






<b>TEST REPORT</b> <b>IEC 60950-1</b> <b>Information technology equipment – Safety –</b> <b>Part 1: General requirements</b>	
<b>Report Number .....</b>	<b>372254</b>
<b>Date of issue .....</b>	<b>2019-08-26</b>
<b>Total number of pages .....</b>	<b>32</b>
<b>Applicant's name .....</b>	<b>Nordic Semiconductor ASA</b>
<b>Address .....</b>	<b>Otto Nielsens vei 12, 7004 Trondheim, Norway</b>
<b>Test specification:</b>	
<b>Standard .....</b>	<b>IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013</b>
<b>Test procedure .....</b>	<b>-</b>
<b>Non-standard test method .....</b>	<b>N/A</b>
<b>Test Report Form No. ....</b>	<b>IEC60950_1F</b>
<b>Test Report Form(s) Originator .....</b>	<b>SGS Fimko Ltd</b>
<b>Master TRF .....</b>	<b>Dated 2014-02</b>
<b>Copyright © 2014 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved.</b> This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. <b>This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.</b>	
<b>General disclaimer:</b>	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description..... :	Development Kit	
Trade Mark..... :		
Manufacturer .....	Nordic Semiconductor ASA	
Model/Type reference .....	nRF52840-DK	
Ratings..... :	DC supplied: 500mA, 5V (USB 2.0) Battery supplied: 3.0V (CR2032)	
Testing procedure and testing location:		
<input checked="" type="checkbox"/> Testing Laboratory:	Nemko AS	
Testing location/ address .....	Gaustadalléen 30 NO-0373 Oslo Norway	
<input type="checkbox"/> Associated Testing Laboratory:		
Testing location/ address .....		
Tested by (name + signature)..... :	Hans-Eirik Lie Project handler	
Approved by (name + signature)..... :	Ole-Morten Aaslund Reviewer	
<input type="checkbox"/> Testing procedure: TMP/CTF Stage 1:		
Testing location/ address .....		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
<input type="checkbox"/> Testing procedure: WMT/CTF Stage 2:		
Testing location/ address .....		
Tested by (name + signature)..... :		
Witnessed by (name + signature) .....		
Approved by (name + signature)..... :		
<input type="checkbox"/> Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address .....		
Tested by (name + signature)..... :		
Witnessed by (name + signature) .....		
Approved by (name + signature)..... :		
Supervised by (name + signature)..... :		

**List of Attachments (including a total number of pages in each attachment):**

- 1) Photos (5 pages)
- 2) European group differences and national differences (19 pages)

**Summary of testing:**

Equipment under test (EUT) was supplied from a USB 2.0 source with max. current 1000mA.  
During fault testing, a separate rigid power supply was used to simulate a high current source on the External Supply connector P21. Current limit set to 28A (3.6V max source)

The photo attachment is showing the 1.0.0. revision of PCB. Only change to newer version 2.0.0. is the implementation of the extra protection components for lithium coin battery. Testing performed with 1.0.0. revision, the 2.0.0. changes will have no impact on safety, circuits evaluated on version 2.0.0.  
In addition, a new battery holder was applied in order to comply with cl. 4.3.8 (reverse polarity protection means).


**Tests performed (name of test and test clause):**

- |        |                        |
|--------|------------------------|
| 1.6    | Electrical data        |
| 1.7.11 | Durability of markings |
| 4.5    | Thermal requirements   |
| 5.3    | Fault testing          |

**Testing location:**

Nemko AS  
Gaustadalléen 30  
NO-0373 Oslo  
Norway

**Summary of compliance with National Differences:**
**List of countries addressed**

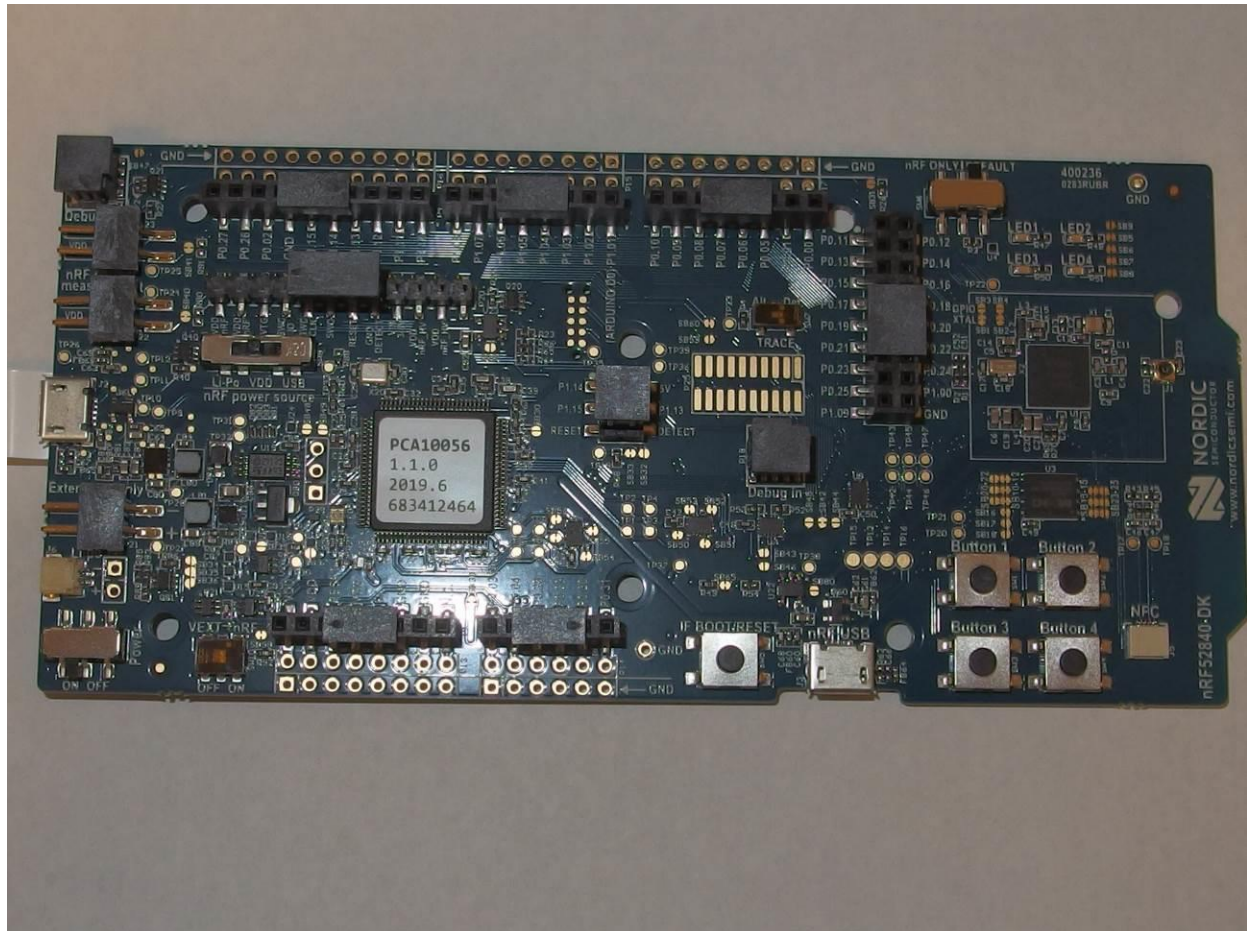
All CENELEC members as listed in EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013

☒ The product fulfils the requirements of  
**EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013**

**Copy of marking plate:**

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective Certification Bodies that own these marks.

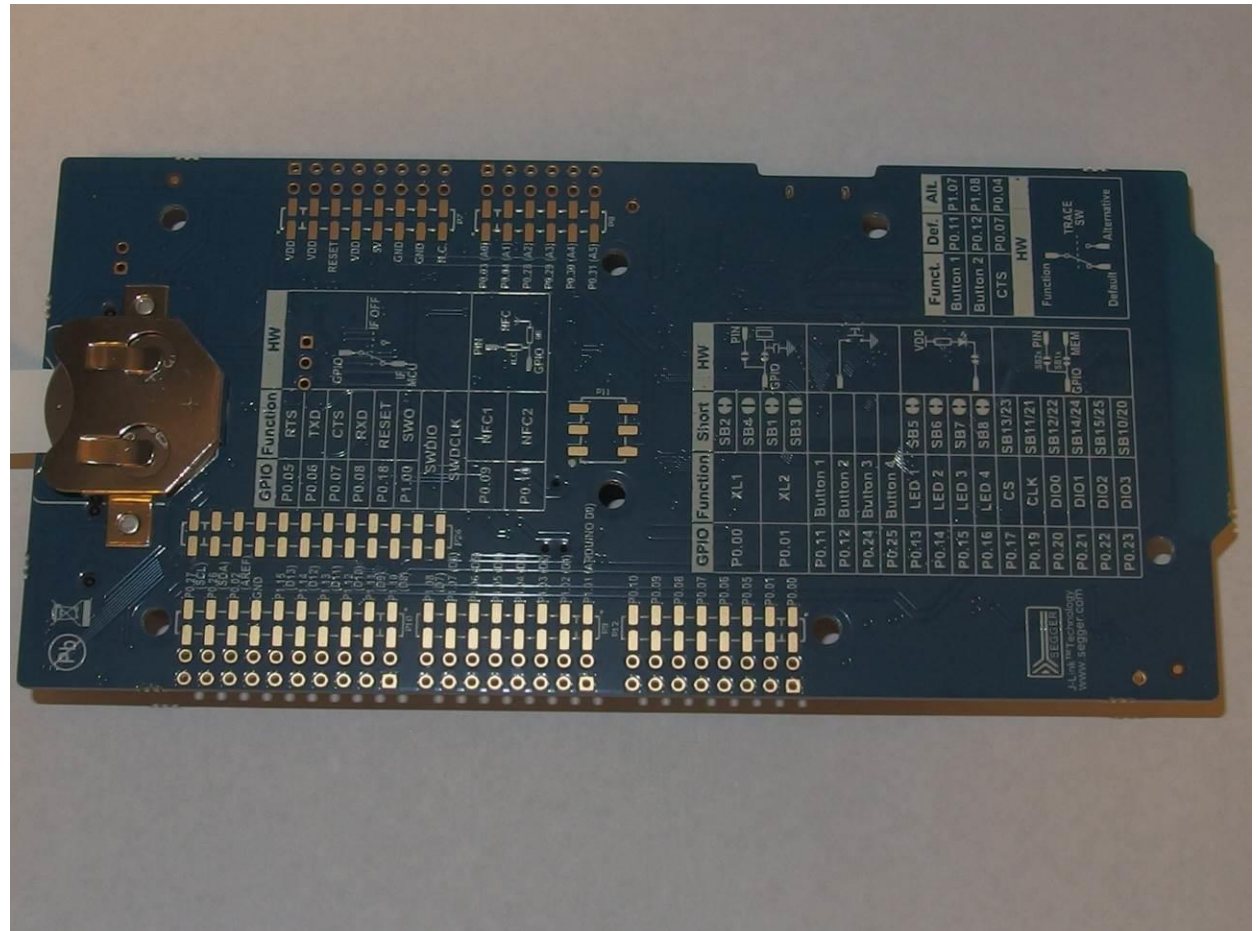
**Top:**



### Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective Certification Bodies that own these marks.

### Bottom:



Calibration	All instruments used in the tests given in this test report are calibrated and traceable to national or international standards. Further information about traceability will be given on request.
Measurement uncertainty	Measurement uncertainties are calculated for all instruments and instrument set-ups given in this report. Calculations are based on the principles given in the standard EA-4/02 (Dec. 1999), IEC Guide 115:2007, Nemko routine L227 and other relevant internal Nemko-procedures. Further information about measurement uncertainties will be given on request.
Evaluation of results	If not explicitly stated otherwise in the standard, the test is passed if the measured value is equal to or below (above) the limit line, regardless of the measurement uncertainty. If the measured value is above (below) the limit line, the test is not passed - ref IEC Guide 115:2007, and Nemko routine L220. The instrumentation accuracy is within limits agreed by IEC-CTL (ref. Nemko routine L227).



<b>Test item particulars..... :</b>	
<b>Equipment mobility.....:</b>	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
<b>Connection to the mains.....:</b>	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input checked="" type="checkbox"/> not directly connected to the mains
<b>Operating condition.....:</b>	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
<b>Access location .....</b>	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
<b>Over voltage category (OVC) .....</b>	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input checked="" type="checkbox"/> other: Class III equipment
<b>Mains supply tolerance (%) or absolute mains supply values .....</b>	N/A
<b>Tested for IT power systems .....</b>	N/A
<b>IT testing, phase-phase voltage (V) .....</b>	N/A
<b>Class of equipment .....</b>	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified
<b>Considered current rating of protective device as part of the building installation (A) .....</b>	N/A
<b>Pollution degree (PD) .....</b>	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
<b>IP protection class .....</b>	IP20
<b>Altitude during operation (m) .....</b>	<2000
<b>Altitude of test laboratory (m) .....</b>	100
<b>Mass of equipment (kg) .....</b>	< 0.1 Dimensions: 137 x 65 x 16mm
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object.....: N/A	
- test object does meet the requirement.....: P (Pass)	
- test object does not meet the requirement.....: F (Fail)	
<b>Testing.....:</b>	
<b>Date of receipt of test item .....</b>	2019-04-03
<b>Date (s) of performance of tests .....</b>	2019-04-10 to 2019-08-15
<b>General remarks:</b>	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	

<b>Manufacturer's Declaration per sub-clause 4.2.5 of IECCE 02:</b>	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies) .....</b> : NOCA AS Stiklestadveien 1, 7041 Trondheim Norway	

<b>General product information:</b>	
<p>The nRF52840-DK is a single board development kit for <i>Bluetooth</i> low energy and 2.4GHz proprietary applications This kit supports development for the nRF52840 and nRF52811 SoC.  The kit gives access to all I/O and interfaces via connectors and comes with LEDs and buttons which are user-programmable.  The board does not have any form of housing or cover.</p> <p>Maximum recommended ambient (T<sub>mra</sub>): 35°C</p> <p>Connection to the supply: DC supplied, USB 2.0 source, or internal CR2032 battery</p> <p>1.1.2 - Additional requirements:  Exposure to extreme temperatures, excessive dust, moisture or vibration; to flammable gases; to corrosive or explosive atmospheres:  This equipment is intended to operate in a "normal" environment (Offices and homes).</p> <p>Electromedical equipment connected to the patient:  This equipment is not an electromedical equipment intended to be physically connected to a patient.</p> <p>Equipment used in vehicles, ships or aircrafts, in tropical countries, or at elevations &gt; 2000m:  This equipment is intended to operate in a "normal" environment (Offices and homes).</p>	
<b>Abbreviations used in the report:</b>	
- normal conditions <b>N.C.</b> - functional insulation <b>OP</b> - double insulation <b>DI</b> - between parts of opposite polarity <b>BOP</b>	- single fault conditions <b>S.F.C</b> - basic insulation <b>BI</b> - supplementary insulation <b>SI</b> - reinforced insulation <b>RI</b>
<b>Indicate used abbreviations (if any)</b>	

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


1	GENERAL		P
---	---------	--	---

1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	No isolating transformers in the equipment.	N/A
1.5.5	Interconnecting cables	None.	N/A
1.5.6	Capacitors bridging insulation	Class III equipment.	N/A
1.5.7	Resistors bridging insulation	Class III equipment.	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	-	N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	-	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	-	N/A
1.5.8	Components in equipment for IT power systems	Class III equipment.	N/A
1.5.9	Surge suppressors	Not used.	N/A
1.5.9.1	General	-	N/A
1.5.9.2	Protection of VDRs	-	N/A
1.5.9.3	Bridging of functional insulation by a VDR	-	N/A
1.5.9.4	Bridging of basic insulation by a VDR	-	N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR	-	N/A



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

<b>1.6</b>	<b>Power interface</b>		<b>P</b>
1.6.1	AC power distribution systems	Class III equipment.	N/A
1.6.2	Input current	Class III equipment.	N/A
1.6.3	Voltage limit of hand-held equipment	Equipment is not hand-held.	N/A
1.6.4	Neutral conductor	Class III equipment.	N/A

<b>1.7</b>	<b>Marking and instructions</b>		<b>P</b>
1.7.1	Power rating and identification markings	The required marking is silkscreened on the PCB.	<b>P</b>
1.7.1.1	Power rating marking	Class III equipment. Power rating is not required.	N/A
	Multiple mains supply connections .....	Class III equipment with one supply connection.	N/A
	Rated voltage(s) or voltage range(s) (V) .....	USB connection 5V, no rating applied.	N/A
	Symbol for nature of supply, for d.c. only .....	No symbol applied. USB connector used.	N/A
	Rated frequency or rated frequency range (Hz) ....	DC supplied.	N/A
	Rated current (mA or A) .....	Not applied. Common USB 2.0 source, 500mA.	N/A
1.7.1.2	Identification markings	Refer below.	<b>P</b>
	Manufacturer's name or trade-mark or identification mark .....		<b>P</b>
	Model identification or type reference .....	nRF52840-DK	<b>P</b>
	Symbol for Class II equipment only .....	Class III equipment.	N/A
	Other markings and symbols .....	The additional marking does not give rise to misunderstandings.	<b>P</b>
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking	No special precautions necessary. User manual available.	<b>P</b>
1.7.2.1	General	Class III equipment.	N/A
1.7.2.2	Disconnect devices	No mains supply.	N/A
1.7.2.3	Overcurrent protective device	Class III equipment.	N/A
1.7.2.4	IT power distribution systems	Class III equipment.	N/A
1.7.2.5	Operator access with a tool	No hazardous voltages.	N/A
1.7.2.6	Ozone	Unit does not produce ozone	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.3	Short duty cycles	The equipment is intended for continuous operation.	N/A
1.7.4	Supply voltage adjustment .....	No voltage selector.	N/A
	Methods and means of adjustment; reference to installation instructions .....	-	N/A
1.7.5	Power outlets on the equipment .....	No standard power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....	No fuses in the equipment.	N/A
1.7.7	Wiring terminals	Class III equipment, no connection to protective earth or mains supply.	N/A
1.7.7.1	Protective earthing and bonding terminals .....	-	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	-	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	-	N/A
1.7.8	Controls and indicators	Refer below.	N/A
1.7.8.1	Identification, location and marking .....	No controls.	N/A
1.7.8.2	Colours .....	For functional indication a LED lights when the equipment is operating.	N/A
1.7.8.3	Symbols according to IEC 60417.....	Not used.	N/A
1.7.8.4	Markings using figures .....	Not used.	N/A
1.7.9	Isolation of multiple power sources .....	Class III equipment with one supply connection.	N/A
1.7.10	Thermostats and other regulating devices .....	No thermostats or other regulating devices.	N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts	No marking is placed on removable parts.	P
1.7.13	Replaceable batteries .....	CR2032 battery	P
	Language(s) .....	English	—
1.7.14	Equipment for restricted access locations .....	Equipment not intended for installation in RAL.	N/A

<b>2</b>	<b>PROTECTION FROM HAZARDS</b>	<b>P</b>
<b>2.1</b>	<b>Protection from electric shock and energy hazards</b> 2.1 – 2.1.3; There are no electric shock or energy hazards. Class III equipment with only SELV circuits supplied from an LPS.	<b>N/A</b>

2.2	SELV circuits		P
2.2.1	General requirements	Class III equipment supplied from an LPS.	P
2.2.2	Voltages under normal conditions (V) ..... :	Within SELV limits.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.3	Voltages under fault conditions (V) .....	Within SELV limits.	P
2.2.4	Connection of SELV circuits to other circuits .....	SELV circuits are only connected to other SELV circuits.	P
<b>2.3</b>	<b>TNV circuits</b> 2.3.1 – 2.3.5; No TNV circuits in the equipment.		N/A
<b>2.4</b>	<b>Limited current circuit</b> 2.4.1 – 2.4.3; No limited current circuits.		N/A
<b>2.5</b>	<b>Limited power sources</b>		P
	a) Inherently limited output	-	N/A
	b) Impedance limited output	-	N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	Supplied from a USB 2.0 source (PC), limited to 500mA	P
	Use of integrated circuit (IC) current limiters	-	N/A
	d) Overcurrent protective device limited output	-	N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....	-	—
	Current rating of overcurrent protective device (A) ..	-	—
<b>2.6</b>	<b>Provisions for earthing and bonding</b> 2.6.1 – 2.6.5.8; Class III equipment. No connection to protective earth.		N/A
<b>2.7</b>	<b>Overcurrent and earth fault protection in primary circuits</b> 2.7.1 – 2.7.6; Class III equipment. No primary circuits.		N/A
<b>2.8</b>	<b>Safety interlocks</b> 2.8.1 – 2.8.8; No safety interlocks required. No hazard in operator access area.		N/A
<b>2.9</b>	<b>Electrical insulation</b>		P
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos nor hygroscopic materials are used as insulation. No driving belts or couplings used.	N/A
2.9.2	Humidity conditioning	No hygroscopic material used.	N/A
	Relative humidity (%), temperature (°C) .....	-	—
2.9.3	Grade of insulation	Insulation is considered to be functional insulation only.	P
2.9.4	Separation from hazardous voltages	Refer below:	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Method(s) used .....	Class III equipment, no hazardous voltages.	—
<b>2.10</b>	<b>Clearances, creepage distances and distances through insulation</b>		<b>P</b>
2.10.1	General	Class III equipment. All insulation is considered functional only.	P
2.10.1.1	Frequency .....	DC powered class III equipment.	N/A
2.10.1.2	Pollution degrees .....	2	P
2.10.1.3	Reduced values for functional insulation	Functional insulation complies with 5.3.4 c).	P
2.10.1.4	Intervening unconnected conductive parts	No such parts.	N/A
2.10.1.5	Insulation with varying dimensions	No such insulation.	N/A
2.10.1.6	Special separation requirements	Considered.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such circuits.	N/A
2.10.2	Determination of working voltage	Class III equipment.	N/A
2.10.2.1	General	-	N/A
2.10.2.2	RMS working voltage	-	N/A
2.10.2.3	Peak working voltage	-	N/A
2.10.3	Clearances	Class III equipment.	N/A
2.10.3.1	General	-	N/A
2.10.3.2	Mains transient voltages	Not directly connected to mains supply.	N/A
	a) AC mains supply .....	-	N/A
	b) Earthed d.c. mains supplies .....	-	N/A
	c) Unearthed d.c. mains supplies .....	-	N/A
	d) Battery operation .....	-	N/A
2.10.3.3	Clearances in primary circuits	No primary circuits.	N/A
2.10.3.4	Clearances in secondary circuits	Only functional insulation in secondary circuits, ref. 5.3.4.c)	P
2.10.3.5	Clearances in circuits having starting pulses	No circuits having starting pulses.	N/A
2.10.3.6	Transients from a.c. mains supply .....	Not directly connected to mains supply.	N/A
2.10.3.7	Transients from d.c. mains supply .....	Not for d.c. mains supply.	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....	No connection to telecommunication network or cable distribution system.	N/A
2.10.3.9	Measurement of transient voltage levels	Measurement not relevant. No TNV circuits.	N/A
	a) Transients from a mains supply	-	N/A
	For an a.c. mains supply .....	-	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	For a d.c. mains supply .....	-	N/A
	b) Transients from a telecommunication network :	-	N/A
2.10.4	Creepage distances	Not directly connected to mains supply.	N/A
2.10.4.1	General	-	N/A
2.10.4.2	Material group and comparative tracking index	-	N/A
	CTI tests.....	-	—
2.10.4.3	Minimum creepage distances	-	N/A
2.10.5	Solid insulation	-	N/A
2.10.5.1	General	-	N/A
2.10.5.2	Distances through insulation	-	N/A
2.10.5.3	Insulating compound as solid insulation	-	N/A
2.10.5.4	Semiconductor devices	-	N/A
2.10.5.5.	Cemented joints	-	N/A
2.10.5.6	Thin sheet material – General	-	N/A
2.10.5.7	Separable thin sheet material	-	N/A
	Number of layers (pcs).....	-	—
2.10.5.8	Non-separable thin sheet material	-	N/A
2.10.5.9	Thin sheet material – standard test procedure	-	N/A
	Electric strength test	-	—
2.10.5.10	Thin sheet material – alternative test procedure	-	N/A
	Electric strength test	-	—
2.10.5.11	Insulation in wound components	-	N/A
2.10.5.12	Wire in wound components	-	N/A
	Working voltage .....	-	N/A
	a) Basic insulation not under stress .....	-	N/A
	b) Basic, supplementary, reinforced insulation .....	-	N/A
	c) Compliance with Annex U .....	-	N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....	-	N/A
2.10.5.13	Wire with solvent-based enamel in wound components	Not used.	N/A
	Electric strength test	-	—
	Routine test	-	N/A
2.10.5.14	Additional insulation in wound components	Not used.	N/A
	Working voltage .....		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Basic insulation not under stress .....		N/A
	- Supplementary, reinforced insulation .....		N/A
2.10.6	Construction of printed boards	Class III equipment.	N/A
2.10.6.1	Uncoated printed boards	-	N/A
2.10.6.2	Coated printed boards	No special coating in order to reduce distances.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	-	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board	-	N/A
	Distance through insulation	-	N/A
	Number of insulation layers (pcs) .....	-	N/A
2.10.7	Component external terminations	-	N/A
2.10.8	Tests on coated printed boards and coated components	-	N/A
2.10.8.1	Sample preparation and preliminary inspection	-	N/A
2.10.8.2	Thermal conditioning	-	N/A
2.10.8.3	Electric strength test	-	N/A
2.10.8.4	Abrasion resistance test	-	N/A
2.10.9	Thermal cycling	-	N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	-	N/A
2.10.11	Tests for semiconductor devices and cemented joints	-	N/A
2.10.12	Enclosed and sealed parts	-	N/A
<b>3</b>	<b>WIRING, CONNECTIONS AND SUPPLY</b>		N/A
<b>3.1</b>	<b>General</b>		N/A
3.1.1	Current rating and overcurrent protection	Class III equipment with no internal wiring.	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	Insulating 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



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.1.10	Sleeving on wiring	-	N/A
<b>3.2</b>	<b>Connection to a mains supply</b> 3.2.1 – 3.2.9; Class III equipment.		N/A
<b>3.3</b>	<b>Wiring terminals for connection of external conductors</b> 3.3.1 – 3.3.8; Class III equipment.		N/A
<b>3.4</b>	<b>Disconnection from the mains supply</b> 3.4.1 – 3.4.11; Class III equipment.		N/A
<b>3.5</b>	<b>Interconnection of equipment</b>		P
3.5.1	General requirements	Refer below.	P
3.5.2	Types of interconnection circuits .....	SELV only.	P
3.5.3	ELV circuits as interconnection circuits	No ELV.	N/A
3.5.4	Data ports for additional equipment	None.	N/A
<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		P
<b>4.1</b>	<b>Stability</b>		N/A
	Angle of 10°	Not relevant for equipment.	N/A
	Test force (N) .....	The unit is not floor-standing.	N/A
<b>4.2</b>	<b>Mechanical strength</b>		N/A
4.2.1	General	Class III equipment without enclosure. No hazardous voltages or energy hazard. Mechanical tests are not relevant.	N/A
	Rack-mounted equipment.	-	N/A
4.2.2	Steady force test, 10 N	-	N/A
4.2.3	Steady force test, 30 N	-	N/A
4.2.4	Steady force test, 250 N	-	N/A
4.2.5	Impact test	-	N/A
	Fall test	-	N/A
	Swing test	-	N/A
4.2.6	Drop test; height (mm) .....	-	N/A
4.2.7	Stress relief test	-	N/A
4.2.8	Cathode ray tubes	CRT(s) not used in the equipment.	N/A
	Picture tube separately certified .....	-	N/A
4.2.9	High pressure lamps	No high pressure lamps in the equipment.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.10	Wall or ceiling mounted equipment; force (N) ..... :	Not intended to be mounted on a wall or ceiling.	N/A
<b>4.3</b>	<b>Design and construction</b>		<b>P</b>
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed.	P
4.3.2	Handles and manual controls; force (N) ..... :	No knobs, handles or levers.	N/A
4.3.3	Adjustable controls	No hazardous adjustable controls.	N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances is likely to occur. Moreover, insulation is only functional.	P
4.3.5	Connection by plugs and sockets	SELV connectors do not comply with IEC 60320 or IEC 60083.	P
4.3.6	Direct plug-in equipment	Not intended to plug directly into a wall socket-outlet.	N/A
	Torque ..... :	-	—
	Compliance with the relevant mains plug standard ..... :	-	N/A
4.3.7	Heating elements in earthed equipment	No heating elements.	N/A
4.3.8	Batteries		P
	- Overcharging of a rechargeable battery	Not rechargeable.	N/A
	- Unintentional charging of a non-rechargeable battery	Prevented by construction.	P
	- Reverse charging of a rechargeable battery	Not rechargeable.	N/A
	- Excessive discharging rate for any battery	Prevented by construction.	P
4.3.9	Oil and grease	Insulation is not exposed to oil, grease etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not generate ionizing radiation or use a laser, and does not contain flammable liquids or gases.	N/A
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	N/A
4.3.12	Flammable liquids ..... :	-	N/A
	Quantity of liquid (l) ..... :	-	N/A
	Flash point (°C) ..... :	-	N/A
4.3.13	Radiation	Refer below.	P
4.3.13.1	General	Refer below.	P
4.3.13.2	Ionizing radiation	The equipment does not generate ionizing radiation.	N/A
	Measured radiation (pA/kg) ..... :	-	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Measured high-voltage (kV) .....	-	—
	Measured focus voltage (kV) .....	-	—
	CRT markings .....	-	—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The equipment does not produce UV radiation.	N/A
	Part, property, retention after test, flammability classification .....	-	N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....	The equipment does not produce UV radiation.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	Refer below.	P
4.3.13.5.1	Lasers (including laser diodes)	No laser.	N/A
	Laser class .....	-	—
4.3.13.5.2	Light emitting diodes (LEDs)	Diffuse LEDs.	P
4.3.13.6	Other types .....	None	N/A
<b>4.4</b>	<b>Protection against hazardous moving parts</b>		N/A
4.4.1	General	No moving parts.	N/A
4.4.2	Protection in operator access areas .....	-	N/A
	Household and home/office document/media shredders	-	N/A
4.4.3	Protection in restricted access locations .....	-	N/A
4.4.4	Protection in service access areas	-	N/A
4.4.5	Protection against moving fan blades	-	N/A
4.4.5.1	General	-	N/A
	Not considered to cause pain or injury. a).....	-	N/A
	Is considered to cause pain, not injury. b) .....	-	N/A
	Considered to cause injury. c) .....	-	N/A
4.4.5.2	Protection for users	-	N/A
	Use of symbol or warning .....	-	N/A
4.4.5.3	Protection for service persons	-	N/A
	Use of symbol or warning .....	-	N/A
<b>4.5</b>	<b>Thermal requirements</b>		P
4.5.1	General	(see appended table 4.5)	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L .....		—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P

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

4.5.5	Resistance to abnormal heat .....	Class III equipment.	N/A
-------	-----------------------------------	----------------------	-----

<b>4.6</b>	<b>Openings in enclosures</b>		N/A
4.6.1	Top and side openings	Class III equipment supplied from an LPS. PCB without enclosure.	N/A
	Dimensions (mm) .....	-	—
4.6.2	Bottoms of fire enclosures	-	N/A
	Construction of the bottom, dimensions (mm) .....	-	—
4.6.3	Doors or covers in fire enclosures	-	N/A
4.6.4	Openings in transportable equipment	-	N/A
4.6.4.1	Constructional design measures	-	N/A
	Dimensions (mm) .....	-	—
4.6.4.2	Evaluation measures for larger openings	--	N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes	-	N/A
	Conditioning temperature (°C), time (weeks).....	-	—

<b>4.7</b>	<b>Resistance to fire</b>		P
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 used	P
	Method 1, selection and application of components wiring and materials	(see appended table 1.5.1)	P
	Method 2, application of all of simulated fault condition tests	-	N/A
4.7.2	Conditions for a fire enclosure	Class III equipment supplied from an LPS. Fire enclosure is not required.	P
4.7.2.1	Parts requiring a fire enclosure	Fire enclosure is not required.	N/A
4.7.2.2	Parts not requiring a fire enclosure	All parts.	P
4.7.3	Materials		P
4.7.3.1	General	Components and materials have adequate flammability classification. See appended table 1.5.1.	P
4.7.3.2	Materials for fire enclosures	Class III equipment supplied from an LPS. Fire enclosure is not required.	N/A
4.7.3.3	Materials for components and other parts outside fire enclosures	Fire enclosure is not required. PCB without enclosure.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Fire enclosure is not required. PCB is made from V-0 material.	N/A
4.7.3.5	Materials for air filter assemblies	No air filters in the equipment.	N/A
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>5</b>	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		<b>P</b>
<b>5.1</b>	<b>Touch current and protective conductor current</b>		<b>N/A</b>
5.1.1	General	Class III equipment supplied from USB.	N/A
5.1.2	Configuration of equipment under test (EUT)	-	N/A
5.1.2.1	Single connection to an a.c. mains supply	-	N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply	-	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	-	N/A
5.1.3	Test circuit	-	N/A
5.1.4	Application of measuring instrument	-	N/A
5.1.5	Test procedure	-	N/A
5.1.6	Test measurements	-	N/A
	Supply voltage (V) .....	-	—
	Measured touch current (mA) .....	-	—
	Max. allowed touch current (mA) .....	-	—
	Measured protective conductor current (mA) .....	-	—
	Max. allowed protective conductor current (mA)...	-	—
5.1.7	Equipment with touch current exceeding 3,5 mA	-	N/A
5.1.7.1	General .....	-	N/A
5.1.7.2	Simultaneous multiple connections to the supply	-	N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No connection to telecommunication networks or cable distribution systems.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	-	N/A
	Supply voltage (V) .....	-	—
	Measured touch current (mA) .....	-	—
	Max. allowed touch current (mA) .....	-	—
5.1.8.2	Summation of touch currents from telecommunication networks	-	N/A
	a) EUT with earthed telecommunication ports .....	-	N/A
	b) EUT whose telecommunication ports have no reference to protective earth	-	N/A
<b>5.2</b>	<b>Electric strength</b>		<b>N/A</b>
5.2.1	General	Class III equipment. SELV circuits only.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2	Test procedure	-	N/A
<b>5.3</b>	<b>Abnormal operating and fault conditions</b>		<b>P</b>
5.3.1	Protection against overload and abnormal operation	Considered not applicable due to construction and low power circuit.	N/A
5.3.2	Motors	None.	N/A
5.3.3	Transformers	No isolating transformers.	N/A
5.3.4	Functional insulation .....	Complies with b).	P
5.3.5	Electromechanical components	No electromechanical components in secondary circuits.	N/A
5.3.6	Audio amplifiers in ITE .....	No audio amplifier.	N/A
5.3.7	Simulation of faults	Considered not applicable due to construction and low power circuit.	N/A
5.3.8	Unattended equipment	No thermostats, temperature limiters or thermal cut-outs.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		N/A
5.3.9.1	During the tests		N/A
5.3.9.2	After the tests		N/A
<b>6</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		<b>N/A</b>
<b>6.1</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		<b>N/A</b>
<b>6.2</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		<b>N/A</b>
<b>6.3</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		<b>N/A</b>
<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		<b>N/A</b>
<b>A</b>	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		<b>N/A</b>
<b>B</b>	<b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>		<b>N/A</b>



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>C</b>	<b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b> No isolating transformers in the equipment.		N/A
<b>D</b>	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		N/A
<b>E</b>	<b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>		N/A
<b>F</b>	<b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b>		N/A
<b>G</b>	<b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>		N/A
<b>H</b>	<b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>		N/A
<b>J</b>	<b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b>		N/A
<b>K</b>	<b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b>		N/A
<b>L</b>	<b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b>		P
L.1	Typewriters	-	N/A
L.2	Adding machines and cash registers	-	N/A
L.3	Erasers	-	N/A
L.4	Pencil sharpeners	-	N/A
L.5	Duplicators and copy machines	-	N/A
L.6	Motor-operated files	-	N/A
L.7	Other business equipment	Development Kit	P
<b>M</b>	<b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>		N/A
<b>N</b>	<b>ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)</b>		N/A
<b>P</b>	<b>ANNEX P, NORMATIVE REFERENCES</b>		—
<b>Q</b>	<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1) (part of PSU)</b>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>R</b>	<b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		N/A
<b>S</b>	<b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		N/A
<b>T</b>	<b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		N/A
<b>U</b>	<b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		N/A
<b>V</b>	<b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>		N/A
<b>W</b>	<b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>		N/A
<b>X</b>	<b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>		N/A
<b>Y</b>	<b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>		N/A
<b>Z</b>	<b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>		N/A
<b>AA</b>	<b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>		N/A
<b>BB</b>	<b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>		—
<b>CC</b>	<b>ANNEX CC, Evaluation of integrated circuit (IC) current limiters</b>		N/A
<b>DD</b>	<b>ANNEX DD, Requirements for the mounting means of rack-mounted equipment</b>		N/A
<b>EE</b>	<b>ANNEX EE, Household and home/office document/media shredders</b>		N/A

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>	
PCB	Suntak Multilayer	STM-5	94V-0, min. 1.6mm thick, 130°C	UL 94	UL (E207844)	
Battery	Renata	CR2032	3V, 225mAh	UL 1642	UL (MH14002)	
Battery holder/Bat1	KLS Electronic	KLS5-CR2032- 23-B	85°C, 94V-0	IEC 60950-1	Tested in the unit	
PCB connectors/P1, P2, P3, P4, P6	WCON	2171-1	3A, 1000V, 105°C, 94V-0	UL 1977	UL (E248993)	
PCB connector/P5	WCON	1125- 1203S0M116R 1	3A, 500V, 105°C, 94V-0	IEC 60950-1	Tested in the unit	
PCB connectors/P18, P19	WCON	3132	1A, 500V, 105°C, 94V-0	UL 1977	UL (E248993)	
PCB connectors/P24	SAMTEC	SSM-109-F-DV	5.2A, 572V, 125°C, 94V-0	UL 1977	UL (E111594)	
PCB connector/P20	SAMTEC	TSM-112-01-L- SV-P-TR	4.1A, 475V, 125°C, 94V-0	UL 1977	UL (E111594)	
PCB connectors/P21, P22, P23	WCON	1125B- 1102S0Z135R2	3A, 500V, 105°C, 94V-0	IEC 60950-1	Tested in the unit	
PCB connector/J6	JST	SM02B-SRSS- TB	0.7A, 50V, 85°C, 94V-0	UL 1977	UL (E60389)	
PCB connector/J5	WCON	5141- 05RZDNWR01	0.4A, 200V, 85°C, 94V-0	IEC 60950-1	Tested in the unit	
USB connector/J2, J3 (microUSB-B)	Allen Creations Group	AJU55- BS2111-L	1A, 30V, 85°C, 94V-0	IEC 60950-1	Tested in the unit	
SW10	Nidal Copal Electronics	CAS-220TA	100mA, 50V, 85°C House material: 94V-0	IEC 60950-1	Tested in the unit	
Supplementary information:						
<sup>1)</sup> Provided evidence ensures the agreed level of compliance. See OD-CB2039.						

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

<b>1.5.1</b>	<b>TABLE: Opto Electronic Devices</b>	N/A
Manufacturer ..... :  Type ..... :  Separately tested ..... : Bridging insulation ..... : External creepage distance..... :  Internal creepage distance ..... :  Distance through insulation ..... :  Tested under the following conditions..... : Input ..... : Output..... : Supplementary information:		

<b>1.6.2</b>	<b>TABLE: Electrical data (in normal conditions)</b>					P
U (V)	I (mA)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
5Vdc	113.1	-	0.57	-	113.1	Running PC program, sending packages.
Supplementary information:						

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

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

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

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

2.5	TABLE: Limited power sources					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	Isc (A)		VA	
			Meas.	Limit	Meas.	Limit
supplementary information:						
Sc=Short circuit, Oc=Open circuit						
Refer to clause 2.5.						

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

2.10.2	Table: working voltage measurement			N/A
Location		RMS voltage (V)	Peak voltage (V)	Comments
supplementary information:				

<b>2.10.3 and 2.10.4</b>	<b>TABLE: Clearance and creepage distance measurements</b>						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Supplementary information:							

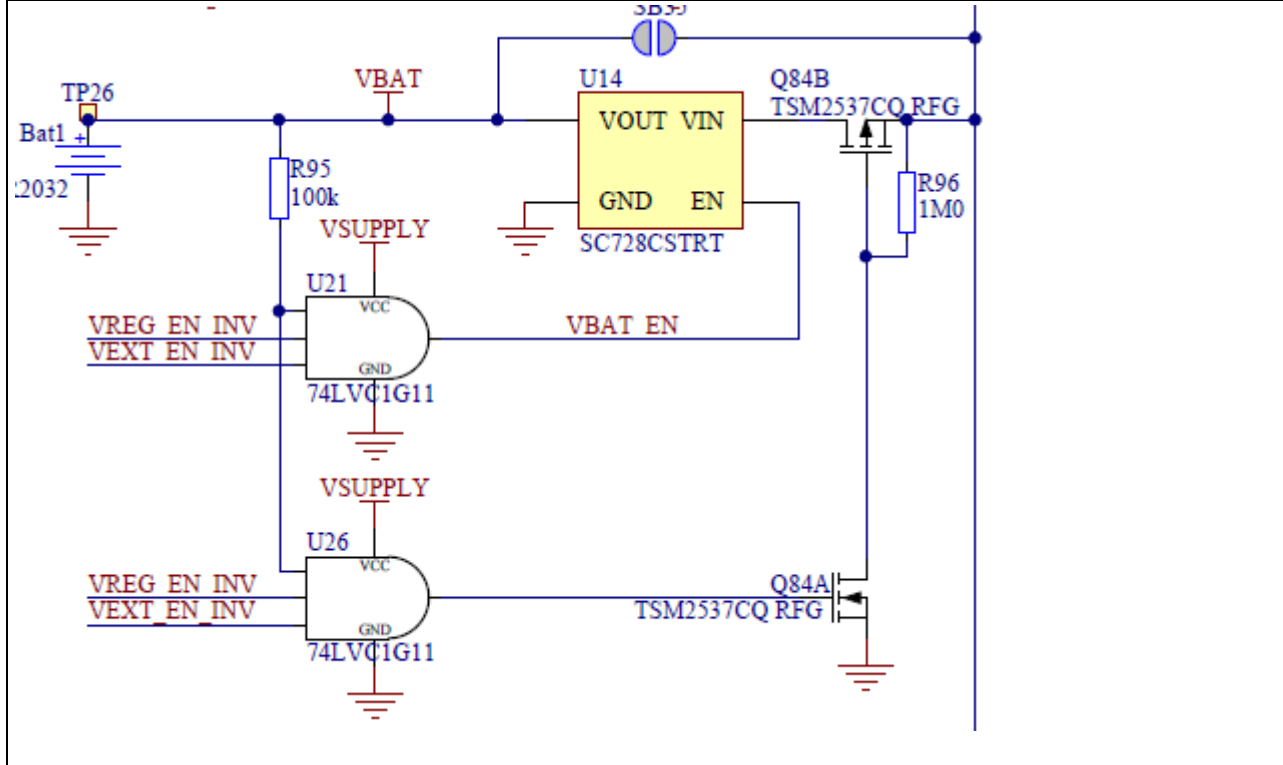
<b>2.10.5</b>	<b>TABLE: Distance through insulation measurements</b>						N/A
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)		
Supplementary information:							



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

4.3.8	TABLE: Batteries								P
The tests of 4.3.8 are applicable only when appropriate battery data is not available									P
Is it possible to install the battery in a reverse polarity position?					Yes, but battery holder will not short battery.				P
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	2.83mA	*	Prevented	-	-	-	-	-	-
Max. current during fault condition	2.83mA	*	Prevented	-	-	-	-	-	-
Test results:									Verdict
- Chemical leaks									P
- Explosion of the battery									P
- Emission of flame or expulsion of molten metal									P
- Electric strength tests of equipment after completion of tests									N/A
Supplementary information:									
*UL 1642 approved.									

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

<b>4.3.8</b>	<b>TABLE: Batteries</b>	<b>P</b>
Battery category.....: Lithium Coin cell Manufacturer.....: Renata Type / model.....: CR2032 Voltage.....: 3 Capacity.....: 225mAh Tested and Certified by (incl. Ref. No.) .....: UL (MH14002) Circuit protection diagram: See below.		
		

MARKINGS AND INSTRUCTIONS (1.7.13 )	
Location of replaceable battery	
Language(s) .....	English
Close to the battery .....	-
In the servicing instructions .....	-
In the operating instructions .....	User manual

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

<b>4.5</b>	<b>TABLE: Thermal requirements</b>				<b>P</b>
	Supply voltage (Vdc) .....	5	5		—
	Ambient T(°C) .....	24.6	35 *		—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T <sub>max</sub> (°C)
J2		27.5	37.9		85
U2		33.8	44.2		-
U19		29.1	39.5		-
Q80		28.8	39.2		-
L80		29.0	39.4		120
L81		29.2	39.6		120
U3		26.3	36.7		-
U1		27.7	38.1		-
PCB, hottest spot		29.6	40.0		130
Battery		27.9	38.3		70
Supplementary information:					
Maximum ambient temperature (Tma): 35°C.					
* Temperatures linearly adjusted according to Tma.					

<b>4.5.5</b>	<b>TABLE: Ball pressure test of thermoplastic parts</b>			<b>N/A</b>
	Allowed impression diameter (mm) .....	≤ 2 mm		—
Part		Test temperature (°C)	Impression diameter (mm)	
Supplementary information:				

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

<b>4.7</b>	<b>TABLE: Resistance to fire</b>					<b>P</b>
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Supplementary information: See table 1.5.1						

5.1	TABLE: touch current measurement			N/A
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
supplementary information:				

<b>5.2</b>	<b>TABLE: Electric strength tests, impulse tests and voltage surge tests</b>					<b>P</b>
Test voltage applied between:			Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No	
Functional: SB35 (between power source and coin cell battery)			DC, surge	707	No	
Supplementary information:						

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

<b>5.3</b>	<b>TABLE: Fault condition tests</b>					<b>P</b>
	Ambient temperature (°C) ..... :				25	—
	Power source for EUT: Manufacturer, model/type, output rating ..... :				Chroma 62120-80 (80V, 150A) Programmable power supply	—
Component No.	Fault	Supply voltage (Vdc)	Test time	Fuse #	Fuse current (mA)	Observation
*C69	S-c	5	30 min	#	680	Unit shuts down. No increase in temperature.
*C88	S-c	5	30 min	#	5	Unit shuts down. No increase in temperature.
*C38	S-c	5	30 min	#	4	Unit shuts down. No increase in temperature.
*Q80 (C-E)	S-c	5	30 min	#	100	LED5 increased intensity, U2 small increase in temperature, 36°C.
*Q80 (B-C)	S-c	5	30 min	#	120	LED5 increased intensity, U2 small increase in temperature, 36.1°C.
**C50	S-c	5	30 min	#	8100 – 8.3	U15 damaged. No flames or other hazardous conditions during fault condition.
**U19A (+ – GND) SW10 set to on	S-c	5	30 min	#	9580 – 30	SW10 smoked and heating up, some meltin on plastic, temperature reached 360°C. Temperature increased on most of the part nearby. No flames or other hazardous conditions during fault condition. After 5 minutes, input current decreased down to 30mA. Plastic of switch housing rated V-0.
Supplementary information:						
Limited fault testing due to low power circuits.						
* Power source set to 1A limit, voltage 5V max. Supplied from the USB input (J2)						
** Power source set to 20A limit, voltage 3.6V max. Supplied from the External supply input (P21)						
# Externally limited by power source during test. No fuses in the circuit.						
S-c=Short circuit						

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

C.2		TABLE: transformers						N/A
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
supplementary information:								