

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

GPS Car Location System

Name and address of the applicant
Nom et adresse du demandeur

Starcom Systems Ltd
Bareket 25
Caesaria 38900 Israel

Name and address of the manufacturer
Nom et adresse du fabricant

Same as applicant

Name and address of the factory
Nom et adresse de l'usine

RH Electronics
Industrial Area, Har Yona, Uper Nazareth
17000, Israel

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

DC 12 V
0.47 A Max.
Protection Class III

Trademark (if any)
Marque de fabrique (si elle existe)



Model / Type Ref.
Ref. De type

LCU500

Additional information (if necessary)
Information complémentaire (si nécessaire)

Complies with requirements as well as group and national differences
where applicable for AR, AT, AU, BE, BR, CA, CH, CN, CZ, DE, DK,
ES, FI, FR, GB, HU, IE, IL, IT, JP, KR, MY, NL, NO, PL, PT, RU, SE,
SI, SK, SG, TR, UA, US, ZA

PUBLICATION

EDITION

IEC60950:1999

3rd Edition

A sample of the product was tested and found
to be in conformity with
Un échantillon de ce produit a été essayé et a été
considéré conforme à la

30382081.001

As shown in the Test Report Ref. No. which forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue partie de ce Certificat

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**



08/22/2003
Date:

Signature:



Dipl.-Ing. Matthias Heinze



TEST REPORT		
IEC 60950		
Safety of information technology equipment		
Report reference No.....:	30382081.001	
Tested by: (printed name and signature)	PETER MERGUERIAN	<i>Peter Merguerian</i>
Approved by: (printed name and signature)	NORMAN CHADWICK	<i>Norman Chadwick</i>
Date of issue		
This report is based on a blank test report that was prepared by FIMKO the TRF originator.		
Testing Laboratory Name	TUV Rheinland of North America, Inc.	
Address	12 Commerce Road, Newtown, CT 06470, USA	
Testing location	TUV Rheinland of North America, Inc. 12 Commerce Road, Newtown, CT 06470, USA	
Applicant's Name	Starcom Systems Ltd.	
Address	Bareket 25, Caesaria, 38900 Israel	
Test specification		
Standard	IEC 60950, 3 rd Edition (1999), EN 60950:2000	
Test procedure	CB scheme	
Procedure deviation	National, Group, AR, AT, AU, BE, BR, CA, CH, CN, CZ, DE, DK, ES, FI, FR, GB, HU, IE, IL, IT, JP, KR, MY, NL, NO, PL, PT, RU, SE, SI, SK, SG, TR, UA, US, ZA	
Non-standard test method	N.A.	
Test Report Form		
Test Report Form No.....:	I950___F/00-03	
TRF originator	FIMKO	
Master TRF	dated 00-02	
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Test item description	GPS Car Location System	
Trademark	Starcom	
Model and/or type reference	LCU500	
Manufacturer	Starcom Systems Ltd.	

Factory	: RH Electronics, Industrial Area, Har Yona, Uper Nazareth, 17000, Israel
Rating(s)	: 12VDC, 0.47A max

Particulars: test item vs. test requirements	
Equipment mobility	Movable
Operating condition	continuous
Mains supply tolerance (%)	N
Tested for IT power systems	N
IT testing, phase-phase voltage (V) :	N
Class of equipment	Class III
Mass of equipment (kg)	0.5kg
Protection against ingress of water	IPX0
Test case verdicts	
Test case does not apply to the test object :	N(A)
Test item does meet the requirement	P(ass)
Test item does not meet the requirement	F(ail)
Testing	
Date of receipt of test item	August 14, 2003
Date(s) of performance of test	August 14, 2003
<p>General remarks</p> <p>"This report is not valid as a CB Test Report unless appended to a CB Test Certificate issued by a National Certification Body (NCB), in accordance with IEC 60384-12".</p> <p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>The test results presented in this report relate only to the item(s) tested.</p> <p>"See remark #" refers to a remark appended to the report.</p> <p>"See Annex #" refers to an annex appended to the report.</p> <p>Throughout this report a point is used as the decimal separator.</p>	

Summary of test results (information/comments):

- Unit is a GPS Car Location System that also logs speed, distance, etc.
- Unit is a car accessory, Class III, unearthed (floating), intended for mounting within a vehicle.
- Unit contains single SELV circuit only.
- Unit intended for supply from car battery (12VDC nominal) and consists two rechargeable back-up NiCd batteries.
- Unit tested for voltage range from 9VDC to 15VDC.
- Unit suitable for a maximum ambient operating temperature of 60°C

Appendixes:

1. Copy of marking plate
2. Photos

IEC 60950			
Clause	Requirement - Test	Result	Verdict

1	GENERAL		P
1.5	Components		P
1.5.1	Comply with IEC 60950 or relevant component standard	See appended table 1.5.1	P
1.5.2	Evaluation and testing of components	<p>Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this Standard.</p> <p>Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950 and the relevant component Standard.</p> <p>Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950</p>	P
	Dimensions (mm) of mains plug for direct plug-in	Not direct plug-in unit	N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)	Not direct plug-in unit	N
1.5.3	Thermal controls	No such components	N
1.5.4	Transformers	No such components	N
1.5.5	Interconnecting cables	UL approved wiring	P
1.5.6	Capacitors in primary circuits	Class III unit	N
1.5.7	Double or reinforced insulation bridged by components	Unit has functional insulation only	N
1.5.7.1	Bridging capacitors		N
1.5.7.2	Bridging resistors		N
1.5.7.3	Accessible parts		N
1.5.8	Components in equipment for IT power systems	Battery powered unit	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

1.6	Power interface		P
1.6.1	AC power distribution systems	Battery powered unit	N
1.6.2	Input current	The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under NORMAL LOAD. See appended Table 1.6	P
1.6.3	Voltage limit of hand-held equipment	The unit is not hand-held	N
1.6.4	Neutral conductor	Battery powered unit	N

1.7	Marking and instructions		P
1.7.1	Power rating	Complies	P
	Rated voltage(s) or voltage range(s) (V)	12VDC	P
	Symbol for nature of supply for d.c.	IEC 60417-1: 5031	P
	Rated frequency or frequency range (Hz)	DC powered unit	N
	Rated current (A)	0.47	P
	Manufacturer's name/Trademark	Starcom Systems Ltd./Starcom	P
	Type/model	LCU500	P
	Symbol of Class II	Equipment is Class III	N
	Other symbols	Other symbols are not used	N
	Certification marks	cTUVus, GS, E-Mark	P
1.7.2	Safety instructions	Operating and installation instructions made available together with safety instructions.	P
1.7.3	Short duty cycles	The equipment intended for continuous operation.	N
1.7.4	Supply voltage adjustment	Battery powered unit	N
1.7.5	Power outlets on the equipment	No power outlets	N
1.7.6	Fuse identification	No fuses are provided except as PTC as part of the circuit	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

1.7.7	Wiring terminals	Class III unit	N
	Protective earthing and bonding terminals		N
1.7.7.2	Terminal for a.c. mains supply conductors		N
1.7.8	Controls and indicators	No such components	N
1.7.8.1	Identification, location and marking		N
1.7.8.2	Colours		N
1.7.8.3	Symbols according to IEC 60417		N
1.7.8.4	Markings using figures		N
1.7.9	Isolation of multiple power sources	Class III unit	N
1.7.10	IT power system	Battery powered unit	N
1.7.11	Thermostats and other regulating devices	No thermostats or similar regulating devices.	N
1.7.12	Language	English reviewed	—
1.7.13	Durability	Marking was durable and legible. The label was not easily removed and did not show curling.	P
1.7.14	Removable parts	No marking placed on removable parts	P
1.7.15	Replaceable batteries	Rechargeable NiCd batteries are not replaceable	N
	Language	English reviewed	—
1.7.16	Operator access with a tool	No tools needed to gain access to operator access areas	N
1.7.17	Equipment for restricted access locations	Not intended for Restricted Access Locations	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards	Operator has access to SELV non-energy hazardous circuits only	P
2.1.1	Protection in OPERATOR access areas		P
2.1.1.1	Access to energized parts	All wires at the input are insulated with certified wire rated min. 300 V and unit intended for installation after a 5 A fuse	P
	Test by inspection		P
	Test with test finger	No openings	N
	Test with test pin	No hazardous voltages	N
	Test with test probe	No TNV circuits	N
2.1.1.2	Battery compartments	No TNV circuits	N
2.1.1.3	Access to ELV wiring	No ELV circuits	N
	Working voltage (V); distance (mm) through insulation		—
2.1.1.4	Access to hazardous voltage circuit wiring	All wiring in SELV circuitry	N
2.1.1.5	Energy hazards	No energy hazards. Unit is intended for installation after a 5A fuse	P
2.1.1.6	Manual controls		N
2.1.1.7	Discharge of capacitors in the primary circuit	Unit Class III	N
	Time-constant (s); measured voltage (V)		—
2.1.2	Protection in service access areas	No access to energy hazardous parts	P
2.1.3	Protection in restricted access locations	Unit not for restricted access locations	N

2.2	SELV circuits		
2.2.1	General requirements	Only SELV circuits employed.	P
2.2.2	Voltages under normal conditions (V)	All accessible voltages are less than 42.4 Vp or 60 V dc and are classified as SELV.	P
2.2.3	Voltages under fault conditions (V)	$\leq 42.4 \text{ Vpk}, 60 \text{ VDC}$	P
2.2.3.1	Separation by double or reinforced insulation (method 1)	Class III unit	N
2.2.3.2	Separation by earthed screen (method 2)	Class III unit	N
2.2.3.3	Protection by earthing of the SELV circuit (method 3)	Class III unit	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
2.2.4	Connection of SELV circuits to other circuits	The SELV circuits are not connected to other than SELV circuits.	P
2.3	TNV circuits	Unit not intended for connection to TNV circuits and does not contain TNV circuits	N
2.3.1	Limits		N
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N
	Insulation employed		—
2.3.3	Separation from hazardous voltages		N
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N
2.4	Limited current circuits		N
2.4.1	General requirements	Equipment circuitry not evaluated for limited current circuits.	N
2.4.2	Limit values		N
	Frequency (Hz)		—
	Measured current (mA)		—
	Measured voltage (V)		—
	Measured capacitance (μF)		—
2.4.3	Connection of limited current circuits to other circuits		N
2.5	Limited power sources		N
	Inherently limited output	Equipment circuitry not evaluated for limited power	N
	Impedance limited output		N
	Overcurrent protective device limited output		N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

	Regulating network limited output under normal operating and single fault condition		N
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N
	Output voltage (V), output current (A), apparent power (VA)		
	Current rating of overcurrent protective device (A)		

2.6	Provisions for earthing and bonding	Class III unit	N
2.6.1	Protective earthing		N
2.6.2	Functional earthing		N
2.6.3	Protective earthing and protective bonding conductors		N
2.6.3.1	Size of protective earthing conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.2	Size of protective bonding conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Rated current (A), type and nominal thread diameter (mm)		N
	Resistance (Ω) of earthing conductors and their terminations, test current (A)		N
2.6.3.4	Colour of insulation		N
2.6.4	Terminals		N
2.6.4.1	Protective earthing and bonding terminals		N
	Rated current (A), type and nominal thread diameter (mm)		—
2.6.4.2	Separation of the protective earthing conductor from protective bonding conductors		N
2.6.5	Integrity of protective earthing		N
2.6.5.1	Interconnection of equipment		N
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N
2.6.5.3	Disconnection of protective earth		N
2.6.5.4	Parts that can be removed by an operator		N
2.6.5.5	Parts removed during servicing		N
2.6.5.6	Corrosion resistance		N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
2.6.5.7	Screws for protective bonding		N
2.6.5.8	Reliance on telecommunication network		N
2.7	Overcurrent and earth fault protection in primary circuits		N
2.7.1	Basic requirements	Class III unit.	N
	Instructions when protection relies on building installation		N
2.7.2	Faults not covered in 5.3		N
2.7.3	Short-circuit backup protection		N
2.7.4	Number and location of protective devices		N
2.7.5	Protection by several devices		N
2.7.6	Warning to service personnel		N
2.8	Safety interlocks		N
2.8.1	General principles	No interlocks provided	N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
2.8.5	Interlocks with moving parts		N
2.8.6	Overriding an interlock		N
2.8.7	Switches and relays in interlock systems		N
2.8.7.1	Contact gaps (mm)		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test (V)		N
2.8.8	Mechanical actuators		N
2.9	Electrical insulation	Functional insulation provided	P
2.9.1	Properties of insulating materials		P
2.9.2	Humidity conditioning	No hygroscopic materials used	N
2.9.3	Requirements for insulation	Complies with 4.5.1 heating requirements. Functional insulation complies with 5.3.4c)	P
2.9.4	Insulation parameters		P
2.9.5	Categories of insulation	Functional	P

IEC 60950			
Clause	Requirement - Test	Result	Verdict

2.10	Clearances, creepage distances and distances through insulation		N
2.10.1	General	Unit is Class III and contains only single SELV circuit. Functional insulation complies with 5.3.4 c)	N
2.10.2	Determination of working voltage		N
2.10.3	Clearances		N
2.10.3.1	General		N
2.10.3.2	Clearances in primary circuit		N
2.10.3.3	Clearances in secondary circuits		N
2.10.3.4	Measurement of transient levels		N
2.10.4	Creepage distances		N
	CTI tests		—
2.10.5	Solid insulation		N
2.10.5.1	Minimum distance through insulation		N
2.10.5.2	Thin sheet material		N
	Number of layers (pcs)		—
	Electric strength test		—
2.10.5.3	Printed boards		N
	Distance through insulation		N
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs)		N
2.10.5.4	Wound components		N
	Number of layers (pcs)		N
	Two wires in contact inside component; angle between 45° and 90°		N
2.10.6	Coated printed boards		N
2.10.6.1	General		N
2.10.6.2	Sample preparation and preliminary inspection		N
2.10.6.3	Thermal cycling		N
2.10.6.4	Thermal ageing (°C)		N
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		N
	Electric strength test		—

IEC 60950			
Clause	Requirement - Test	Result	Verdict
2.10.7	Enclosed and sealed parts		N
	Temperature $T_1=T_2 = T_{mra} - T_{amb} +10K$ (°C)		N
2.10.8	Spacings filled by insulating compound		N
	Electric strength test		—
2.10.9	Component external terminations		N
2.10.10	Insulation with varying dimensions		N
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General	PCB traces and external interconnecting are suitable for the application.	P
3.1.1	Current rating and overcurrent protection	PTCs, F1-F4 provide over current protection	P
3.1.2	Protection against mechanical damage	No sharp edges on product which might damage external wiring.	P
3.1.3	Securing of internal wiring	The equipment does not have internal wiring (PCB traces only)	N
3.1.4	Insulation of conductors		N
3.1.5	Beads and ceramic insulators	The equipment does not have any beads or similar insulators.	N
3.1.6	Screws for electrical contact pressure	Screws for electrical contact not used	N
3.1.7	Non-metallic materials in electrical connections		N
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections.	N
3.1.9	Termination of conductors	The equipment does not have internal wiring.	N
	10 N pull test		N
3.1.10	Sleeving on wiring		N
3.2	Connection to a.c. mains supplies		N
3.2.1	Means of connection	Unit Class III	N
3.2.2	Multiple supply connections		N
3.2.3	Permanently connected equipment		N
	Number of conductors, diameter (mm) of cable and conduits		—
3.2.4	Appliance inlets		N
3.2.5	Power supply cords		N

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Clause	Requirement - Test	Result	Verdict
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.6	Cord anchorages and strain relief		N
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N
3.2.8	Cord guards		N
	D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N
3.3	Wiring terminals for connection of external conductors		N
		Unit is Class III	
3.3.1	Wiring terminals		N
3.3.2	Connection of non-detachable power supply cords		N
3.3.3	Screw terminals		N
3.3.4	Rated current (A), cord/cable type, cross-sectional area (mm ²)		N
3.3.5	Rated current (A), type and nominal thread diameter (mm)		N
3.3.6	Wiring terminals design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N
3.4	Disconnection from the a.c. mains supply		N
3.4.1	General requirement	Unit is Class III	N
3.4.2	Disconnect devices		N
3.4.3	Permanently connected equipment		N
3.4.4	Parts which remain energized		N
3.4.5	Switches in flexible cords		N
3.4.6	Single-phase equipment		N
3.4.7	Three-phase equipment		N
3.4.8	Switches as disconnect devices		N
3.4.9	Plugs as disconnect devices		N
3.4.10	Interconnected equipment		N

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Clause	Requirement - Test	Result	Verdict
3.4.11	Multiple power sources		N

3.5	Interconnection of equipment		P
3.5.1	General requirements	SELV is only connected to SELV	P
3.5.2	Types of interconnection circuits	No ELV circuits. SELV to SELV interconnection only.	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuits	N

4	PHYSICAL REQUIREMENTS		P
4.1	Stability	Unit secured to car body	N
	Angle of 10°		N
	Test: force (N)		N

4.2	Mechanical strength		P
4.2.1	General	Metallic enclosure	P
4.2.2	Steady force test, 10 N	No hazards. Unit Class III	N
4.2.3	Steady force test, 30 N	Unit Class III and totally enclosed	N
4.2.4	Steady force test, 250 N	Rigid metallic enclosure provided. No hazard.	P
4.2.5	Impact test	Rigid metallic enclosure provided. No hazard.	P
4.2.6	Drop test	Unit not hand-held	N
4.2.7	Stress relief	Unit has metal enclosure. Test is waived.	N
4.2.8	Cathode ray tubes	The equipment does not have any CRT's	N
	Picture tube separately certified		N
4.2.9	High pressure lamps	No high pressure lamp is used	N
4.2.10	Wall or ceiling mounted equipment; force (N)	Unit intended for fixing within a car	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

4.3	Design and construction		P
4.3.1	Edges and corners	Edges and corners are properly rounded and smoothed	P
4.3.2	Handles and manual controls; force (N)	The equipment does not contain any knobs, handles, levers, or the like	N
4.3.3	Adjustable controls	The equipment does not have any operator accessible adjustable controls	N
4.3.4	Securing of parts		P
4.3.5	Connection of plugs and sockets		P
4.3.6	Direct plug-in equipment	Unit is not direct plug-in type	N
	Torque (Nm)		—
4.3.7	Heating elements in earthed equipment	Unit does not have any heating elements	N
4.3.8	Batteries	NiCd rechargeable battery circuit tested for Overcharge and Discharge. Refer to Table 5.3 for results. No hazard in each case.	P
4.3.9	Oil and grease	Per installation instructions, unit intended for installation in locations where there is no access to oil, grease or other similar substances	P
4.3.10	Dust, powders, liquids and gases	No such substances produced by equipment	N
4.3.11	Containers for liquids or gases	No such components	N
4.3.12	Flammable liquids	No such components	N
	Quantity of liquid (l)		N
	Flash point (°C)		N
4.3.13	Radiation; type of radiation	Unit employs approved cellular transmitters (e.g. GSM, CDMA etc.)	P
	Equipment using lasers	Unit does not contain lasers	N

4.4	Protection against hazardous moving parts		N
4.4.1	General	No such parts	N
4.4.2	Protection in operator access areas		N
4.4.3	Protection in restricted access locations		N
4.4.4	Protection in service access areas		N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

4.5	Thermal requirements		P
4.5.1	Temperature rises	Under normal load operation, temperatures do not exceed safe values. Refer to appended table 4.5	P
	Normal load condition per Annex L		P
4.5.2	Resistance to abnormal heat	Unit Class III – no hazardous voltages	N

4.6	Openings in enclosures		P
4.6.1	Top and side openings	No openings	N
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		P
	Construction of the bottom	No openings in the bottom	—
4.6.3	Doors or covers in fire enclosures	No doors or covers which are part of fire enclosure and leading to an operator access area.	N
4.6.4	Openings in transportable equipment		N
4.6.5	Adhesives for constructional purposes	No adhesives are to secure parts	N
	Conditioning temperature/time		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Method 1: Selection and application of components and materials that minimise the possibility of ignition and spread of flame.	P
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure	Fire enclosure covers all parts	P
4.7.2.2	Parts not requiring a fire enclosure	Same as above	P
4.7.3	Materials		P
4.7.3.1	General	The propagation of fire is minimised through the fire enclosure construction.	P
4.7.3.2	Materials for fire enclosures	Metal	P
4.7.3.3	Materials for components and other parts outside fire enclosures	All external materials are rated min. HB or better.	P

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Clause	Requirement - Test	Result	Verdict
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials mounted on a PWB rated V-1 or better. Integrated circuits, capacitors, etc. mounted on PWB rated V-1 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filters	N
4.7.3.6	Materials used in high-voltage components	No high-voltage components	N
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		N
5.1	Touch current and protective conductor current		N
5.1.1	General	Class III, DC powered	N
5.1.2	Equipment under test (EUT)		N
5.1.3	Test circuit		N
5.1.4	Application of measuring instrument		N
5.1.5	Test procedure		N
5.1.6	Test measurements		N
	Test voltage (V)		—
	Measured current (mA)		—
	Maximum allowed current (mA)		—
5.1.7	Equipment with touch current exceeding 3.5 mA		N
5.1.8	Touch currents to and from telecommunication networks		N
5.1.8.1	Limitation of the touch current to a telecommunication network		N
	Test voltage (V)		—
	Measured current (mA)		—
	Maximum allowed current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N
5.2	Electric strength		N
5.2.1	General	Class III unit with functional insulation complying with 5.3.4 c)	N
5.2.2	Test procedure		N
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	Unit properly protected against overload and abnormal operation by certified components on power input circuitry	P

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Clause	Requirement - Test	Result	Verdict
5.3.2	Motors	No motors	N
5.3.3	Transformers	No transformers	N
5.3.4	Functional insulation	Complies with 5.3.4 c). No short circuit test conducted since components on V-1 flame rated board and not likely to overheat.	P
5.3.5	Electromechanical components	No such component	N
5.3.6	Simulation of faults	All outputs were subjected to an overload test. Refer to table 5.3	P
5.3.7	Unattended equipment	No thermostats, temperature limiters or thermal cutouts.	N
5.3.8	Compliance criteria for abnormal operating and fault conditions	No hazards	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N
6.1	Protection of telecommunication network service personnel, and users of other equipment connected to the network, from hazards in the equipment		N
6.1.1	Protection from hazardous voltages		N
6.1.2	Separation of the telecommunication network from earth		N
6.1.2.1	Requirements	No TNV circuits	N
	Test voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N
6.2	Protection of equipment users from overvoltages on telecommunication networks		N
6.2.1	Separation requirements		N
6.2.2	Electric strength test procedure		N
6.2.2.1	Impulse test		N
6.2.2.2	Steady-state test		N
6.2.2.3	Compliance criteria		N
6.3	Protection of telecommunication wiring system from overheating		N
	Maximum output current (A)		—
	Current limiting method		—

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N
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.1.1	Samples, material		—

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Clause	Requirement - Test	Result	Verdict
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N
A.1.3	Mounting of samples		N
A.1.4	Test flame		N
A.1.5	Test procedure		N
A.1.6	Compliance criteria		N
	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.2.1	Samples, material		—
	Wall thickness (mm)		—
A.2.6	Compliance criteria		N
	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
	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.3.1	Samples, material		—
	Wall thickness (mm)		—
A.3.5	Compliance criteria		N
	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)		—
A.4	Hot wire ignition test (see 4.7.3.2)		N
A.4.1	Samples, material		—
	Wall thickness (mm)		—
A.4.5	Compliance criteria		N

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Clause	Requirement - Test	Result	Verdict
	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.6	Flammability tests for classifying materials V-0, V-1 or V-2		N
A.6.1	Samples, material		—
	Wall thickness (mm)		—
A.6.5	Compliance criteria		N
A.6.6	Permitted retest		N
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HFB		N
A.7.1	Sample, material		—
	Wall thickness (mm)		—
A.7.4	Compliance criteria		N
A.7.5	Compliance criteria, HF-2		N
A.7.6	Compliance criteria, HF-1		N
A.7.7	Compliance criteria, HBF		N
A.7.8	Permitted retest, HF-1 or HF-2		N
A.7.9	Permitted retest, HBF		N
A.8	Flammability test for classifying materials HB		N
A.8.1	Samples, material		—
	Sample thickness (mm)		—
A.8.2	Conditioning of samples; temperature (°C)		N
A.8.4	Test procedure		N
A.8.5	Compliance criteria		N
A.8.6	Permitted retest		N
A.9	Flammability test for classifying materials 5V		N
A.9.1	Samples, material		—
	Sample thickness (mm)		—
A.9.4	Test procedure, test bars		N
A.9.5	Test procedure, test plaques		N
A.9.6	Compliance criteria		N
A.9.7	Permitted retest		N
A.10	Stress relief conditioning (see 4.2.7)		N

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Clause	Requirement - Test	Result	Verdict
	Temperature (°C)		—
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N
B.1	General requirements		N
	Position		—
	Manufacturer:		—
	Type		—
	Rated values		—
B.2	Test conditions		N
B.3	Maximum temperatures		N
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for DC motors in secondary circuits		N
B.7	Locked-rotor overload test for DC motors in secondary circuits		N
B.7.1	Test procedure		N
B.7.2	Alternative test procedure; test time (h)		N
B.7.3	Electric strength test		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors		N
	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N
	Position		—
	Manufacture:		—
	Type		—
	Rated values		—
	Method of protection		—
C.1	Overload test		N
C.2	Insulation		N
	Protection from displacement of windings		N
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N

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Clause	Requirement - Test	Result	Verdict
G.1	Summary of the procedure for determining minimum clearances		N
G.2	Determination of mains transient voltage (V)		N
G.3	Determination of telecommunication network transient voltage (V)		N
G.4	Determination of required withstand voltage (V)		N
G.5	Measurement of transient levels (V)		N
G.6	Determination of minimum clearances		N
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N
	Ionizing radiation		N
	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
	Metal used		—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N
K.1	Making and breaking capacity		N
K.2	Thermostat reliability; operating voltage (V)		N
K.3	Thermostat endurance test; operating voltage (V)		N
K.4	Temperature limiter endurance; operating voltage (V)		N
K.5	Thermal cut-out reliability		N
K.6	Stability of operation		N
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N
M.2	Method A		N
M.3	Method B		N
M.3.1	Ringing signal		N
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

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Clause	Requirement - Test	Result	Verdict
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N
M.3.2.2	Tripping device		N
M.3.2.3	Monitoring voltage (V)		N
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N
	Separate test report		N

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Clause	Requirement - Test	Result	Verdict

1.5.1	TABLE: list of critical components					P
Object/Part No.	Manufacturer/ Trademark	Type/Model	Technical Data	Standard	Mark(S) of Conformity	
Connectors J1, J2, J3	Molex or equivalent	Various	Rated: 94V-2 min.	UL 1977 UL 94	UL Recognized	
Connectors J4, J7, J8	Molex or equivalent	Various	Rated: 94V-0 min.	UL 1863 UL 94	UL Recognized	
F1 (PTC)	Raychem	SMD250	Rated: 15V/2.5A		UL Recognized CSA TUV	
F2 (PTC)	Raychem	SMD150	Rated: 15V/1.5A		UL Recognized CSA TUV	
F3, F4 (PTC)	Raychem	SMD200	Rated: 15V/2.0A		UL Recognized CSA TUV	
Batteries (Two provided)	GP or equivalent	40AAK	Rechargeable NiCd Rated: 1.2V/400mAh			
External Leads	Various	Various	18 AWG Rated: 300V, 80°C Flame rated: VW-1 min.	UL 758	UL Recognized	
Printed wiring board	Various	Various	Flame rated: V-1 min.	UL 796	UL Recognized	

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Clause	Requirement - Test	Result	Verdict

1.6	TABLE: electrical data (in normal conditions)				P
I _{rated} (A)	U (V)	P (W)	I (A)	Hz	Condition/Status
0.47	9	N	0.194	DC	Continuous operation, output RF signal present, back-up batteries fully charged
0.47	12	N	0.174	DC	Same as above
0.47	15	N	0.163	DC	Same as above

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					N
clearance cl and creepage distance dcr at/of:	U _p (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)

Functional insulation complies with 5.3.4 c)

2.10.5	TABLE: distance through insulation measurements			N
distance through insulation d _i at/of:	U r.m.s. (V)	test voltage (V)	required d _i (mm)	d _i (mm)

Functional insulation only

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Clause	Requirement - Test	Result	Verdict

4.5	TABLE: temperature rise measurements			P
	Test voltage (V)	15dc	Considered as worst case (max. input power)	
	t1 (°C)	25.3		
	t2 (°C) 0	25.3		
Temperature rise dT of part/at:		dT (K)	Maximum dT (K)	
C25 (Electrolytic capacitor), rated 105°C		1.8	105 – 60 = 45	
Battery 1 at PCB		1.9	105 – 60 = 45	
Battery 2 at PCB		2.8	105 – 60 = 45	
PCB (worst case, near D3) rated 105°C		3.6	105 – 60 = 45	
Enclosure, outside		0.3	45+25-60 = 10	
Maximum ambient: T _{mra} = 60°C. Measurements were monitored by means of thermocouples. Test was monitored for a period of 2 hours until temperatures had stabilized.				

4.5.2	TABLE: ball pressure tests of thermoplastic parts			N
	allowed impression diameter (mm).....:	≤ 2mm		-
part		test temperature (°C)	impression diameter (mm)	
No hazardous voltage parts				

5.2	TABLE: electric strength tests and impulse tests			N
Test voltage applied between:		test voltage (V)	breakdown Yes/No	
Functional insulation complies with 5.3.4 c)				

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Clause	Requirement - Test	Result	Verdict

5.3	TABLE: fault condition tests						P
	Ambient temperature (°C)				room temperature		-
	Model/type of power supply				On LCU500		-
	Manufacturer of power supply				N/A		-
	Rated markings of power supply				N/A		-
No.	Component No.	Fault	Test voltage (V)	Test time	Fuse No.	Fuse current (A)	Result
1	J6 (pin2)	OV	13.5	1h	-	---	No adverse effect. Maximum available current 500 mA
2	J7 (pin1)	OV	5	1h	-	---	No adverse effect. Maximum available current 700 mA
3	J8 (pin6)	OV	15	1h	-	---	No adverse effect. Maximum available current 1.2 A
4	B1, B2	OC	15	7h	---	----	There was no cracking, rupturing or bursting of the battery jacket that could result in access of the battery electrolyte. There was no explosion of the batteries that could result in a risk of injury to persons. There was no emission of flame or expulsion of molten metal.
5	B1, B2	OC	15	7h			Same as for Test 4
6	B1, B2	DC	15	0.5h			Same as for Test 4
OV-overload; S-short; O-open, OC – Overcharge, DC-discharge							
supplementary information							
Tests 1-3: Overload of operator accessible connectors. "Test voltage" is the Open Circuit Voltage at the connector.							
Test 4: Unit with fully charged rechargeable batteries (B1, B2) was allowed to charge for 7 hours.							
Test 5: Same as Test 4 but with R56 shorted							
Test 6: Unit with fully charged rechargeable batteries (B1, B2) was subjected to rapid discharge by shorting pins 2 and 3 of U2							

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Clause	Requirement - Test	Result	Verdict
A.6.5	TABLE: flammability test for classifying materials V-0, V-1 or V-2		N
Sample No. / Reference	After flame time (s) t_1 or t_2	After flame + afterglow (s) after 2 nd flame application $t_2 + t_3$	
1/A			
2/A			
3/A			
4/A			
5/A			
6/B			
7/B			
8/B			
9/B			
10/B			
Supplementary information:			
Total after flame time (s) for any condition set $t_1 + t_2$ for five (5) specimens:			
Conditioning “A” designates 7 days at 70 °C \pm 1 °C followed by 4 h minimum in calcium chloride desiccator.			
Conditioning “B” designates 48 h at 23 °C \pm 2 °C and relative humidity between 45 % and 55 %.			

A.6.6	TABLE: flammability re-test for classifying materials V-0, V-1 or V-2		N
Sample No.	Afterflame time (s) t_1 or t_2	Afterflame + afterglow (s) after 2 nd flame application $t_2 + t_3$	
11			
12			
13			
14			
15			
Supplementary information:			
Total afterflame time (s) for any condition set $t_1 + t_2$ for five (5) specimens:			

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Clause	Requirement - Test		Result	Verdict
A.7.4, A.7.5, A.7.6 and A.7.7	TABLE: flammability test for classifying foam materials HF-1, HF-2 or HBF			N
Sample No. / reference	Flame time (s)	Glow time (s)	Flaming/glowing distance from the end (mm)	Comment (for A.7.7 burning rate mm/min)
1/A				
2/A				
3/A				
4/A				
5/A				
6/B				
7/B				
8/B				
9/B				
10/B				
Supplementary information:				
Conditioning "A" designates 7 days at 70 °C ± 1 °C followed by 4 h minimum in calcium chloride desiccator				
Conditioning "B" designates 48 h at 23 °C ± 2 °C and relative humidity between 45 % and 55 %				

A.7.8	TABLE: flammability re-test for classifying foam materials HF-1 or HF-2			N
sample No.	flame time (s)	glow time (s)	flaming/glowing distance from the end (mm)	comment
11				
12				
13				
14				
15				
Supplementary information:				

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Clause	Requirement - Test		Result	Verdict
A.7.9	TABLE: flammability re-test for classifying foam materials HBF			N
sample No.	flame time (s)	glow time (s)	flaming/glowing distance from the end (mm)	comment (for A.7.7 burning rate mm/min)
11				
12				
13				
14				
15				
Supplementary information:				

A.8.5	TABLE: flammability test for classifying materials HB		N
sample No.	flaming/glowing rate mm/min	flaming/glowing distance from reference mark (mm)	
1			
2			
3			
Supplementary information:			

A.8.6	TABLE: flammability re-test for classifying materials HB		N
Sample No.	Flaming/glowing rate Mm/min	Flaming/glowing distance from reference mark (mm)	
4			
5			
6			
Supplementary information:			

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Clause	Requirement - Test			Result	Verdict
A.9.6	TABLE: flammability test for classifying materials 5V				N
Sample	Test bars		Test plaques		
No./ref.	Flaming + glowing time (s)	Burning distance (mm)	Position	Flaming + glowing time (s)	Burning distance (mm)
1/A			A		
2/A			B		
3/A			C		
4/A			D		
5/A			—	—	—
6/B			A		
7/B			B		
8/B			C		
9/B			D		
10/B			—	—	—
Supplementary information:					
Conditioning "A" designates 7 days at 70 °C ± 1 °C followed by 4 h minimum in calcium chloride desiccator.					
Conditioning "B" designates 48 h at 23 °C ± 2 °C and relative humidity between 45 % and 55 %.					

A.9.7	TABLE: flammability re-test for classifying materials 5V					N
Sample	Test bars	Test plaques				
No.	Flaming + glowing time (s)	Burning distance (mm)	Position	Flaming + glowing time (s)	Burning distance (mm)	
11			A			
12			B			
13			C			
14			D			
15						
Supplementary information:						

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Clause	Requirement - Test	Result	Verdict

Group differences S=Special National condition, D=National differences, F=Other information, AT=Austria, CH=Switzerland, CZ=Czech Republic, FI=Finland, HU=Hungary, NO=Norway, SE=Sweden, SI=Slovenia			P
2.7.1	Replace the text of this sub-clause.	See clause 2.7.1. Pluggable Type A	Replaced
2.7.2	Replace the text of this sub-clause by: Void.	Void	Replaced
3.2.3	Delete the note 1 and in table 3A, delete the conduit sizes in parentheses.	Deleted	Deleted
3.2.5	Replace items in Table 38. In Note 1, delete the second sentence	Deleted. Cord not part of this investigation	Deleted
3.3.4	In Table 30, delete the fourth line and replace with: Over 10 up to and including 16; 1.5 to 2.5; 1.5 to 4 Delete the fifth line	No wiring terminals	Deleted and Replaced
4.3.13	Replace second paragraph by: For equipment using LED's or lasers, compliance is checked according to EN 60825-1	None	Replaced
Annex H	Replace last paragraph by: At any point 10cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 uSv/h (0.1 mR/h)	No ionizing radiation	Replaced
Annex P	Replace the text of this Annex by: See Annex ZA	Noted	Replaced
Annex Q	Add the notes for the standards indicated	Noted	Added

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Clause	Requirement - Test	Result	Verdict

National Differences for Australia and New Zealand			P
1.2.12.11	POTENTIAL IGNITION SOURCE Possible fault such as a faulty contact or interruption in an electrical connection	Added	N
1.5.1	Add to the first paragraph: "or the relevant Australian or New Zealand Standard"	Added	P
1.5.2	Add to the first and third dashed items after the words "IEC Component Standard": "or the relevant Australian or New Zealand Standard"	Added	P
1.6.1	Add: AC power distribution systems classified as TT or IT are not allowed	Added. DC powered unit	N
1.7.12	Add to the first paragraph: In Australia and New Zealand all safety instructions shall be in English	Added. Instructions are in English	P
3.2.5	Substitute for Table 3B, Sizes of Conductors	Substituted	N
4.3.6	Replace the third paragraph: Equipment having pins for insertion into socket-outlets shall comply with 2.8.1, 2.8.4, 2.10, 2.12.6 and 2.14.6 of AS/NZS 3112, using the 10 A gauge in Appendix A of AS/NZS 3112	Replaced DC powered unit	N
	The equipment is inserted, as in normal use, into a socket outlet capable of accepting a 10 A plug complying with Fig. 2.1(a) of AS/NZS 3112. The socket outlet has a horizontal pivot at a distance of 8 mm behind the engagement face of the socket, and in the plane of the lower intersection of the center-lines of the contact apertures. The additional torque to be applied to maintain the engagement face in the vertical plane shall not exceed 0.25 Nm	DC powered unit	N
4.3.13	For the purpose of this standard compliance with AS/NZS 2211.1 is deemed to be compliance with IEC60825.1	Laser not used	N
4.7	Add after the clause: For alternative resistance to fire test methods, refer to AS/NZS, Annex YY	Added. Alternative tests were not used.	N
6.2.2	Replace the first paragraph by: In Australia (not in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2	Replaced. No TNV	N

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Clause	Requirement - Test	Result	Verdict
6.2.2.1	<p>In Australia, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulses test generator of Annex N for 10/700µs impulses. The interval between successive impulses is 60 s and the initial voltage, U_c is:</p> <ul style="list-style-type: none"> - for 6.2.1a): 7 kV for hand-held telephones and for headsets; 2.5 kV for other equipment; - for 6.2.1b) and 6.2.1c): 1.5 kV. <p>NOTES:</p> <ol style="list-style-type: none"> 1. The 7 kV impulse is to simulate lightning surges on typical Australian rural and semi-rural network lines 2. The value of 2.5 kV for case (a) has been chosen primarily to ensure adequacy of the insulation concerned, and it does not necessarily simulate likely overvoltages 	No TNV	N
6.2.2.2	<p>In Australia, the electrical separation is subjected to an electric strength test according to 5.2.2.</p> <p><u>The a.c. test voltage is:</u></p> <ul style="list-style-type: none"> -for 6.2.1a): 3 kV -for 6.2.1b) and 6.2.1c): 1.5 kV <p>NOTES:</p> <ol style="list-style-type: none"> 1. Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used 2. The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system 	No TNV	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

National Differences for Canada/USA			P
1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part 1	Unit for use within vehicle	N
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions	Unit for se within vehicle	N
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded	Not intended for such purpose	N
	Special requirements apply to equipment intended for use outdoors		N
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of CSA and UL component standards in Annex P.1	See Table 1.5.1	P
	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of CSA and UL component standards in Annex P.2	See Table 1.5.1	P
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like	Pass. Interconnecting Harness employs UL Recognized leads suitable for min. 300 V, 80°C and are VW-1 rated	P
	External cable assemblies which exceed 3.05m in length to be types specified in the NEC and CEC	Vehicle mounted equipment	N
	Detachable external interconnecting cables 3.05m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable	Vehicle mounted equipment	N
	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope	Vehicle mounted equipment	N
	Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233	No such cords	N
	For other than limited power and TNV circuits, the type of output circuit identified for output connector	Input/Output connector identified in manual	P
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor	Unit is Class III unearthed (floating).	N
	Equipment voltage rating not higher than rating of the plug except under special conditions		N

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Clause	Requirement - Test	Result	Verdict
1.7.2	Wiring terminals supplying Class 2 outputs marked with voltage rating and "Class 2" or equivalent	No such wiring terminals	N
1.7.6	Special fuse replacement marking for operator accessible fuses	No operator accessible	N
	Lamp replacement information indicated on lampholder in operator access area	No lamps	N
1.7.7	Identification of terminal connection of the equipment earthing conductor		N
2.1.1	Screw shell of Edison-base lampholder tied to the neutral conductor	Class III	N
2.1.1.1	Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover	No TNV	N
2.3.1.b	Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4	No TNV	N
	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c. The maximum current limit through the 2000 Ohm resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions		N
	Limits for measurements across 5000 Ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4		N
2.3.2	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and routine testing	No TNV	N
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting in accordance with the NEC, or the Limited Power Source definition, not interchangeable with devices of higher ratings if operator replaceable	No such over current protective device	N
	VA for limited power source measured after 60 s of operation	outputs not evaluated for limited power source	N
2.6	Protective earthing terms applied per CEC, Part 1, Sec. 0 and NEC Art. 100	Vehicle mounted equipment	N
	Units having receptacles for output a.c. power connectors which are generated from an internal separately derived source have the grounded circuit conductor suitably bonded to earth		N

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Clause	Requirement - Test	Result	Verdict
2.6.3.3	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit	Unit Class III	N
	Protective bonding conductors and their terminals of non-standard constructions (e.g. PWB traces) evaluated to limited short-circuit test of CSA C22.2 No.4	Unit Class III	N
2.6.4.1	Field wiring terminals for earthing conductors must be suitable for wire sizes (gauge) used in US and Canada	Unit Class III	N
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC, and CEC, Part 1	Unit Class III	N
	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating	Unit Class III	N
	Data for selection of special external branch circuit overcurrent devices marked on the appliance	Unit Class III	N
	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring	Unit Class III	N
	Additional requirements for overcurrent protection apply to equipment provided with panelboards	Unit Class III	N
2.10.5.4	Multi-layer winding wire subject to UL wire requirements in addition to 2.10.5.4 and Annex U	Unit Class III	N
3.1.1	Permissible combinations of internal wiring/ external cable sizes for overcurrent and short circuit protection	Unit Class III	N
	All interconnecting cables protected against overcurrent and short circuit		N
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1	Unit Class III	N
3.2.1	Permitted use for flexible cords and plugs	Unit Class III	N
	Flexible cords provided with attachment plug rated 125% of equipment current rating		N
	Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug		N
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC and CEC, Part 1	Unit class III	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
	Equipment compatible with suitable trade sizes of conduits and cables		N
	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm ²) and not less than 152 mm in length for connection of field installed wiring		N
	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate		N
	Equipment intended solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system. A method of securing wiring or instructions must be provided to ensure the wiring is protected from abuse		N
3.2.5	Length of power supply cord 1.5 to 4.5 m unless shorter length used when intended for a special installation	Unit is Class III	N
	Conductors in power supply cords sized according to NEC and CEC, Part I	Unit is Class III	N
	Power supply cords and cord sets incorporate flexible cords suitable for the particular application	Unit is Class III	N
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source	Unit is Class III	N
3.2.9	Adequate wire bending space and volume of field wiring compartment to properly make the field connections	Unit Class III	N
3.3	Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3	Unit Class III	N
	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than those specified in 3.3 if wiring is reliably separated		N
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means	Unit is Class III	N
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm ²) or smaller conductor if provided with upturned lugs, cupped washer or equivalent retention	Unit Class III	N
3.3.4	Terminals suitable to accept wire sizes (gauge) used in the U.S. and Canada	Unit Class III	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
	Terminals accept current-carrying conductors rated 125% of the equipment current rating		N
3.3.6	Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads	Unit Class III	N
	Field wiring terminals marked to indicate the material(s) of the conductor appropriate for the terminals used		N
	Connection of an aluminum conductor not permitted to terminal for equipment earthing conductor		N
3.3.8	Connectors and field wiring terminals involving external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used	Unit Class III	N
	Marking located adjacent to terminals and visible during wiring		N
3.4.2	Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A)	Unit Class III	N
3.4.8	Vertically mounted disconnect devices, oriented so up position of handle is "on"	Unit Class III	N
3.4.10	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 min require battery disconnect means	Unit Class III for vehicle use	N
3.6	Connections to a centralized DC power system comply with requirements for branch circuits in Sub-clause 3.2	Unit Class III for vehicle use	N
	Earthing of d.c. powered equipment provided		N
	Overcurrent and earth fault protection in accordance with 2.7 either provided in equipment or as part of building installation		N
	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard		N
	Equipment with earthed terminal (terminal for the grounded conductor) of power source connected to frame of the unit provided with special instructions and provision for earthing		N

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Clause	Requirement - Test	Result	Verdict
	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection		N
	Special markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to earthing conductor at the equipment		N
	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment		N
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more		N
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion		N
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg tested at four times the weight of the unit		N
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment comply with UL 1310 or CSA 223 mechanical assembly requirements	Unit Class III	N
4.3.12	The maximum quantity of flammable liquid stored in equipment comply with ANSI/NFPA 30 (Table NAE. 7)	No flammable liquids	N
	Equipment using replenish able liquids marked to indicate type of liquid to be used		N
4.3.13	Equipment which produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible	No x-radiation emitted	N
	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370)		N
4.7.1	Automated information storage equipment intended to contain more than 0.76 mm ³ of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system		N
4.7.3	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke-producing characteristics	Unit for use in vehicles	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
	Low smoke-producing characteristics evaluated according to UL 2043		N
	Equipment for installation in space used for environmental air as described in Sec. 300-22(c) of the NEC provided with instructions indicating suitability for installation in such locations		N
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m ² or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications	No such materials	N
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent	No TNV	N
5.1.8.1.1	Touch current due to ringing voltage for equipment containing telecommunication network leads	No TNV	N
5.1.8.2	When multiple ports receive ringing voltage, simulated ringing applied to 3 % if ports in excess of 3		N
	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections		N
5.3.6	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator		N
	Tests interrupted by opening of a component repeated two additional times		N
5.3.8.1	Test interrupted by opening of wire or trace continued by shorting gap	No opening of wire or trace during the fault tests	N
6	Specialized instructions, as appropriate, provided for equipment which may be connected to a telecommunications network	No TNV	N
	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network	No such connectors	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
6.2.1	Special requirements for enameled wiring used as electrical separation provided between parts connected to telecommunication network and telecommunication circuitry intentionally isolated from network	No TNV	N
	Digital line termination equipment (e.g., NCTE) subject to separation requirements.		N
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection	No TNV	N
	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable		N
6.4	Additional requirements for equipment intended for connection to a telecommunication network using cable subject to overvoltage from power line failures (Fig. 6C)	No TNV	N
	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions		N
6.5	Acoustic pressure from an ear piece less than 136 dBA for short duration disturbances, and less than 125 dBA for handsets, 118 dBA for headsets, and 121 dBA for insert earphones, for long duration disturbances	No ear piece	N
Annex H	Ionizing radiation measurements are made under single fault conditions in accordance with the requirements of the Code of Federal Regulations 21 CFR 1020 and the Canadian Radiation Emitting Devices Act, REDR C1370	No such radiation	N
Annex M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations	No TNV	N
Annex M.4	Special requirements for message waiting and similar telecommunications signals	No TNV	N
Annex NAB	Equipment intended for connection to centralized d.c. power systems is required to comply with special earthing, wiring, and supply voltage tolerance requirements	Unit Class III and vehicle battery powered	N
Annex NAC	Equipment intended for use with a generic secondary protector shall be marked with suitable instructions	No TNV	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
Annex NAC	Equipment intended for use with a specific primary or secondary protector shall be marked with suitable instructions	No TNV	N

National Differences for Denmark			P
1.2.4.1	Certain types of Class I appliances (see sub-clause 3.2.1) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets	Class III dc powered	N
1.7.2	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	Class III	N
1.7.5 (a)	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	No socket outlets	N
1.7.5 (b)	Class II equipment shall not be fitted with socket-outlets for providing power to other equipment	Class III	N
1.7.15	Caution text concerning lithium batteries The size of the warning must be a minimum of 26 x 52 mm, the background shall be yellow colour with black frame, and the text in black colour. A white background is acceptable in the User's Instruction and in the Service Manual	No lithium batteries	N
3.2.1	Supply cord of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. Class I equipment provided with socket-outlets with earth contact 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 10 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-1-D1 or EN 60309-2	Class III DC powered unit	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

National Differences for Finland			P
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE-EQUIPMENT TYPE B only.	No TNV	N

National Differences for Germany			P
1.7.12	Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted	Unit not considered technical labour equipment	N
Annex H (a)	a) A license is required by those who operate an X-ray emission source		N
Annex H (b)	b) A license in accordance with Clause 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV if: 1) The local dose rate at a distance of 0.1 m from the surface does not exceed 1 µSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer		N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
Annex H (c)	<p>c) A license in accordance with Clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if:</p> <p>1) The X-ray emission source has been granted a type approval and</p> <p>2) it is adequately indicated on the X-ray emission source that</p> <p>i) X-rays are generated,</p> <p>ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and</p> <p>iii) the electron acceleration voltage does not exceed the maximum value stipulated by the manufacturer or importer</p>		N
Annex H (d)	<p>d) Furthermore, a license in accordance with Clause 1 is also not required by persons who operate X-ray emission source on which the electron acceleration voltage does not exceed 30 kV if:</p> <p>1) the X-rays are generated only intrinsically safety CRTs complying with Enclosure III, No. 6</p> <p>2) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measured and specified in the device and</p> <p>3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT</p>		N
National Differences for Ireland			P
3.2.1	<p>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</p>	Class III DC powered unit	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
4.3.6	Direct plug-in equipment 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

National Differences for Norway			P
1.5.8	Due to the IT power system used (see annex V, figure V.7), capacitors are required to be rated for the applicable phase-to-phase voltage (230 V)	Class III DC powered unit	N
1.7.2	CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a communication network where safety relies on connection to protective earth, require a marking stating that the equipment must be connected to an earthed mains socket-outlet	Class III	N
2.2.4	Requirements according to sub-clauses 1.7.2 and 6.1.2.1 apply for this clause	SELV to SELV.	N
2.3.2	Requirements according to sub-clause 6.1.2.1 apply for this clause	No TNV	N
2.3.3	Requirements according to sub-clause 6.1.2.1 apply for this clause	No TNV	N
2.3.4	Requirements according to sub-clauses 1.7.2 and 6.1.2.1 apply for this clause	No TNV	N
2.10.3.1	Due to the IT power distribution system used (see annex V, figure V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault		N
6.1.2.1	Note 2. Add the following text between the first and second paragraph: If this insulation is solid, including Insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0.4 mm, which shall pass the electric strength test below	No TNV	N

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Clause	Requirement - Test	Result	Verdict
	<p>If this insulation forms part of a semiconductor component e.g. an optocoupler, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition:</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1.5 kV multiplied by 1.6 (the electric strength test of 2.10.7 shall be performed using 1.5 kV): and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1.5 kV 	No TNV	N
	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2	No TNV	N
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE-EQUIPMENT TYPE B only	No TNV	N
Annex G.2	Due to the IT power distribution system used (see annex V, figure V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault	Class III unit	N

National Differences for Sweden			P
1.5.1	<p>Add the following:</p> <p>NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed</p>	No such components	N
1.7.2	<p>If the separation between the mains and a SELV terminal relies upon connection to safety earth, the apparatus shall have a marking stating that it must be connected to an earthed mains socket-outlet. The marking text shall be in Swedish and as follows:</p> <p>"Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk"</p>	Class III unit	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
6.1.2.1	<p>Note 1. Add the following text between the first and second paragraph: If this insulation is solid, including Insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0.4 mm, which shall pass the electric strength test below 	No TNV	Added
	<p>If this insulation forms part of a semiconductor component e.g. an optocoupler, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition:</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1.5 kV multiplied by 1.6 (the electric strength test of 2.10.7 shall be performed using 1.5 kV): and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1.5 kV 	No TNV	N
	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2	No TNV	N
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE-EQUIPMENT TYPE B only	No TNV	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

National Differences for Spain			P
3.2.1	<p>Supply cords of single-phase equipment having a rated current not exceeding:</p> <ul style="list-style-type: none"> - 2.5 A shall be provided with a plug according to UNE EN 50075:1993 - 10 A shall be provided with a plug according to UNE 20315:1994 <p>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 UNE 20315:1994</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the UNE-EN 60309-2</p>	DC powered unit	N

National Differences for Switzerland			P
1.5.1	<p>Add the following:</p> <p>NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed</p>	No such components	N
1.7.15	Annex 4.10 of SR 814.013 (Ordinance on environmentally hazardous substances) applies for batteries	Non replaceable. NiCd batteries are mounted inside of end product.	P
3.2.1	<p>Supply cords of equipment having a rated current not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p> <p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>EN 60309 applies for plugs for currents exceeding 10 A</p>	DC powered unit	N
6.1	Protective means in the equipment shall not prevent transient surge protection in the telecommunication network from operating properly (d.c. spark-over voltage of the surge suppressor installed in the telecommunication network: approx. 245 V)	No TNV	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

National Differences for the United Kingdom			P
3.2.1	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 1786: 1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE: "Standard plug" is defined in SI 1786: 1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug	DC powered unit	N
3.2.5	A power supply cord with conductor of 1.25 mm ² is allowed for equipment with a rated current over 10A and up to and including 13A	DC powered unit	N
3.3.4	The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10A up to and including 13A is: 1.25 mm ² to 1.5 mm ² nominal cross-sectional area	DC powered unit	N
4.3.6	This test should be performed using an appropriate socket outlet with an earthing contact		N

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Clause	Requirement - Test	Result	Verdict

IEC 60950 Second Edition National Deviations

Australian Deviations AS/NZS 3260			P
2	Limit of direct current from a.c. appliances.	DC powered unit	N
6.3.3.2	Marking for equipment to be installed by service personnel.	No TNV	N
Annex A	Add. after Annex title: Alternative resistance to fire test-determination if ignitability and combustion propagation	Added. Alternative method not used	N
Appendix 2	Add. Appendix	Added	N
X2.0	GENERAL This test is an alternative to the testes in Annex A to allow approval of equipment which has inadequate documentation to verify having been tested to Annex A.	Alternative test not used	N
Appendix 3	Add Appendix: D.C. COMPONENTS FROM A.C. EQUIPMENT	DC powered unit	N

ÖVE EN 60950 Special National conditions, National differences for Austria			P
6.4.2.1 D	Equipment shall comply with $U_c = 2.0\text{KV}$ in cases b) and c).	No TNV	N

Special National conditions, National differences for France			P
2.3.3.2 S	(FR). Method 3 is not acceptable.	No TNV	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

J 60950 Japanese deviations			P
General	Replace "CLASS I EQUIPMENT" with "CLASS I or CLASS OI EQUIPMENT" in clauses 2.3.2 / 2.5.1 / 2.5.4 / 2.7.4 / 2.7.6 / 4.3.20 / 5.4.9 / 6.3.2	Class III unit	N
1.3.3	Add additional protection class "Class OI".	Unit is not Class 01	N
1.5.1	Components shall comply either with IEC standards or with the relevant technical requirements of MITI Ordinance No.85."		P
1.5.2	Replace the requirements except 4 th Item.	Checked according to the replaced requirements; see also 1.5.1	P
1.7.1	Replace NOTE 2	Battery powered unit	N
1.7.2	Delete Notes 1, 2 and 4		P
1.7.5 / 2.1.2	Replace "IEC 83" with "IEC 83 or JIS C 8303"		P
1.7.101	Indication for CLASS OI EQUIPMENT	Unit is not Class 01	N
2.3.4	Replace "IEC83 or IEC 320" with "IEC 83, JIS C 8303 or IEC 320" in the last item.	No TNV	N
2.5.101	Plug with an earthing lead wire shall not be used for the equipment having a rated voltage exceeding 150V.	DC powered unit	N
	Earthing lead wire provided in plug shall not be earthed by using a clip.		N
2.9.2.1/2 .9.2.2	In Table 3/5, the 1 st column is not valid (supply voltage ≤ 150V)		N
2.9.4.4	Replace all text in this clause. (Shall comply with Japanese standard text.)	Replaced	N
3.2.2	Delete the values specified in parentheses of Table 10		N
3.2.4	Add the requirements regarding to MITI Ordinance No.85 in first and second items.		N
	Delete the condition 1) in Table 11.		P
	Add NOTE 2 after NOTE.		P
3.3.8	PE terminals for class 01 equipment	Class III unit	N
4.3.9	Construction of CLASS OI EQUIPMENT	Class III unit	N
4.3.12	Add NOTE: only LEDs working under the laser principle are to be applied IEC 60825-1.	no LEDs as such	N
4.4.3.2	Thin materials	No such materials	N
5.1	Synthetic rubber or PVC insulation of internal and external wiring without T-Marking: 50K with T-marking: T-25		N
	Add the requirement to condition 5): "For part 1, limits are given in MITI Ordinance No. 85:1962, Appendix 4: 1.1.2, detailed rule (3)."		N
5.2.2	limits for CLASS OI EQUIPMENT	not class 01	N
5.3.2	replace NOTE 1	Replaced	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict
6.3.4.2	Delete	Deleted	N
Annex A A.101	Thin sheet material shall comply with ISO 9773.		N
Annex G G.2	limits for CLASS OI EQUIPMENT	not class 01	N
Annex M M.1	Replace the sentence.	not used	N
Annex U	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION	not used	N

Korean Deviations			P
General	When an appliance is supplied in Korea, it shall be set to and marked with 220V.	DC powered unit	N
General	When an appliance is supplied in Korea, it shall be set to and marked with 60Hz.	DC powered unit	N
General	Instruction manuals and appliance markings related to safety, including nameplate, shall be in Korean or graphical symbols in IEC 417.	IEC 60417-5031 is used to specify dc powered. Korean instructions shall be provided when unit shipped to Korea	P
1.5.101	Add.: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirements (KSC 8305).	DC powered	N
7	Add.: The equipment shall comply with CISPR requirements.	Unit complies with CISPR requirements. Results not reviewed as part of this report.	P

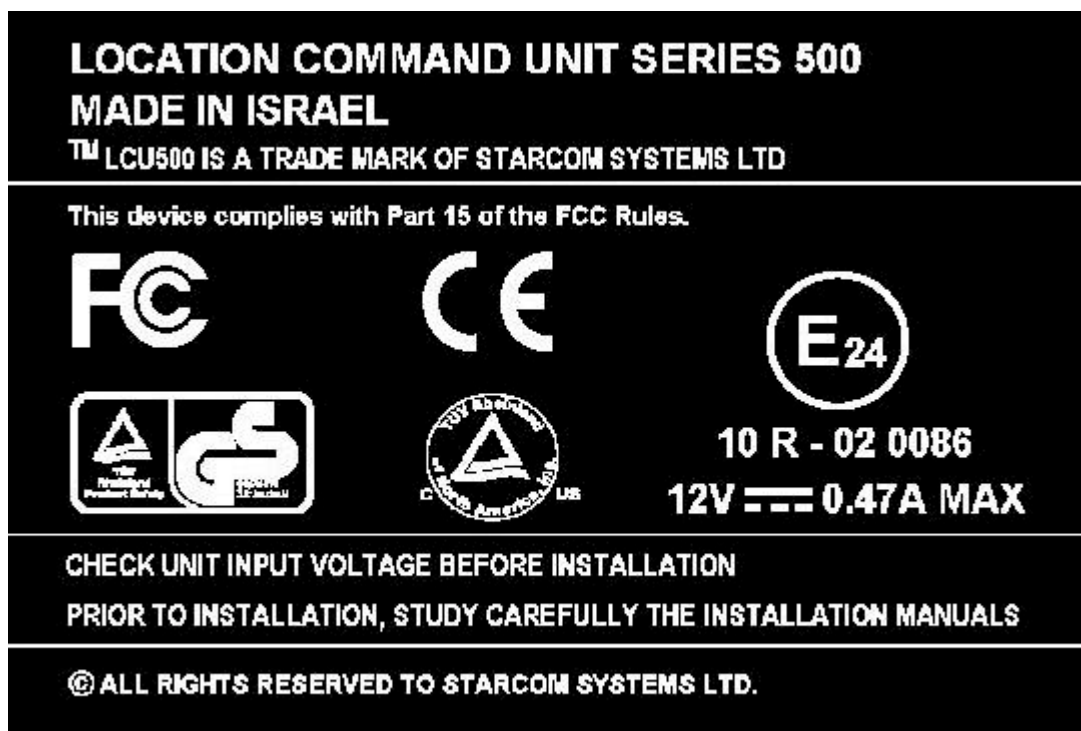
SS337 Special National conditions, National differences for Singapore			P
general	IT Power Systems are not allowed.	DC powered unit	N
2.2.3	The conditions of IEC 68-2-3 for tropical climate apply.	Hygroscopic materials not used for insulation	N

IEC 60950			
Clause	Requirement - Test	Result	Verdict

APPENDIX 1

Marking plate

Report reference No.: 30382081.001
 Description: GPS Car Location System
 Model/type reference: LCU500
 Manufacturer..... Starcom Systems Ltd.



IEC 60950			
Clause	Requirement - Test	Result	Verdict

APPENDIX 2

Photographs

Report reference No.: 30382081.001
Description: GPS Car Location System
Model/type reference: LCU500
Manufacturer Starcom Systems Ltd.

IEC 60950			
Clause	Requirement - Test	Result	Verdict

Figure No. 1 – External View (one side)



IEC 60950			
Clause	Requirement - Test	Result	Verdict

Figure No. 2 – External View (other side)



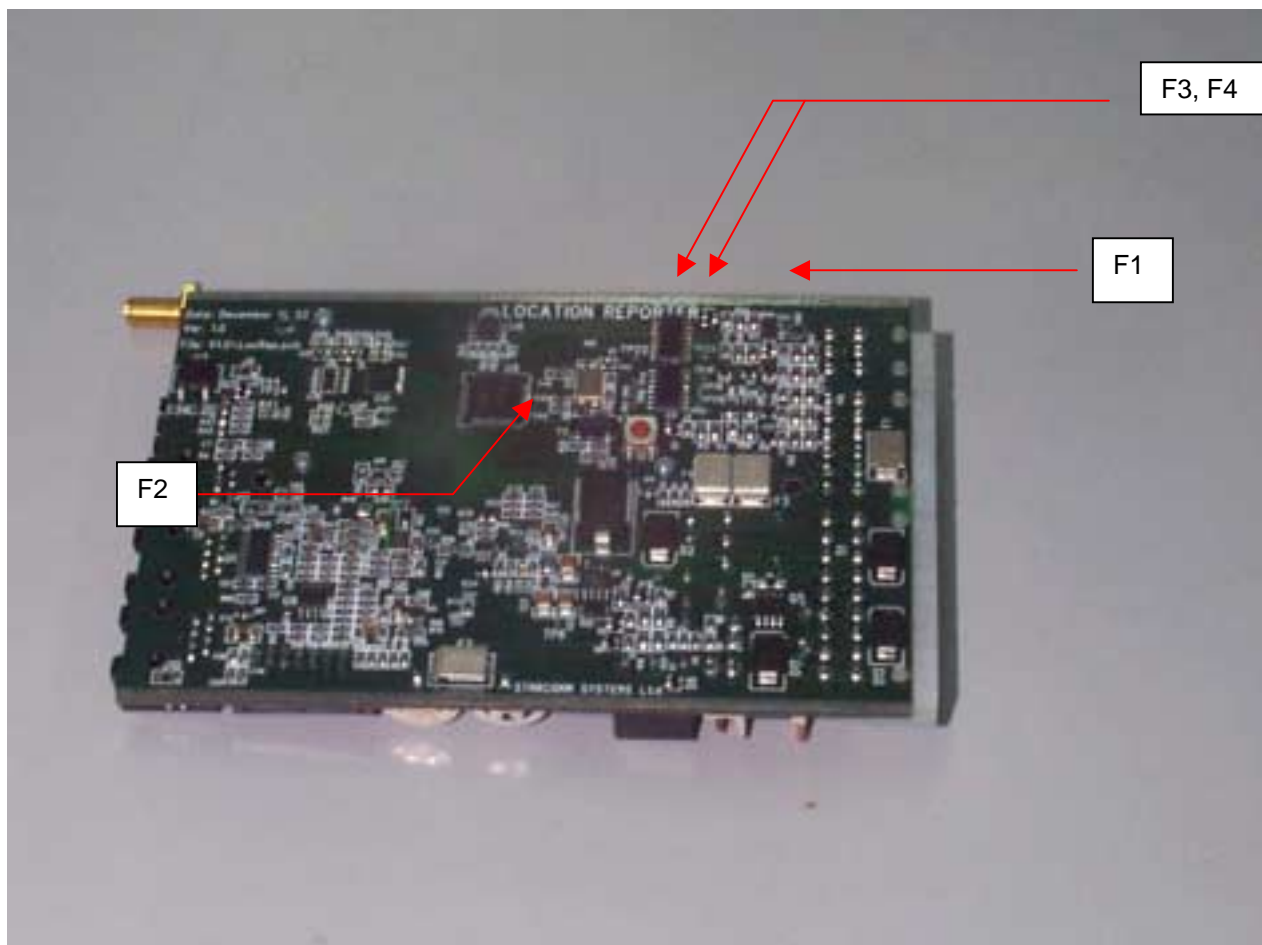
IEC 60950			
Clause	Requirement - Test	Result	Verdict

Figure No. 3 – Internal View (Component Side)



IEC 60950			
Clause	Requirement - Test	Result	Verdict

Figure No. 3 – Internal View (Print Side)



End of Test Report