed by the cloth soaked with Naphtha for 15 sec. After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting on the label edge.	Pass
1.7.14	Removable parts	Markings is not placed on removable parts	N/A
1.7.15	Replaceable batteries	No lithium battery used.	N/A
	Language ..... :		—
1.7.16	Operator access with a tool ..... :	No operator accesses area with tool.	N/A
1.7.17	Equipment for restricted access locations ..... :	No restricted access location	N/A

2	**PROTECTION FROM HAZARDS**		Pass
2.1	**Protection from electric shock and energy hazards**		Pass
2.1.1	Protection in OPERATOR access areas		Pass
2.1.1.1	Access to energized parts		Pass
	Test by inspection ..... :		Pass
	Test with test finger ..... :		Pass
	Test with test pin ..... :		Pass
	Test with test probe ..... :		N/A
2.1.1.2	Battery compartments..... :		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V); distance (mm) through insulation		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards ..... :		N/A
2.1.1.6	Manual controls	The equipment does not contain any knobs, handles, levers, or the like.	N/A
2.1.1.7	Discharge of capacitors in the primary circuit		N/A
	Time-constant (s); measured voltage (V) ..... :		—
2.1.2	Protection in service access areas		N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.3	Protection in restricted access locations	The unit is not intended to be used in restricted locations.	N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.2	**SELV circuits**		Pass
2.2.1	General requirements		Pass
2.2.2	Voltages under normal conditions (V)..... :		Pass
2.2.3	Voltages under fault conditions (V)..... :		Pass
2.2.3.1	Separation by double or reinforced insulation (method 1)	Class III equipment	N/A
2.2.3.2	Separation by earthed screen (method 2)		N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N/A
2.2.4	Connection of SELV circuits to other circuits..... :		N/A
2.3	**TNV circuits**		N/A
2.3.1	Limits		N/A
	Type of TNV circuits..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed..... :		—
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		N/A
2.4.2	Limit values		N/A
	Frequency (kHz) ..... :		—
	Measured current (mA)..... :		—
	Measured voltage (V)..... :		—
	Measured capacitance (μF)..... :		—
2.4.3	Connection of limited current circuits to other circuits		N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.5	**Limited power sources**		N/A
	Inherently limited output		N/A
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition		N/A
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (V), output current (A), apparent power (VA) ..... :		—
	Current rating of overcurrent protective device (A)		—
2.6	**Provisions for earthing and bonding**		N/A
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG..... :		—
2.6.3.2	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG..... :		—
2.6.3.3	Rated current (A), type and nominal thread diameter (mm)..... :		N/A
	Resistance (Ω) of earthing conductors and their terminations, test current (A) ..... :		N/A
2.6.3.4	Colour of insulation ..... :		N/A
2.6.4	Terminals		N/A
2.6.4.1	Protective earthing and bonding terminals		N/A
	Rated current (A), type and nominal thread diameter (mm)..... :		—
2.6.4.2	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	No any other of interconnection of euipment.	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
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
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		N/A
2.7	**Overcurrent and earth fault protection in primary circuits**		N/A
2.7.1	Basic requirements		N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3		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	Interlocks with moving parts		N/A
2.8.6	Overriding an interlock		N/A
2.8.7	Switches and relays in interlock systems		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 (V)		N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		N/A
2.9.1	Properties of insulating materials		N/A
2.9.2	Humidity conditioning		N/A
2.9.3	Requirements for insulation		N/A
2.9.4	Insulation parameters		N/A
2.9.5	Categories of insulation		N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

2.10	**Clearances, creepage distances and distances through insulation**		N/A
2.10.1	General		N/A
2.10.2	Determination of working voltage		N/A
2.10.3	Clearances		N/A
2.10.3.1	General		N/A
2.10.3.2	Clearances in primary circuit		N/A
2.10.3.3	Clearances in secondary circuits		N/A
2.10.3.4	Measurement of transient levels		N/A
2.10.4	Creepage distances		N/A
	CTI tests..... :		—
2.10.5	Solid insulation		N/A
2.10.5.1	Minimum distance through insulation		N/A
2.10.5.2	Thin sheet material		N/A
	Number of layers (pcs) ..... :		—
	Electric strength test		—
2.10.5.3	Printed boards		N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs) ..... :		N/A
2.10.5.4	Wound components		N/A
	Number of layers (pcs) ..... :		N/A
	Two wires in contact inside component; angle between 45° and 90°		N/A
2.10.6	Coated printed boards		N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C) ..... :		N/A
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		N/A
	Electric strength test		—
2.10.7	Enclosed and sealed parts ..... :	No hermetically sealed components.	N/A
	Temperature $T_1=T_2 = T_{mra} – T_{amb}$ +10K (°C)..... :		N/A
2.10.8	Spacings filled by insulating compound..... :		N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test		—
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A
3	**WIRING, CONNECTIONS AND SUPPLY**		N/A
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	Non-metallic 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.c. mains supplies**		N/A
3.2.1	Means of connection .....:		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
	Type .....:		—
	Rated current (A), cross-sectional area (mm^2), AWG.....:		—
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
	D (mm); test mass (g) .....:		—
	Radius of curvature of cord (mm).....:		—
3.2.9	Supply wiring space		N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	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	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		N/A
3.3.5	Rated current (A), type and nominal thread diameter (mm) ..... :		N/A
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 a.c. mains supply**		N/A
3.4.1	General requirement		N/A
3.4.2	Disconnect devices	DC power source used	N/A
3.4.3	Permanently connected equipment	Moveable equipment	N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Single-phase equipment		N/A
3.4.7	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**		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits ..... :	Interconnection circuits of SELV through Sec. O/p cable. No ELV interconnection circuits.	Pass
3.5.3	ELV circuits as interconnection circuits		N/A
4	**PHYSICAL REQUIREMENTS**		Pass
4.1	**Stability**		N/A
	Angle of 10°		N/A
	Test: force (N) ..... :	Not floor standing	N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
4.2	**Mechanical strength**		Pass
4.2.1	General		Pass
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
4.2.6	Drop test	Not hand-held equipment	N/A
4.2.7	Stress relief		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) ...:	The equipment and its associated mounting means remain secure during the test, 59N force applied.	Pass
4.3	**Design and construction**		Pass
4.3.1	Edges and corners	Edges and corners are rounded.	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		Pass
4.3.6	Direct plug-in equipment	Not direct plug-in equipment	N/A
	Torque (Nm).....:		—
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries	No lithium battery used.	Pass
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.....:	No flammable liquids in the equipment.	N/A
	Quantity of liquid (l).....:		N/A
	Flash point (°C).....:		N/A
4.3.13	Radiation; type of radiation .....:		N/A
	Equipment using lasers	No laser used	N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
4.4	**Protection against hazardous moving parts**		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas	No hazardous moving part in operator access areas.	N/A
4.4.3	Protection in restricted access locations	No hazardous moving part in restricted access areas.	N/A
4.4.4	Protection in service access areas		N/A
4.5	**Thermal requirements**		Pass
4.5.1	Temperature rises		Pass
	Normal load condition per Annex L..... :		N/A
4.5.2	Resistance to abnormal heat		Pass
4.6	**Openings in enclosures**		Pass
4.6.1	Top and side openings	No top and side openings	Pass
	Dimensions (mm) ..... :		—
4.6.2	Bottoms of fire enclosures	No bottom openings.	Pass
	Construction of the bottom..... :		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment	Not transportable equipment.	N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature/time..... :		—
4.7	**Resistance to fire**		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability clases.	Pass
4.7.2	Conditions for a fire enclosure	With having the following components: - components with windings -wiring - Semiconductor devices, transistors, diodes, integrated circuits. - Resistors, capacitors, inductors. - The fire enclosure is required.	Pass
4.7.2.1	Parts requiring a fire enclosure		Pass
4.7.2.2	Parts not requiring a fire enclosure		N/A

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	Materials		Pass
4.7.3.1	General		Pass
4.7.3.2	Materials for fire enclosures	Metal	Pass
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	V-2 or better	Pass
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**		N/A
5.1	**Touch current and protective conductor current**		N/A
5.1.1	General		N/A
5.1.2	Equipment under test (EUT)		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
	Test voltage (V) .....:		—
	Measured current (mA) .....:		—
	Max. allowed current (mA) .....:		—
5.1.7	Equipment with touch current exceeding 3.5 mA .....:		N/A
5.1.8	Touch currents to and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network		N/A
	Test voltage (V) .....:		—
	Measured current (mA) .....:		—
	Max. allowed current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.2	**Electric strength**		N/A
5.2.1	General		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		Pass
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation .....:		Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults	See appended table	Pass
5.3.7	Unattended equipment		N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions	See appended table	Pass
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**		N/A
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
	Test 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.....:		—

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Clause	Requirement + Test	Result - Remark	Verdict

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, material .....:		—
	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		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.2.6	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 60695-2-2, cl. 4, 8		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.3	**High current arcing ignition test (see 4.7.3.2)**		N/A
A.3.1	Samples, material .....:		—
	Wall thickness (mm).....:		—
A.3.5	Compliance criteria		N/A
	Sample 1 number of arcs to ignition (pcs).....:		—
	Sample 2 number of arcs to ignition (pcs).....:		—
	Sample 3 number of arcs to ignition (pcs).....:		—
	Sample 4 number of arcs to ignition (pcs).....:		—
	Sample 5 number of arcs to ignition (pcs).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
A.4	**Hot wire ignition test (see 4.7.3.2)**		N/A
A.4.1	Samples, material ..... :		—
	Wall thickness (mm)..... :		—
A.4.5	Compliance criteria		N/A
	Sample 1 ignition time (s) ..... :		—
	Sample 2 ignition time (s) ..... :		—
	Sample 3 ignition time (s) ..... :		—
	Sample 4 ignition time (s) ..... :		—
	Sample 5 ignition time (s) ..... :		—
A.5	**Hot flaming oil test (see 4.6.2)**		N/A
A.6	**Flammability tests for classifying materials V-0, V-1 or V-2**		N/A
A.6.1	Samples, material ..... :		—
	Wall thickness (mm)..... :		—
A.6.5	Compliance criteria		N/A
A.6.6	Permitted re-test		N/A
A.7	**Flammability test for classifying foamed materials HF-1, HF-2 or HFB**		N/A
A.7.1	Sample, material ..... :		—
	Wall thickness (mm)..... :		—
A.7.4	Compliance criteria		N/A
A.7.5	Compliance criteria, HF-2		N/A
A.7.6	Compliance criteria, HF-1		N/A
A.7.7	Compliance criteria, HBF		N/A
A.7.8	Permitted re-test, HF-1 or HF-2		N/A
A.7.9	Permitted re-test, HBF		N/A
A.8	**Flammability test for classifying materials HB**		N/A
A.8.1	Samples, material ..... :		—
	Sample thickness (mm) ..... :		—
A.8.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.8.4	Test procedure		N/A
A.8.5	Compliance criteria		N/A
A.8.6	Permitted re-test		N/A
A.9	**Flammability test for classifying materials 5V**		N/A
A.9.1	Samples, material ..... :		—
	Sample thickness (mm) ..... :		—
A.9.4	Test procedure, test bars		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A.9.5	Test procedure, test plaques		N/A
A.9.6	Compliance criteria		N/A
A.9.7	Permitted re-test		N/A
A.10	**Stress relief conditioning (see 4.2.7)**		N/A
	Temperature (°C)..... :		—
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) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	Running overload test for DC motors in secondary circuits		N/A
B.7	Locked-rotor overload test for DC motors in secondary circuits		N/A
B.7.1	Test procedure		N/A
B.7.2	Alternative test procedure; test time (h)..... :		N/A
B.7.3	Electric strength test		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) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict

C	**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

G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V) ..... :		N/A
G.3	Determination of telecommunication network transient voltage (V)..... :		N/A
G.4	Determination of required withstand voltage (V) :		N/A
G.5	Measurement of transient levels (V)..... :		N/A
G.6	Determination of minimum clearances ..... :		N/A

H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N/A
	Ionizing radiation		N/A
	Measured radiation (mR/h) ..... :		—
	Measured high-voltage (kV) ..... :		—
	Measured focus voltage (kV) ..... :		—
	CRT markings ..... :		—

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 5.3.7)**		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		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 (f)..... :		—
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
U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
	Separate test report		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: list of critical components				Pass
object/part No.	manufacturer/ trademark	type/model	technical data	Standard	mark(s) of conformity[1])
1. PWB	Various	Various	V-1 min. 105℃	UL94	UL
2. Enclosure Material	---	---	Metal, 2.5 mm min.	---	---
3. Power Adapter	Base Power Technology Co., Ltd.	F919I-4808	I/P: 100-240 V ac. 2 A, 50-60 Hz. O/P: 48V, 1.19A, 50 Wmax.	IEC60950	UL, CB
4. DC/DC converter	Base Power Technology Co., Ltd.	F392848-0512	I/P: 36-72 V dc, O/P: 5 / 12 V dc, 1 / 1.5 A	---	---

1.6.2	**TABLE: electrical data (in normal conditions)**					Pass
fuse #	I rated (A)	U (V dc)	P (W)	I (mA)	I fuse (mA)	
-	0.8	48	5.76	120	-	Maximum Normal load
supplementary information:						

2.10.2	**TABLE: voltage measurements test**				Pass
Measure Point			Measured Voltage		
Part Number	From (pin no.)	To (pin no.)	V rms	V peak	
T2	Pin 1	Pin 5, 6	76	126	
T2	Pin 1	Pin 7, 8	60	96	
T2	Pin 2	Pin 5, 6	64	104	
T2	Pin 2	Pin 7, 8	50	70	
T2	Pin 3	Pin 5, 6	55	86	
T2	Pin 3	Pin 7, 8	---	48	
T2	Pin 4	Pin 5, 6	48	65	
T2	Pin 4	Pin 7, 8	60	116	

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2	**TABLE: hazardous voltage (circuit) measurement test**		Pass

Transformer Designation	Location	Maximum Voltage	Voltage Limiting Component
T2 (In DC-DC converter)	Pin 5, 6 – Pin 7, 8	56.2 Vpk	
		56.2 Vpk	D3
		12.4 Vdc	L3

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Clause	Requirement + Test	Result - Remark	Verdict

4.5	**TABLE: temperature rise measurements**		Pass
	test voltage (V) .....:	48 V dc	—
	t1 (°C) .....:	Maximum normal load	—
	t2 (°C) .....:		—

temperature rise dT of part/at:	dT (K)	Required dT (K)
Ambient	27°C	---
Main board		
T201 body	12	50
C274 body	16	45
DC/DC converter metal enclosure	16	---
U201 body	13	---
U204 body	12	---
U202 body	11	---
LAN Card body	10	---
Enclosure inside near DC-DC converter	6	---
Enclosure outside near DC/DC converter	3	---
Power supply		
C4 body	13	45
PWB under BD1	16	---
PWB under TR1	12	---
C2 body near LF1	19	---
LF1 coil	14	---
PWB near Q1	30	---
T1 coil	24	50
T1 core	23	50
C12 body	19	45
Enclosure outside near T1 top.	8	---
DC/DC converter		
C4 body	19	45
LF1 body	21	---
T2 coil	25	50
T2 core	23	50
PWB near Q3 heatsink	22	---
L3 coil	29	---

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L5 coil	27	---
Metal enclosure near T2 top	12	---

comments:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and described in 1.6.2 at voltages as described in 1.4.5

Without specified ambient temperature in users manual, therefore the ambient temperature assumed as 40℃, the max. temperature rise is calculated as follows:

Winding components:

- class A → dTmax = 75K – 10K-(40-25)K = 50 K

Electrolyte capacitor or components with:

- max. absolute temp. of 105 ℃ → dTmax = (105-40)K = 65 K

Enclosure temp. 95 ℃ → dTmax = (95-40)K = 55 K

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Clause	Requirement + Test	Result - Remark	Verdict

5.3.1	**TABLE: fault condition tests**		Pass
	ambient temperature (°C) .....:		—
	model/type of power supply .....:		—
	manufacturer of power supply .....:		—
	rated markings of power supply .....:		—

component No.	fault	test voltage (V)	test time	fuse No.	Input current (mA)	result
DC to DC converter						
T2 Pin 1 – Pin 5, 6	Short	240	Immediately	---	0.085	Voltage of SELV all pins and enclosure = 0, no hazard.
T2 pin 1 – Pin 7, 8	Short	240	Immediately	---	0.143	Voltage of SELV all pins and enclosure = 0, no hazard.
T2 pin 2 – Pin 5, 6	Short	240	Immediately	---	0.085	Voltage of SELV all pins and enclosure = 0, no hazard.
T2 pin 2 – Pin 7, 8	Short	240	Immediately	---	0.115	Voltage of SELV all pins and enclosure = 0, no hazard.
T2 pin 3 – Pin 5, 6	Short	240	Immediately	---	0.137	Voltage of SELV all pins and enclosure = 0, no hazard.
T2 pin 4 – Pin 5, 6	Short	240	Immediately	---	0.120	Voltage of SELV all pins and enclosure = 0, no hazard.
T2 pin 4 – Pin 7, 8	Short	240	Immediately	---	0.142	Voltage of SELV all pins and enclosure = 0, no hazard.
L3	Short	240	Immediately	---	0.138	Voltage of SELV all pins and enclosure = 0, no hazard.

Surge Test	TABLE: Surge Test: Power adaptor: Base Power Technology Co., Ltd., Model: F919I-4808.	Pass
	Test Condition: According to IEC60065:1998. Subjected to 50 discharges at a maximum rate of 12 per minute, form a 1 nF capacitor charged to 10 kV. After the test, the insulation resistance and dielectric test were performed.	

Location	Voltage (V)	Measured Value (MΩ)	Breakdown
Tuner to L-N of adaptor	10 K	> 4	No

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Clause	Requirement + Test	Result - Remark	Verdict

Photos

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Clause	Requirement + Test	Result - Remark	Verdict